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|------------|--------------------------------------|---------------------------|------------|------------|--|--|-----------|------------|--|--------|------------|-----------|
| | | | | | | | | | MANAGEMENT (5.4.2 CG) | | | |
| Aug | CC-1:FINANCIAL ACCOUNTING-I (1.2 CG) | Unit1 | BK | 10 | CC-5: CORPORATE LAWS (3.1 CG) | Unit1 | KD | 10 | CC-9: FINANCIAL ACCOUNTING-III (5.1 CG) Unit 1 | Unit1 | BH | 10 |
| | | Unit-2 | KD | 10 | | Unit-2 | BH | 10 | | Unit-2 | KD | 10 |
| | | Unit-3 | BH | 10 | | Unit-3 | BK | 10 | | Unit-3 | SPD | 10 |
| | CC-2:BUSINESS MANAGEMENT (1.3 CG) | Unit1 | SPD | 10 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CG) | Unit1 | BK | 8 | CC-10:AUDITING (5.2 CG) | Unit-2 | SPD | 10 |
| | | | | | | Unit-2 | KD | 10 | | Unit-3 | BH | 10 |
| | | SEC-1:E-COMMERCE (3.4 CG) | Unit2 | SPD | 10 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CG) OR DSE-1: FUNDAMENTALS OF MARKETING MANAGEMENT (5.3.2 CG) | Unit3 | BH | 10 | Unit-4 | KD | 10 |
| | | | Unit-3 | BH | 10 | | Unit-2 | BH | 15 | | | |
| | | | Unit-2 | BK | 15 | | | | | | | |
| | | | Unit-2 | SPD | 10 | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CG) OR DSE-2: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT | Unit-2 | SPD | 10 | | | |

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|-------------|--------------------------------------|---------------------------|------------|-----------|--|--------|-----------|---|--|--|------------|------------|-----------|
| | | | | | | | | | (5.4.2 CG) | | | | |
| Sept | CC-1:FINANCIAL ACCOUNTING-I (1.2 CG) | Unit1 | BK | 10 | CC-5: CORPORATE LAWS (3.1 CG) | Unit-4 | KD | 10 | CC-9: FINANCIAL ACCOUNTING-III (5.1 CG) Unit 1 | Unit-4 | BH | 10 | |
| | | Unit-2 | KD | 10 | | Unit-2 | BH | 10 | | Unit-5 | KD | 10 | |
| | | Unit-3 | BH | 10 | | Unit-3 | BK | 10 | | Unit-3 | SPD | 10 | |
| | CC-2:BUSINESS MANAGEMENT (1.3 CG) | Unit-2 | SPD | 10 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CG) | Unit3 | BK | 10 | CC-10:AUDITING (5.2 CG) | Unit-3 | SPD | 10 | |
| | | | | | | Unit-4 | KD | 10 | | Unit-5 | BH | 10 | |
| | | SEC-1:E-COMMERCE (3.4 CG) | | | | | Unit-4 | SPD | 10 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CG) | Unit-4 | KD | 10 |
| | | | | | | | Unit-5 | BH | 10 | OR | Unit-3 | BH | 15 |
| | | | | | | | | | | DSE-1: FUNDAMENTALS OF MARKETING MANAGEMENT (5.3.2 CG) | Unit-3 | BK | 15 |
| | | | | | | | | | | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CG) | Unit-3 | SPD | 10 |
| | | | | | | | | | | OR | | | |
| | | | | | | | | DSE-2: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (5.4.2 CG) | | | | | |
| Oct | CC-1:FINANCIAL | Unit1 | BK | 10 | CC-5: | Unit-4 | KD | 8 | CC-9: | Unit-4 | BH | 7 | |

| | | | | | | | | | | | | |
|------------|--------------------------------------|--------|------------|-----------|--|--------|------------|-----------|---|--------|------------|-----------|
| | ACCOUNTING-I (1.2 CG) | Unit-2 | KD | 10 | CORPORATE LAWS (3.1 CG) | Unit-5 | BH | 10 | FINANCIAL ACCOUNTING-III (5.1 CG) Unit 1 | Unit-5 | KD | 7 |
| | | Unit-3 | BH | 10 | | Unit-3 | BK | 7 | | Unit-3 | SPD | 7 |
| | CC-2:BUSINESS MANAGEMENT (1.3 CG) | Unit-3 | SPD | 10 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CG) | Unit-5 | BK | 7 | | Unit-4 | SPD | 10 |
| | | | | | | Unit-4 | KD | 10 | CC-10:AUDITING (5.2 CG) | Unit-5 | BH | 8 |
| | | | | | SEC-1:E-COMMERCE (3.4 CG) | Unit-4 | SPD | 10 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CG) | Unit-4 | KD | 7 |
| | | | | | | Unit-5 | BH | 10 | OR | Unit-4 | BH | 10 |
| | | | | | | | | | DSE-1: FUNDAMENTALS OF MARKETING MANAGEMENT (5.3.2 CG) | Unit-4 | BK | 7 |
| | | | | | | | | | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CG) | Unit-4 | SPD | 10 |
| | | | | | | | | | OR | | | |
| | | | | | | | | | DSE-2: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (5.4.2 CG) | | | |
| Nov | CC-1:FINANCIAL ACCOUNTING-I (1.2 CG) | Unit-4 | BK | 10 | CC-5: CORPORATE LAWS (3.1 CG) | Unit-4 | KD | 7 | CC-9: FINANCIAL ACCOUNTING-III (5.1 CG) Unit 1 | Unit-4 | BH | 7 |
| | | Unit-5 | KD | 16 | | Unit-5 | BH | 10 | | Unit-5 | KD | 7 |
| | | Unit-3 | BH | 10 | | Unit-3 | BK | 6 | | Unit-3 | SPD | 7 |

| | | | | | | | | | | | | |
|------------|---|--|---|---|--|--|---|---|--|--|--|---|
| | CC-2:BUSINESS MANAGEMENT (1.3 CG) Unit 4: Staffing and Leading | Unit-4 | SPD | 12 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CG) SEC-1:E-COMMERCE (3.4 CG) | Unit-5 Unit-4 Unit-4 Unit-5 | BK KD SPD BH | 8 10 10 10 | CC-10:AUDITING (5.2 CG) DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CG) OR DSE-1: FUNDAMENTALS OF MARKETING MANAGEMENT (5.3.2 CG) DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CG) OR DSE-2: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (5.4.2 CG) | Unit-5 Unit-5 Unit-4 Unit-5 Unit-5 Unit-5 | SPD BH KD BH BK SPD | 10 8 7 10 7 10 |
| Dec | CC-1:FINANCIAL ACCOUNTING-I (1.2 CG) CC-2:BUSINESS MANAGEMENT (1.3 CG) | Unit-4 Unit-5 Revision Unit-5 | BK KD BH SPD | 10 10 5 15 | CC-5: CORPORATE LAWS (3.1 CG) CC-6: | Revision Revision Revision Unit-5 Revision | KD BH BK BK KD | 8 5 7 10 7 | CC-9: FINANCIAL ACCOUNTING-III (5.1 CG) Unit 1 CC-10:AUDITING | Revision Revision Revision Unit-5 | BH KD SPD SPD | 6 7 7 10 |

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|------------|--|------------------|------------------------|------------------------|---|------------------|------------------------|------------------------|---|------------------|------------------------|------------------------|
| | CG) Unit 5: Control | | | | INCOME TAX LAW AND PRACTICE (3.2 CG) | | | | (5.2 CG) | Revision | BH | 8 |
| | | | | | | Revision | SPD | 7 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CG) | Revision | KD | 7 |
| | | | | | SEC-1:E-COMMERCE (3.4 CG) | Revision | BH | 7 | OR | Revision | BH | 8 |
| | | | | | | | | | DSE-1: FUNDAMENTALS OF MARKETING MANAGEMENT (5.3.2 CG) | Revision | BK | 7 |
| | | | | | | | | | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CG) | Revision | SPD | 8 |
| | | | | | | | | | OR | | | |
| | | | | | | | | | DSE-2: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (5.4.2 CG) | | | |
| Jan | Sem-II (H) | | | | Sem-IV (H) | | | | Sem-VI (H) | | | |
| | GE-1: PRINCIPLES OF ECONOMICS (2.2 CG) | Unit-1 | BK | 12 | CC-7:FINANCIAL ACCOUNTING-II(4.1 CG) | Unit-1 Unit-2 | KD BK | 10 15 | SEC-4: PERSONAL SELLING AND SALESMANSHIP (6.1 CG) | Unit-1 | BH | 10 |
| | CC-3: BUSINESS LAW (2.3 CG) | Unit-1 | SPD | 10 | CC-8: COST ACCOUNTING-II (4.2 CG) | Unit-1 | SPD | 13 | GE-2: BUSINESS MATHEMATICS AND STATISTICS (6.2 CG) | Unit-1 Unit-2 | BK BH | 12 10 |
| | CC-4: COST ACCOUNTING-I (2.4 CG) | Unit-1 Unit-2 | KD BH | 10 10 | SEC-2: COMPUTER APPLICATIONS IN BUSINESS (PRACTICAL) (4.3 CG) | Unit-1 | BH | 4 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CG) | Unit-1 Unit-2 | KD BK | 10 10 |
| | | | | | | Unit-1 | BK | 7 | | | | |

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|------------|---|--|---|--|---|--|--|---|---|--|---|--|-----------|
| | | | | | SEC-3: ENTREPRENEURSHIP (4.4 CG) | | | | OR DSE-3: INDIRECT TAX LAW (6.3.2 CG) DSE-4: INTERNATIONAL BUSINESS(6.4.1 CG) OR DSE-4: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.4.2 CG) | Unit-1 Unit-2 Unit-1 Unit-2 Unit-1 Unit-2 | BK KD SPD MLT BK KD | 10 10 15 10 10 13 | 10 |
| Feb | GE-1: PRINCIPLES OF ECONOMICS (2.2 CG) CC-3: BUSINESS LAW (2.3 CG) CC-4: COST ACCOUNTING-I (2.4 CG) | Unit-2 Unit-2 Unit-1 Unit-2 | BK SPD KD BK | 10 10 10 13 | CC-7:FINANCIAL ACCOUNTING-II(4.1 CG) CC-8: COST ACCOUNTING-II (4.2 CG) SEC-2: COMPUTER APPLICATIONS IN BUSINESS (PRACTICAL) (4.3 CG) SEC-3: ENTREPRENEURSHIP (4.4 CG) | Unit-1 Unit-2 Unit-2 Unit-2 Unit-2 | KD BK SPD BH BK | 10 10 13 10 10 | SEC-4: PERSONAL SELLING AND SALESMANSHIP (6.1 CG) GE-2: BUSINESS MATHEMATICS AND STATISTICS (6.2 CG) DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CG) OR DSE-3: INDIRECT TAX LAW (6.3.2 CG) | Unit-2 Unit-3 Unit-2 Unit-3 Unit-2 Unit-3 Unit-2 Unit-3 | BH BK BH KD BK BK KD SPD | 10 12 10 10 10 10 10 15 | |

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|-------------|--|------------------|-------------------------|------------------------|---|------------------------------------|-------------------------|--|--|-------------------------|--------------------------|------------------------|
| | | | | | | | | | | | | |
| May | GE-1: PRINCIPLES OF ECONOMICS (2.2 CG) | Unit-5 | BK | 10 | CC-7:FINANCIAL ACCOUNTING-II(4.1 CG) | Unit-5 Unit-4 | KD MLT | 10 10 | SEC-4: PERSONAL SELLING AND SALESMANSHIP (6.1 CG) | Unit-5 | BH | 10 |
| | CC-3: BUSINESS LAW (2.3 CG) | Unit-5 | SPD | 15 | CC-8: COST ACCOUNTING-II (4.2 CG) | Unit-5 | SPD | 12 | GE-2: BUSINESS MATHEMATICS AND STATISTICS (6.2 CG) | Unit-5 Unit-4 | BK BH | 12 10 |
| | CC-4: COST ACCOUNTING-I (2.4 CG) | Unit-5 Unit-4 | KD MLT | 10 10 | SEC-2: COMPUTER APPLICATIONS IN BUSINESS (PRACTICAL) (4.3 CG) | Unit-5 | BH | 10 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CG) | Unit-5 Unit-4 | KD BK | 10 10 |
| | | | | | SEC-3: ENTREPRENEURSHIP (4.4 CG) | Unit-5 | BK | 10 | OR DSE-3: INDIRECT TAX LAW (6.3.2 CG) | Unit-5 Unit-4 | MLT KD | 10 10 |
| | | | | | | | | | DSE-4: INTERNATIONAL BUSINESS(6.4.1 CG) | Unit-4 Unit-5 | SPD MLT | 10 10 |
| | | | | | | | | OR DSE-4: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.4.2 CG) | Unit-5 Unit-4 | MLT KD | 10 13 | |
| June | GE-1: PRINCIPLES OF ECONOMICS (2.2 CG) | Revision | BK | 5 | CC-7:FINANCIAL ACCOUNTING-II(4.1 CG) | Revision Revision | KD MLT | 7 7 | SEC-4: PERSONAL SELLING AND | Revision | BH | 7 |

| | | | | | | | | | | | |
|--|-----------------|------------|---|--|-----------------|------------|----|--|------------------------------------|--------------------------|--------|
| CC-3: BUSINESS LAW (2.3 CG) Unit 5: The Negotiable Instruments Act 1881 | Revision | SPD | 7 | CC-8: COST ACCOUNTING-II (4.2 CG) | Revision | SPD | 10 | SALESMANSHIP (6.1 CG) | | | |
| | | | | | | | | GE-2: BUSINESS MATHEMATICS AND STATISTICS (6.2 CG) | Revision Revision | BK BH | 8 7 |
| CC-4: COST ACCOUNTING-I (2.4 CG) | Revision | KD | 5 | SEC-2: COMPUTER APPLICATIONS IN BUSINESS (PRACTICAL) (4.3 CG) | Revision | BH | 8 | | | | |
| | Revision | MLT | 5 | | | | | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CG) | Revision Revision | KD BK | 7 6 |
| | | | | SEC-3: ENTREPRENEURSHIP (4.4 CG) | Revision | BK | 7 | OR DSE-3: INDIRECT TAX LAW (6.3.2 CG) | Revision Revision | MLT KD | 7 8 |
| | | | | | | | | DSE-4: INTERNATIONAL BUSINESS(6.4.1 CG) | Revision Revision | SPD MLT | 7 6 |
| | | | | | | | | OR DSE-4: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.4.2 CG) | Revision Revision | MLT KD | 8 7 |

Head of the Department,
Department of Commerce
Suri Vidyasagar College

DEPARTMENT OF COMMERCE

TEACHING PLAN OF B.com (Honours) (July 2019 – June 2020 Odd and Even Semester)

| Month | Sem-I (H) | Units | Teachers Name | No. of Lecture | Sem-III (H) | Units | Teachers Name | No. of Lecture | Sem-V (H) | Units | Teachers Name | No. of Lecture | |
|------------|-------------------------------------|--------|---------------|------------------------------|--|---------------------------|---------------|--|--|---|---------------|----------------|-----------|
| Jul | CC1:FINANCIAL ACCOUNTING-I (1.2 CH) | Unit1 | BK | 6 | CC-5:CORPORATE LAWS (3.1 CH) | Unit1 | BH | 10 | CC-11: FINANCIAL ACCOUNTING-III (5.1 CH) | Unit1 | KD | 10 | |
| | | Unit-2 | BH | 6 | | Unit2 | BH | 10 | | | | | |
| | | Unit-3 | KD | 6 | | Unit-1 | SPD | 10 | | | | | |
| | CC-2:BUSINESS MANAGEMENT(1.3 CH) | Unit-1 | SPD | 10 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CH) | Unit-1 | BK | 5 | CC-12: AUDITING (5.2 CH) | Unit-1 | SPD | 10 | |
| | | Unit-2 | BK | 10 | | Unit2 | KD | 10 | | | | | |
| | GE-1:MICRO ECONOMICS (1.4 CH) | Unit-1 | BH | 10 | CC-7: FINANCIAL ACCOUNTING- II (3.3 CH) | Unit-1 | KD | 10 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CH) | Unit-1 | BH | 10 | |
| | | Unit-2 | BK | 10 | | Unit-2 | BK | 10 | | Unit-2 | KD | 10 | |
| | | | | | | SEC-1 E-COMMERCE (3.4 CH) | Unit-1 | SPD | 6 | OR DSE-1: FUNDAMENTALS OF BANKING AND INSURANCE (5.3.2 CH) | Unit-1 | BK | 13 |
| | | | | | | | Unit-2 | BH | 6 | | Unit-1 | BK | 12 |
| | | | | | | | Unit-1 | SPD | 12 | | Unit-2 | BH | 8 |
| | | | | | | | Unit-2 | BH | 6 | | Unit-1 | BK | 12 |
| | | | | | | | Unit-1 | SPD | 12 | | Unit-2 | BH | 8 |
| | | | | GE-3:INDIAN ECONOMY (3.5 CH) | Unit-1 | SPD | 12 | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CH) | Unit-1 | BK | 12 | | |
| | | | | | | | | OR | Unit-2 | BH | 8 | | |
| | | | | | | | | DSE-2: ADVERTISING (5.4.2 CH) | Unit1 | BH | 10 | | |

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|-----|----------------------------------|----------|-----|----|--|--------|-----|----|---|------------------|-----------|----------|
| | CH) | Unit-4 | BH | 10 | SEC-1 E-COMMERCE (3.4 CH) | Unit-4 | BH | 10 | INSURANCE (5.3.2 CH) | | | |
| | | | | | GE-3:INDIAN ECONOMY (3.5 CH) | Unit-3 | SPD | 10 | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CH) | Unit-3 Unit-4 | BK BH | 13 10 |
| | | | | | | | | | OR | | | |
| | | | | | | | | | DSE-2: ADVERTISING (5.4.2 CH) | Unit-4 Unit-3 | SPD BH | 7 10 |
| Oct | CC1:FINANCIAL ACCOUNTING-I | Unit-5 | BH | 10 | CC-5:CORPORATE LAWS (3.1 CH) | Unit-4 | BH | 10 | CC-11: FINANCIAL ACCOUNTING-III (5.1 CH) | Unit-4 Unit-3 | BH KD | 10 10 |
| | | Unit-4 | BK | 10 | | | | | CC-12: AUDITING (5.2 CH) | Unit-4 | SPD | 13 |
| | | Revision | KD | 5 | | | | | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CH) | Unit-4 | BH | 10 |
| | CC-2:BUSINESS MANAGEMENT(1.3 CH) | Unit-3 | SPD | 10 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CH) | Unit-5 | KD | 10 | | Unit-5 Unit-3 | KD BK | 10 8 |
| | | Unit-4 | BH | 10 | | Unit-4 | BH | 7 | OR | | | |
| | GE-1:MICRO ECONOMICS (1.4 CH) | Unit-4 | BH | 10 | CC-7: FINANCIAL ACCOUNTING- II (3.3 CH) | Unit-5 | KD | 10 | DSE-1: FUNDAMENTALS OF BANKING AND INSURANCE (5.3.2 CH) | Unit-4 | BK | 10 |
| | | Unit-5A | BK | 10 | | Unit-3 | SPD | 7 | | | | |
| | | | | | SEC-1 E-COMMERCE (3.4 CH) | Unit-4 | BH | 7 | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CH) | Unit-4 Unit-5 | BK BH | 13 10 |
| | | | | | GE-3:INDIAN ECONOMY (3.5 CH) | | | | OR | | | |
| | | | | | | Unit-4 | SPD | 10 | DSE-2: ADVERTISING (5.4.2 CH) | Unit-4 Unit-5 | SPD BH | 6 7 |

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| | | | | | | | | | | | | | | | |
| Nov | CC1:FINANCIAL ACCOUNTING-I | Revision | KD | 3 | CC-5:CORPORATE LAWS (3.1 CH) | Unit-5 | BH | 10 | CC-11: FINANCIAL ACCOUNTING-III (5.1 CH) | Unit-4 | BH | 10 | | | |
| | | Unit-5 | BH | 5 | | Unit-5 | KD | 8 | | Unit-5 | SPD | 10 | | | |
| | | Unit-4 | BK | 4 | | Unit-4 | MLT | 7 | | Unit-4 | BH | 8 | | | |
| | CC-2:BUSINESS MANAGEMENT(1.3 CH) | Unit-5 | SPD | 5 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CH) | Unit-5 | KD | 12 | CC-12: AUDITING (5.2 CH) | Unit-5 | KD | 8 | Unit-5 | BK | 7 |
| | | Unit-5A | BH | 5 | | Unit-4 | BH | 10 | | Unit-4 | BH | 8 | Unit-5 | BK | 10 |
| | | Unit-5B | BK | 5 | | Unit-5 | SPD | 10 | | Unit-5 | SPD | 10 | Unit-4 | BK | 7 |
| | GE-1:MICRO ECONOMICS (1.4 CH) | Unit-5 | BH | 5 | CC-7: FINANCIAL ACCOUNTING- II (3.3 CH) | Unit-3 | BH | 8 | DSE-1: MANAGEMENT ACCOUNTING (5.3.1 CH) | Unit-5 | BH | 8 | Unit-5 | BH | 8 |
| | | Unit-5 | BK | 5 | | Unit-5 | SPD | 10 | | Unit-5 | BH | 8 | Unit-5 | BH | 8 |
| | | Unit-5 | BK | 5 | | Unit-5 | SPD | 10 | | Unit-5 | SPD | 10 | Unit-4 | BK | 7 |
| | | Unit-5 | BK | 5 | | Unit-5 | SPD | 10 | | Unit-5 | SPD | 10 | Unit-5 | BH | 10 |
| Dec | CC1:FINANCIAL ACCOUNTING-I | Revision | BH | 5 | CC-5:CORPORATE LAWS (3.1 CH) | Revision | BH | 8 | CC-11: FINANCIAL ACCOUNTING-III (5.1 CH) | Revision | BH | 7 | | | |
| | | Revision | KD | 5 | | Revision | KD | 8 | | Revision | KD | 7 | | | |
| | | Revision | BK | 5 | | Revision | MLT | 7 | | Revision | SPD | 7 | | | |
| | CC-2:BUSINESS MANAGEMENT(1.3 CH) | Revision | SPD | 5 | CC-6: INCOME TAX LAW AND PRACTICE (3.2 CH) | Revision | MLT | 10 | CC-12: AUDITING (5.2 CH) | Revision | KD | 7 | | | |
| | | Revision | SPD | 5 | | Revision | MLT | 10 | | Revision | BH | 7 | | | |
| | | Revision | SPD | 5 | | Revision | KD | 10 | | Revision | BK | 6 | | | |
| | | Revision | SPD | 5 | | Revision | KD | 10 | | Revision | BK | 6 | | | |
| | | | | CC-7: FINANCIAL | | | | | | | | | | | |

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| | GE-1:MICRO ECONOMICS (1.4 CH) | Unit-5A | BH | 5 | ACCOUNTING- II (3.3 CH) | Revision | SPD | 8 | OR | Revision | BK | 10 |
| | | Unit-5B | BK | 5 | SEC-1 E-COMMERCE (3.4 CH) | Revision | SPD | 8 | DSE-1: FUNDAMENTALS OF BANKING AND INSURANCE (5.3.2 CH) | Revision | BK | 6 |
| | | | | | GE-3:INDIAN ECONOMY (3.5 CH) | | | | DSE-2:INDIAN FINANCIAL SYSTEM (5.4.1 CH) | Revision | BH | 10 |
| | | | | | | | | | OR | Revision | SPD | 10 |
| | | | | | | | | | DSE-2: ADVERTISING (5.4.2 CH) | | | |
| Jan | Sem-II (H) | | | | Sem-IV (H) | | | | Sem-VI (H) | | | |
| | CC-3: COST ACCOUNTING(2.2 CH) | Unit-1 | KD | 10 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) | Unit-1 | BK | 10 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) | Unit-1 | KD | 10 |
| | | Unit2 | BH | 10 | | | | | | Unit-2 | BH | 10 |
| | CC-4: BUSINESS LAW (2.3 CH) | Unit-1 | SPD | 10 | CC-8:FUNDAMENTALS OF MARKETING MANAGEMENT (4.2 CH) | Unit-1 | BH | 10 | CC-14 INDIRECT TAX LAW (6.2 CH) | Unit-1 | BH | 10 |
| | | | | | | Unit-2 | KD | 10 | Unit 1 | | | |
| | | | | | | Unit-3 | BK | 7 | | | BK | |
| | GE-2: MACRO ECONOMICS (2.4 CH) | Unit-1 | BH | 10 | CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) | Unit-1 | BH | 10 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) | Unit-1 | | 10 |
| | | Unit2 | BK | 10 | | Unit-2 | SPD | 10 | | | | |
| | | | | | SEC-2: ENTREPEURSHIP (4.4 CH) | Unit-1 | BK | 7 | OR | Unit-1 | KD | 10 |
| | | | | | | | | | DSE-3: TAX PROCEDURES AND MANAGEMENT (6.3.2 CH) | Unit-2 | BH | 10 |
| | | | | | CC-10: FUNDAMENTALS OF HUMAN RESOURCE | Unit2 | SPD | 13 | DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Unit1 | SPD | 10 |
| | | | | | | | | | | Unit2 | BH | 10 |
| | | | | | | | | | | Unit3 | BK | 10 |

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| | | | | | MANAGEMENT (4.5 CH) | | | | | | | |
| Feb | CC-3: COST ACCOUNTING(2.2 CH) | Unit-1 | KD | 10 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) | Unit-2 | BK | 10 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) | Unit-2 | BH | 10 |
| | | Unit2 | BK | 10 | | | | | | | Unit-1 | KD |
| | CC-4: BUSINESS LAW (2.3 CH) | Unit-1 | SPD | 10 | CC-8:FUNDAMENTALS OF MARKETING MANAGEMENT (4.2 CH) | Unit-5 | KD | 10 | CC-14 INDIRECT TAX LAW (6.2 CH) Unit 1 | Unit-2 | BK | 10 |
| | | | | | | Unit-4 | BH | 12 | | | | |
| | GE-2: MACRO ECONOMICS (2.4 CH) | Unit-1 | BH | 10 | CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) | Unit-3 | BK | 10 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) | Unit-2 | BK | 15 |
| | | Unit2 | BK | 10 | | | | | | | | |
| | | | | | SEC-2: ENTREPEURSHIP (4.4 CH) | Unit-2 | SPD | 10 | OR DSE-3: TAX PROCEDURES AND MANAGEMENT (6.3.2 CH) | Unit-2 | BK | 15 |
| | | | | | CC-10: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (4.5 CH) | Unit-2 | SPD | 13 | | | Unit-1 | KD |
| | | | | | | | | | DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Unit-2 | MLT | 10 |
| | | | | | | | | | | Unit-1 | SPD | 15 |
| | | | | | | | | | Unit2 | MLT | 10 | |
| | | | | | | | | | Unit3 | BK | 10 | |
| Mar | CC-3: COST ACCOUNTING(2.2 CH) | Unit-3 | KD | 10 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) | Unit-3 | BK | 15 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) | Unit-3 | KD | 10 |
| | | Unit-4 | MLT | 10 | | | | | | | Unit-4 | MLT |
| | CC-4: BUSINESS LAW (2.3 CH) | Unit2 | SPD | 10 | CC-8:FUNDAMENTALS OF MARKETING | | | | CC-14 INDIRECT TAX LAW (6.2 CH) | Unit-3 | MLT | 10 |

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|-----|--|--------------------------------|------------------|---------------|--|--|---|---|---|--|---|---|
| | GE-2: MACRO ECONOMICS (2.4 CH) | Unit-3 Unit-4 | BK BH | 10 10 | MANAGEMENT (4.2 CH) CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) SEC-2: ENTREPEURSHIP (4.4 CH) CC-10: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (4.5 CH) | Unit-5 Unit-4 Unit-3 Unit-4 Unit-3 Unit-3 | KD MLT BK SPD BH BK SPD | 10 10 8 10 10 10 10 | Unit 1 DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) OR DSE-3: TAX PROCEDURES AND MANAGEMENT (6.3.2 CH) DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Unit-3 Unit-3 Unit-4 Unit-4 Unit2 Unit3 | BK KD MLT SPD MLT BK | 8 10 10 15 10 10 |
| Apr | CC-3: COST ACCOUNTING(2.2 CH) CC-4: BUSINESS LAW (2.3 CH) | Unit-4 Unit-3 Unit-3 | MLT KD SPD | 8 10 10 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) CC-8:FUNDAMENTALS OF MARKETING MANAGEMENT (4.2 CH) | Unit-4 Unit-4 Unit-5 Unit-3 | BK MLT KD BK | 10 10 10 10 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) CC-14 INDIRECT TAX LAW (6.2 CH) Unit 1 | Unit-4 Unit-5 Unit-4 | MLT KD MLT | 10 10 15 |

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|-----|--|--|--|-------------------------------------|--|--|--|---|--|--|---|---|
| | GE-2: MACRO ECONOMICS (2.4 CH) | Unit-5 Unit-4 | BK BH | 10 10 | CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) SEC-2: ENTREPEURSHIP (4.4 CH) CC-10: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (4.5 CH) | Unit-5 Unit-4 Unit-4 Unit-4 | SPD BH BK SPD | 10 10 10 7 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) OR DSE-3: TAX PROCEDURES AND MANAGEMENT (6.3.2 CH) DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Unit-4 Unit-4 Unit-5 Unit-5 Unit2 Unit3 | BK MLT KD SPD MLT BK | 10 7 10 10 10 10 |
| May | CC-3: COST ACCOUNTING(2.2 CH) CC-4: BUSINESS LAW (2.3 CH) GE-2: MACRO ECONOMICS (2.4 CH) | Revision Unit-5 Unit-4 Unit-5 Revision | KD MLT SPD BK BH | 3 8 10 10 3 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) CC-8:FUNDAMENTALS OF MARKETING MANAGEMENT (4.2 CH) CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) | Unit-4 Unit-5 Unit-4 Unit-3 Unit-5 Unit-4 Unit-5 | BK KD MLT BK SPD BH BK | 10 10 10 7 10 10 10 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) CC-14 INDIRECT TAX LAW (6.2 CH) Unit 1 DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) OR DSE-3: TAX PROCEDURES AND | Unit-4 Unit-5 Unit-5 Unit-5 Unit-4 Unit-5 | MLT KD MLT BK MLT KD | 5 5 8 7 7 7 |

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|-------------|--------------------------------------|-----------------|------------|-----------|--|---|--------------------------------------|----------------------------------|--|---|---------------------------------------|----------------------------------|
| | | | | | SEC-2: ENTREPEURSHIP (4.4 CH) CC-10: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (4.5 CH) | Unit-5 | SPD | 10 | MANAGEMENT (6.3.2 CH) DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Unit-5 Unit12 Unit13 | SPD MLT BK | 7 8 7 |
| June | CC-3: COST ACCOUNTING(2.2 CH) | Unit-5 | MLT | 10 | GE-4:BUSINESS MATHEMATICS AND STATISTICS (4.1 CH) | Revision | BK | 5 | CC- 13: FUNDAMENTALS OF FINANCIAL MANAGEMENT (6.1 CH) | Revision Revision | MLT KD | 10 10 |
| | CC-4: BUSINESS LAW (2.3 CH) | Unit-5 | SPD | 12 | CC-8:FUNDAMENTALS OF MARKETING MANAGEMENT (4.2 CH) | Revision Revision Revision | KD MLT BK | 5 5 5 | CC-14 INDIRECT TAX LAW (6.2 CH) Unit 1 | Revision | MLT | 5 |
| | GE-2: MACRO ECONOMICS (2.4 CH) | Revision | BH | 5 | | Revision | SPD | 5 | DSE-3: FUNDAMENTALS OF INVESTMENT (6.3.1 CH) | Revision | BK | 10 |
| | | Revision | BK | 5 | CC-9:COMPUTER APPLICATIONS IN BUSINESS (4.3 CH) | Revision | BH | 5 | OR | Revision Revision | KD MLT | 10 10 |
| | | | | | | | | | DSE-3: TAX PROCEDURES AND | | | |

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|--|--|--|--|--|---|-----------------|------------|----------|--|------------------------------------|-------------------------|----------------------|
| | | | | | SEC-2: ENTREPEURSHIP (4.4 CH) | Revision | BK | 5 | MANAGEMENT (6.3.2 CH) | Revision | SPD | 10 |
| | | | | | CC-10: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (4.5 CH) | Revision | SPD | 8 | DSE-4: INTERNATIONAL BUSINESS (6.4.1 CH) | Revision Revision | MLT BK | 7 7 |
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Head of the Department,
Department of Commerce
Suri Vidyasagar College

DEPARTMENT OF PHYSICAL EDUCATION

TEACHING PLAN OF Mr. Aditya Mondal
Physical Education (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|---|----------------|--|----------------|---|----------------|
| Jul | THEORY CC1A: History of Physical Education Unit-III: Historical Development of Physical education and sports in India pre-Independence period and post-Independence period. Olympic Movement- Ancient Olympic Games and | 8 | THEORY CC1C: Circulatory System Unit III: Blood- Composition and function. Heart- Structure and functions. Mechanism of blood circulation through heart. | 8 | THEORY DSE1: Fitness Test Unit III: Kraus-Weber Muscular Strength Test. AAHPER Youth Fitness Test. | 6 |
| | PRACTICAL CC1A: Development of Physical Fitness through Calisthenics and Aerobic activities. | | PRACTICAL CC1C: LAB PRACTICAL Assessment of Heart rate | | 2 | |
| | | | THEORY SEC1: Field events Long Jump, High Jump, Shot Put | 3 | THEORY SEC3: Indian Games KABADDI and KHO-KHO | 4 |
| | | | | | GE1: History of Physical Education Historical development of Physical Education and Sports in India- Pre-Independence period and post-Independence period. | 3 |
| Aug | THEORY CC1: History of Physical Education Unit:III: Modern Olympic Games. Brief historical background of Asian Games and Commonwealth Games. National Sports Awards- Arjuna Award, Rajiv Gandhi Khel Ratna Award, Dronacharya Award. | 8 | THEORY CC1C: Circulatory System Unit III: Heart- Structure and functions. Mechanism of blood circulation through heart. | 5 | THEORY DSE1: Fitness Test Unit -III: Queens College Step Test, Harvard Step Test | 2 |
| | PRACTICAL CC1A: Development of Physical Fitness through Calisthenics and Aerobic activities | | PRACTICAL CC1C: Assessment of Heart rate, Blood Pressure | | 2 | |
| | | | THEORY SEC1: Field event Discuss Throw, Javelin Throw | 2 | THEORY SEC3: Racket Sports BADMINTON | 2 |
| | | | | | Theory GE1: Ancient Olympic Games Modern Olympic Games. | 4 |
| Sept | THEORY CC1 Yoga Education Unit: Meaning and definition of the term Yoga, types, aim, objectives and important of Yoga. History of Yoga. | 5 | THEORY CC1C: Circulatory System Unit III: Blood Pressure, Athletic Heart and Bradycardia. | 6 | THEORY DSE1: Sports Skill Test Unit IV: Lockhart and McPherson Badminton Skill Test, Johnson Basketball Test Battery | 4 |
| | PRACTICAL CC1: Development of physical fitness through Callisthenics and Aerobic activities | | PRACTICAL CC1C: Assessment of Heart rate, Blood Pressure, Respiratory Rate, | | 2 | |
| | | | PRACTICAL SEC1: Track and Field Long Jump and High jump: | 2 | SEC3: Racket Sports BADMINTON GE1: | 2 |
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| Oct | THEORY CC1: Yoga Education Unit: IV: Astanga Yoga | 4 2 | THEORY CC1C: Circulatory System and Respiratory System Unit III and IV: Effect of exercise on circulatory system. Structure. | 4 2 2 | THEORY DSE1: Sports Skill Test Unit-IV:McDonald Soccer Test, Brady Volleyball Test | 3 2 2 2 |
| | PRACTICAL CC1: Development of physical fitness through Callisthenics and Aerobic activities | | PRACTICAL CC1C: Assessment of Heart rate, Blood Pressure, Respiratory Rate, and Pick Flow Rate. | | PRACTICAL DSE1: FIELD PRACTICAL Unit: Harvard Step Test | |
| | | | PRACTICAL SEC1: Field events Shot put: Holding the Shot, Placement, Initial Stance, Glide, Delivery Stance and Recovery (Perry O'Brien Technique). | | SEC3: Indian Games KABADDI | |
| | | | | | GE1: Asian Games | |
| Nov | Theory: CC1: Yoga Education Unit -IV: Hatha Yoga | 3 2 | Theory: Respiratory System Unit IV: function of Respiratory organs. Mechanism of Respiration. | 6 2 2 | PRACTICAL DSE1: Fitness Test Kraus-Weber Muscular Strength Test AAHPER Youth Fitness Test Queens College Step Test Harvard Step Test | 4 1 1 3 |
| | Practical CC1: Development of physical fitness through Callisthenics and Aerobic activities Practice classes | | PRACTICAL CC1C: LAB PRACTICAL Assessment of Heart rate, Blood Pressure, Respiratory Rate, and Pick Flow Rate PRACTICAL SEC1: Field events Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release and Recovery. | | PRACTICAL DSE1: FIELD PRACTICAL Unit AAHPER Youth Fitness Test | |
| | | | | | SEC3: Indian Games KHO-KHO GE1: Exercise Sciences Unit-IV:Meaning, definition and importance Exercise and Exercise Physiology. Effects of short- and long-term exercise on Muscular systems. | |
| Dec | THEORY CC1: Unit: III & IV: History of Physical Education and Yoga Education Special classes + doubt clearing+ discussions Practical CC1: Development of physical fitness through Callisthenics and Aerobic activities Practice classes | 10 4 | THEORY CC1C: Respiratory System Unit IV: Vital Capacity, O2 Debt and Second Wind. Effect of exercise on respiratory system. Practical CC1C: Assessment of Heart rate, Blood Pressure, Respiratory Rate, and Pick Flow Rate. PRACTICAL SEC1: Field events Javelin Throw: Grip, Carry, Release and Recovery. | 3 2 2 | PRACTICAL DSE1: Sports Skill Test Unit- IV: Lockhart and McPherson Badminton Skill Test Johnson Basketball Test Battery McDonald Soccer Test Brady Volleyball Test | 4 1 1 3 |
| | | | | | PRACTICAL DSE1: FIELD PRACTICAL Harvard Step Test | |
| | | | | | SEC3: Racket Sports BADMINTON GE1: Exercise Sciences Unit-IV: Effects of short- and long-term exercise on Circulatory System, Effects of short- and long-term exercise on Respiratory System. | |
| Jan | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | |
| | THEORY | | THEORY | | THEORY | |

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|-----|--|--------------------|---|----------------------------|---|-------------------------------------|
| | <p>CC1B: TOURNAMENTS Unit II: Tournaments: Meaning and definition and types of tournaments (Knock-out, League, Combination, Challenge). PRACTICAL CC1B: FIELD PRACTICAL Games: Football</p> | <p>10</p> <p>4</p> | <p>CC1D: PHYSICAL FITNESS AND WELLNESS Unit III: Physical Fitness- Meaning, definition and Importance of Physical Fitness. Components of Physical Fitness- Health and Performance related Physical Fitness.</p> <p>PRACTICAL CC1D: LAB PRACTICAL First-aid Practical- Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica.</p> <p>THEORY SEC2: GYMNASTICS Forward Roll T-Balance</p> | <p>6</p> <p>2</p> <p>2</p> | <p>DSE2: PSYCHOLOGICAL FACTORS Unit-III: Motivation- Meaning, definition, type and importance of Motivation in Physical Education and Sports, Emotion- Meaning, definition, type and importance of Emotion in Physical Education and Sports.</p> <p>PRACTICAL DSE2: LAB PRACTICAL Assessment of Personality</p> <p>SEC4: FOOTBALL Fundamental Skills GE2: HEALTH AND FIRST-AID MANAGERMENTS Unit - II: First aid- Meaning, definition, importance and golden rules of First-aid, Concept of sports injuries- Sprain, Strain, Fracture and Dislocation.</p> | <p>5</p> <p>2</p> <p>2</p> <p>3</p> |
| Feb | <p>THEORY CC1B: TOURNAMENTS Unit II: Procedure of drawing fixture., Method of organising Annual Athletic Meet and Play Day</p> <p>PRACTICAL CC1B: FIELD PRACTICAL Games: Kabaddi</p> | <p>6</p> <p>4</p> | <p>THEORY CC1D: PHYSICAL FITNESS AND WELLNESS Unit-III: Concept of Wellness. Relationship between Physical activities and Wellness. Ageing- Physical activities and its importance.</p> <p>PRACTICAL CC1D: LAB PRACTICAL First-aid Practical- Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica.</p> <p>THEORY SEC2: GYMNASTICS Forward Roll with Split leg Backward Roll Cart-Wheel</p> | <p>5</p> <p>2</p> <p>3</p> | <p>THEORY DSE2: PSYCHOLOGICAL FACTORS Unit-III: Personality- Meaning, definition and type Personality traits, Role of physical activities in the development of personality.</p> <p>PRACTICAL DSE2: LAB PRACTICAL Assessment of Stress and Anxiety.</p> <p>SEC4: FOOTBALL Fundamental Skills</p> <p>GE2: Health and First-aid Managements Unit-II: Postural deformities- Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees and Flat Foot, Hypo-kinetic Diseases and Physical Activities- Obesity and Diabetes.</p> | <p>4</p> <p>2</p> <p>2</p> <p>4</p> |

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| Mar | <p>THEORY CC1B: TOURNAMENTS Unit II: Method of organising of Intramural and Extramural competition. Practical CC1B: FIELD</p> <p>PRACTICAL Games: Kho-Kho</p> | <p>4</p> <p>4</p> | <p>THEORY CC1D: HEALTH AND FIRST-AID MANAGEMENT Unit IV: First aid- Meaning, definition, importance and golden rules of First-aid. Concept of sports injuries- Sprain, Strain, Fracture and Dislocation.</p> <p>PRACTICAL CC1D: First-aid Practical- Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica.</p> <p>THEORY SEC2: GYMNASTICS Unit 2: OPTIONAL Dive and Forward Roll Hand Spring Head Spring</p> | <p>5</p> <p>4</p> <p>2</p> | <p>THEORY DSE2: STRESS AND ANXIETY Unit-IV: Stress- Meaning, definition and types of Stress. Causes of Stress.</p> <p>PRACTICAL DSE2: Assessment of Personality, Stress and Anxiety</p> <p>SEC4: FOOTBALL Fundamental Skills</p> <p>THEORY GE2: Fitness Test Unit-IV: Kraus-Weber Muscular Strength Test, AAHPER Youth Fitness Test.</p> | <p>3</p> <p>2</p> <p>2</p> <p>2</p> |
| | <p>THEORY CC1B: LEADERSHIP Unit IV: Meaning and definition of leadership. Qualities of good leader in Physical Education. Practical CC1B: FIELD</p> <p>PRACTICAL Games: Volleyball</p> | <p>8</p> <p>4</p> | <p>THEORY CC1D: HEALTH AND FIRST-AID MANAGEMENT Unit IV: Management of sports injuries through the application of Hydro-therapy and Thermo-therapy</p> <p>PRACTICAL CC1D: LAB PRACTICAL Unit: Practical knowledge on Hydro-therapy and Thermo-therapy.</p> <p>THEORY SEC2: GYMNASTICS Unit: OPTIONAL Neck Spring Hand Stand and Forward Roll Summersaul</p> | <p>4</p> <p>2</p> <p>2</p> | <p>THEORY DSE2: Stress and Anxiety Unit- IV: Anxiety-Meaning, definition and types of Anxiety. Management of Stress and Anxiety through physical activity and sports.</p> <p>PRACTICAL DSE2: LAB PRACTICAL Measurement of Reaction Time</p> <p>SEC4: VOLLEYBALL Fundamental skills</p> <p>THEORY GE2: FITNESS TEST Unit-IV: Queens College Step Test , Harvard Step Test</p> | <p>4</p> <p>2</p> <p>2</p> <p>2</p> |
| | <p>THEORY CC1B: LEADERSHIP Unit IV: Principles of leadership activities. Hierarchy of Leadership in School, College and University level.</p> <p>PRACTICAL CC1B: FIELD PRACTICAL Games: Football, Kabaddi and Kho-Kho</p> | <p>6</p> <p>6</p> | <p>THEORY CC1D: HEALTH AND FIRST-AID MANAGEMENT Unit IV: Management of sports injuries through the application of Exercise and Massage therapy.</p> <p>PRACTICAL CC1D: LAB PRACTICAL Practical knowledge on Hydro-therapy and Thermo-therapy. Repeat practical Class</p> <p>PRACTICAL SEC2: GYMNASTICS Forward Roll with Split leg Backward Roll Cart-Wheel Dive and Forward Roll Hand Spring Head Spring</p> | <p>4</p> <p>2</p> <p>3</p> | <p>THEORY DSE2: PSYCHOLOGICAL FACTORS Unit-III: Psychological Factors Repeat practical Class</p> <p>PRACTICAL DSE2: LAB PRACTICAL Measurement of Depth Perception and Mirror Drawing</p> <p>SEC4: VOLLEYBALL Fundamental skills PRACTICAL</p> <p>GE2: FITNESS TEST Unit-IV: Kraus-Weber Muscular Strength Test, AAHPER Youth Fitness Test.</p> | <p>3</p> <p>2</p> <p>2</p> <p>6</p> |

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| June | THEORY CC1B: Tournaments and Leadership Special class | 6 | THEORY CC1D: Physical Fitness and Wellness and Health and First-aid Management Unit: III and IV Special class | 2 | THEORY DSE2: Stress and Anxiety Unit -IV: Stress and Anxiety | 4 |
| | PRACTICAL CC1B: Games: Kho-Kho and Volleyball | 4 | PRACTICAL CC1D: LAB PRACTICAL | 3 | PRACTICAL DSE2: LAB PRACTICAL Measurement of Reaction Time, Depth Perception and Mirror Drawing Repeat practical Class | 2 |
| | | | First-aid Practical-Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica. Repeat practical Class | 3 | SEC4: VOLLEYBALL Fundamental skills | 2 |
| | | | THEORY SEC2: GYMNASTICS Unit: Dive and Forward Roll Hand Spring Head Spring Neck Spring Hand Stand and Forward Roll Summersaul | 3 | PRACTICAL GE2: Fitness Test Unit-IV: Queens College Step Test, Harvard Step Test | 2 |

Aditya Mondal
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DEPARTMENT OF ENGLISH

TEACHING PLAN OF WRITTWICK MUKHOPADHYAY
English (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | | |
|-------------|--|---------------------------|---|---------------------------|--|--|
| Jul | Theory: CC (L1-1): Language, Variety and Stylistics Unit 1: Language & Communication – Distinctness of human language | 14 | Theory : CC (L1-2): Language, Imagination & Creativity Unit 1: Plain Language and Figurative Language (Related Tropes like Metaphor, Conceit, Metonymy) | 16 | | |
| Aug | Theory: CC (L1-1): Language, Variety and Stylistics Unit 1: Language & Communication – Distinctness of human language Unit 2: Language varieties – Standard & Non-standard Language, Formal & Informal | 10 8 | Theory : CC (L1-2): Language, Imagination & Creativity Unit 1: Plain Language and Figurative Language (Related Tropes like Metaphor, Conceit, Metonymy) Unit 2: Language and Emotion – Hyperbole, Pathetic Fallacy, Irony, Understatement | 8 6 | | |
| Sept | Theory: CC (L1-1): Language, Variety and Stylistics Unit 2: Language varieties – Standard & Non-standard Language, Formal & Informal | 14 | Theory : CC (L1-2): Language, Imagination & Creativity Unit 2: Language and Emotion – Hyperbole, Pathetic Fallacy, Irony, Understatement | 16 | | |
| Oct | Theory: CC (L1-1): Language, Variety and Stylistics Unit 3: Difference between Declarative and Expressive forms of Language – when Statement becomes Expression | 14 | Theory : CC (L1-2): Language, Imagination & Creativity Unit 3: Escape from Banality – Foregrounding devices like Parallelism & Deviation | 14 | | |
| Nov | Theory: CC (L1-1): Language, Variety and Stylistics Unit 3: Difference between Declarative and Expressive forms of Language – when Statement becomes Expression Unit 4: Register, Collocation and Style | 6 12 | Theory : CC (L1-2): Language, Imagination & Creativity Unit 3: Escape from Banality – Foregrounding devices like Parallelism & Deviation Unit 4: Avoiding/Cultivating Ambiguity – Ambiguity: Weakness or Strength | 4 10 | | |
| Dec | Theory: CC (L1-1): Language, | | Theory : CC (L1-2): Language, Imagination | | | |

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| | Variety and Stylistics Unit 4: Register, Collocation and Style | 6 | & Creativity Unit 4: Avoiding/Cultivating Ambiguity – Ambiguity: Weakness or Strength | 8 | | |
| | Sem-II (G) | | | | | |
| Jan | Theory: AECC-2: Communicative English Unit 1: Theories of Communication; Types and Modes of Communication; Language of Communication: Verbal and Non-verbal (spoken and Written); Personal, Social and Business; Barriers and Strategies; Intra-personal, Inter-personal and Group Communication. | 18 | | | | |
| Feb | Theory: AECC-2: Communicative English Unit 1: Theories of Communication; Types and Modes of Communication; Language of Communication: Verbal and Non-verbal (spoken and Written); Personal, Social and Business; Barriers and Strategies; Intra-personal, Inter-personal and Group Communication. Unit 2: Speaking Skills: Monologue, Dialogue, Group Discussion; Effective Communication/Mis-communication; Interview; Public Speech | 14 10 | | | | |

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| <p>Mar</p> | <p>Theory: AECC-2: Communicative English Unit 2: Speaking Skills: Monologue, Dialogue, Group Discussion; Effective Communication/Mis-communication; Interview; Public Speech</p> | <p>20</p> | | | | |
| <p>Apr</p> | <p>Theory: AECC-2: Communicative English Unit 3: Reading and Understanding: Close Reading, Comprehension, Summary Paraphrasing, Analysis and Interpretation, Translation (from Indian language to English and vice-versa)</p> | <p>18</p> | | | | |
| <p>May</p> | <p>Theory: AECC-2: Communicative English Unit 3: Reading and Understanding: Close Reading, Comprehension, Summary Paraphrasing, Analysis and Interpretation, Translation (from Indian language to English and vice-versa) Unit 4: Writing Skills: Documenting, Report Writing, Making Notes, Letter Writing</p> | <p>8 12</p> | | | | |
| <p>June</p> | <p>Theory: AECC-2: Communicative English Unit 4: Writing Skills: Documenting, Report</p> | <p>10</p> | | | | |

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| | Writing, Making Notes, Letter Writing | | | | | |
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Head of the Department,
Department of English,
Suri Vidyasagar College

DEPARTMENT OF CHEMISTRY

**TEACHING PLAN OF DR. TRIJIT BHATTACHARYYA
Chemistry (Honours) (2019-20) (July 2019 – June 2020)**

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Bonding and Physical properties: electronic displacement | 6 | Theory CC7: <i>Chemistry of alkenes</i> Practical CC7: <i>Qualitative Analysis of Single Solid Organic Compounds part 1</i> | 6 | Theory CC12: Heterocyclic compounds Part I | 6 |
| | Practical CC1: Separation of Binary mixture | 4 | | 2 | Practical CC12: TLC separation of a mixture containing 2/3 amino acids 2. TLC separation of a mixture of dyes (fluorescein and methylene blue) | 2 |
| Aug | Theory: CC1: General Treatment of reaction Mechanism Practical CC1: Separation of Binary mixture | 4 | Theory CC7: : <i>Chemistry of alkynes</i> Practical CC: <i>Qualitative Analysis of Single Solid Organic Compounds Part 2</i> | 4 | Theory CC12: Heterocyclic compounds Part II | 6 |
| | | 2 | | 2 | Practical CC12: Paper chromatographic separation of a mixture containing 2/3 amino acids | 4 |
| Sept | Theory: CC1: Stereochemistry: symmetry elements, point group and projection formula | 4 | Theory CC7: <i>Carbonyl and Related Compounds Part I</i> | 6 | Theory CC12: Cyclic Stereochemistry | 8 |
| | Practical CC1: Determination of boiling point of liquid | 2 | Practical CC7: Melting point of the given compound Preparation of one derivative of the given sample Part I | 2 | Practical CC12: Column chromatographic separation of mixture of dyes | 2 |
| Oct | Theory: CC1: Stereochemistry: Optical activity and absolute configuration Practical CC1: Separation of Binary mixture | 7 | Theory CC7: <i>Carbonyl and Related Compounds Part II</i> | 6 | Theory CC12: Pericyclic reactions Part I | 8 |
| | | 2 | Practical CC7: Preparation of one derivative of the given sample Part 2 | 2 | Practical CC12: Spectroscopic Analysis of Organic Compounds: Part 1 | 2 |
| Nov | Theory: CC1: Reactive Intermediates Practical CC1: Practical Revision | 7 | Theory CC7: <i>Organic Name reactions</i> | 7 | Theory CC12: Pericyclic reactions Part II | 4 |
| | | 2 | Practical CC7: Detection of unknown organic sample | 2 | Practical CC12: Spectroscopic Analysis of Organic Compounds: Part 2 | 4 |
| Dec | Theory: CC1: Organic chemistry Special classes + doubt clearing+ discussions Practical CC1: Organic Chemistry Practice classes | 4 | Theory CC6: <i>Mechanism of hydrolysis of ester and related compounds</i> Practical CC7: Revision | 3 | Theory CC12: Doubt clearing Practical CC12: Revision | 4 |

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| Jan | Sem-II (H) Theory CC3: <i>Stereochemistry II</i> of Concept of prostereoisomerism: Practical CC3: Nitration of acetanilide, | 6 2 | Sem-IV (H) Theory CC10 <i>The Logic of Organic Synthesis:</i> Retrosynthetic analysis Practical CC10 1. Estimation of glucose by titration using Fehling’s solution | 5 2 | Sem-VI (H) Theory DSE-3: Twelve principles and goals of green Chemistry, Practical DSE-3: Benzoin condensation using Thiamine Hydrochloride as a catalyst | 3 2 |
| | Theory CC3: Chirality arising out of stereoaxis Practical CC3: Acetylation of phenols/aromatic amines | 5 2 | Theory CC10: <i>The Logic of Organic Synthesis:</i> Strategy of ring synthesis Practical CC10: 3. Estimation of aromatic amine (aniline) by bromination (Bromate-Bromide) method | 5 2 | Theory DSE-3: Green solvents Part1 Practical DSE-3: Photoreduction of benzophenone to benzopinacol in the presence of sunlight. | 3 4 |
| Mar | Theory CC3: Conformation. Practical | 5 | Theory CC10: <i>Organic Spectroscopy, IR spectra</i> | 4 | Theory DSE-3: Green solvents Part2 | 4 |

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| | <p>CC3: 1. Side chain oxidation of toluene and p-nitrotoluene</p> | 2 | <p>Practical CC10: Estimation of formaldehyde (Formalin)</p> | 2 | <p>Practical DSE-3: Preparation of propene by two methods can be studied, Other types of reactions, like addition, elimination, substitution and rearrangement should also be studied for the calculation of atom economy.</p> | 2 |
| Apr | <p>Theory CC3: Nucleophilic substitution reactions Part 1</p> <p>Practical CC3: 1. Diazo coupling reactions of aromatic amines</p> | 6 2 | <p>Theory CC10: <i>Organic Spectroscopy, NMR spectra, Part I</i></p> <p>Practical CC10 7. Estimation of urea (hypobromite method)</p> | 6 2 | <p>Theory Rightfit pigment,</p> <p>Practical DSE-3: Revision</p> | 3 2 |
| May | <p>Theory CC3: Nucleophilic substitution reactions Part 2</p> <p>Practical CC3: 1. Selective reduction of m-dinitrobenzene to m-nitroaniline</p> | 6 2 | <p>Theory CC10: <i>Organic Spectroscopy: NMR Spectra PartII</i></p> <p>Practical CC10: Revision</p> | 6 2 | <p>Theory DSE-3: Healthier Fats and oil by Green Chemistry, Ultrasound assisted reactions: Simmons-Smith reaction.</p> <p>Practical DSE-3: Revision</p> | 4 2 |

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| June | Theory CC3: Stereoselectivity and Stereospecificity, doubt clearing | 2 | Theory CC10: Application Of Spectroscopy and Doubt clearing | 2 | Theory CC14: Microwave assisted reactions in water, . Future scope of green chemistry | 6 |
| | Practical CC3: Practical revision | 2 | Practical CC10: Practical Revision | 1 | Practical DSE-3: Revision | 2 |



Head of the Department,
Department of Chemistry,
Suri Vidyasagar College

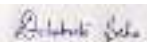
DEPARTMENT OF CHEMISTRY

**TEACHING PLAN OF PROF PANKAJ ROY
Chemistry (Honours) (2019-20) (July 2019 – June 2020)**

| Month | Sem-I (H) | No. of Lectures | Sem-III (H) | No. of Lectures | Sen-V (H) | No. of Lectures |
|-------|---|-----------------|---|-----------------|---|-----------------|
| Jul | Theory: CC2: Kinetic Theory of gases; Practical CC2: Determination of pH of unknown solution. | 6 3 | Theory CC5: <i>Transport Processes</i> : Fick's law: . Practical CC5; Study of saponification reaction conductometrically. | 6 3 | Theory DSE1: Statistical Thermodynamics : Configuration: Macrostates, microstates and configuration; ; Practical : DSE1: Computer Programming : Basic idea. | 6 3 |
| Aug | Theory: CC2: Maxwell's distribution of speed and energy. Practical: CC2: Determination of the reaction rate constant . | 8 2 | Theory CC5: Viscosity. Practical CC5: Study of viscosity of unknown liquid. | 8 4 | Theory DSE1: Statistical Thermodynamics Boltzmann distribution. Practical: DSE1: Computer Programming ; Roots of equations. | 8 4 |
| Sept | Theory: CC2: Kinetic energy distribution. Practical : CC2: Determination of the reaction rate constant. | 8 4 | Theory: CC5: Conductance and transport number. Practical : CC5: Conductometric titration. | 8 4 | Theory: Statistical Thermodynamics: Partition function. Practical : DSE1: Computer Programming; Numerical differentiation . | 8 4 |
| Oct | Theory: CC2: Chemical kinetics; Rate law, order. Practical : CC2: Determination of solubility product. | 4 2 | Theory : CC5: Conductance, Kohlrausch's law. Practical : CC5: Verification of Ostwald's dilution law. | 4 2 | Theory : DSE1: Special selected topics: Specific heat of solid. Practical : DSE1: Computer Programming ; Numerical differentiation. | 4 2 |
| Nov | Theory: CC2: Enzyme catalysis reaction. Practical : CC2: Study of kinetics of hydrolysis. | 6 3 | Theory : CC5: Nernst's distribution law; Practical : CC5: 1. Determination of partition coefficient . | 6 3 | Theory: DSE1: 3rd law: Absolute entropy, Nernst heat theorem. Practical: DSE1: Computer Programming ; Numerical integration | 6 3 |
| Dec | Theory: CC2: Special classes + doubt clearing + discussions Practical CC2: Practice classes | 4 | Theory : CC5: Thermodynamic parameters of mixing; Concept of standard states. Practical | 4 4 | Theory : DSE1: Special classes. Practical: DSE1: Computer Programming Practice; | 4 2 |

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| | | 2 | CC5: . Determination of Keq for KI + I2 =KI3, | | | |
| Jan | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| | | | Theory : CC8: Application of Thermodynamics – II :Colligative properties: Raoult's law; Practical : CC8: Determination of solubility of sparingly soluble salt. | 4 4 | Theory : CC14;Surface phenomenon; Surface tension and energy: Practical : CC14: Determination of surface tension of a liquid. Theory : DSE3: Introduction and history of polymeric materials . Practical : DSE4: Polymer Synthesis 1. Preparation of nylon 66/6 . | 6 3 4 2 |
| Feb | | | Theory : CC8: Application of Thermodynamics. Practical : CC8: Determination of solubility of sparingly soluble salt in water. | 8 4 | Theory : CC14: Surface phenomenon; Adsorption: Practical : CC14: Determination of CMC from surface tension. Theory : DSE3: Determination of molecular weight of polymers ; distribution and its significance. Practical : DSE3: Determination of hydroxyl number of a polymer. | 8 4 4 2 |
| | Mar | | Theory : CC8: Phase rule : Practical: CC8; Study of phenol-water phase diagram. | 8 4 | Theory : CC14: Surface phenomenon & heterogenous catalysis . Practical : CC14: Determination of CMC from surface tension measurements. Theory: DSE3: Functionality and its importance. Practical : DSE3: Polymer Characterization ; | 6 4 4 4 |
| Apr | | | Theory : CC8: Phase diagram for water, CO2, Sulphur. Practical : CC8; Effect of ionic strength. | 6 4 | Theory : CC14: Colloids: Practical : CC14: Determination of pH of unknown buffer, spectrophotometrically. Theory : DSE3: Properties of Polymer ; Practical : | 6 2 4 2 |

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| | | | | | DSE3; Preparations of novalac resin/ resold resin. | |
| May | | | Theory : CC8: Binary solutions: Liquid-liquid phase diagram. Practical : CC8; Determination of K _{sp} for AgCl. | 6 4 | Theory CC14: Surface phenomenon : zeta potential; Micelle Practical : CC14: Verification of Beer and Lambert's Law. Theory : DSE3: Kinetics of Polymerization ; Practical : DSE3: Polymer Characterization. | 4 2 4 4 |
| June | | | Theory : CC8: Special classes | 4 | Theory : Special classes CC14: Practical : CC14: Special classes Theory : DSE3: Special classes Practical : DSE3: Special classes | 2 1 2 1 |



Head of the Department,
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TEACHING PLAN OF DEBABRATA SAHA
Chemistry (Honours) 2019-20 (July 2019-June 2020)

| Month | SEM-I (H) | SEM-III(H) | SEM-V(H) |
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| Jul | No Inorganic Core Course for SEM-I Honours. No Classes. | CC-6 MODULE-1B UNIT-I & II Covalent bond: Polarizing power and polarizability, ionic potential, Fazan's rules. Lewis structures, formal charge. Valence Bond Theory. The hydrogen molecule (Heitler-London approach), directional character of covalent bonds, hybridizations, equivalent and non-equivalent hybrid orbitals. | CC-11 MODULE-02 UNIT-1 (Transition Elements): General comparison of 3d, 4d and 5d elements in term of electronic configuration, oxidation states, redox properties, coordination chemistry. |
| Aug | | CC-6 MODULE-1B UNIT-III Bent's rule, Dipole moments, VSEPR theory, shapes of molecules and ions containing lone pairs and bond pairs (examples from main groups chemistry) and multiple bonding (σ and π bond approach). | MODULE-03 UNIT-1 (Lanthanoids and Actinoids): General Comparison on Electronic configuration, oxidation states, colour, spectral and magnetic properties; lanthanide contraction, separation of lanthanides (ion-exchange method only). |
| Sept | | CC-6 MODULE-2B UNIT-I Metallic Bond: Qualitative idea of valence bond and band theories. Semiconductors and insulators, defects in solids stoichiometric and non-stoichiometric. | DSE-2 MODULE-01 (Qualitative and quantitative aspects of analysis): UNIT-I Sampling, evaluation of analytical data, errors, accuracy and precision, methods of their expression. UNIT-II Normal law of distribution, indeterminate errors, statistical test of data; F, Q, t test, rejection of data & confidence intervals. |
| Oct | | CC-6 MODULE-2C UNIT-I Weak Chemical Forces: van der Waals forces, ion-dipole forces, dipole-dipole interactions, induced dipole interactions, Instantaneous dipole-induced dipole interactions. Repulsive forces. | DSE-2 MODULE-02 (Optical methods of analysis): UNIT-I Origin of spectra, fundamental laws of spectroscopy and selection rules, validity of Beer-Lambert's law. UNIT-II UV-Visible Spectrophotometry: Basic principles of instrumentation (choice of source, monochromator and detector) for single and double beam instrument; |
| Nov | | CC-6 MODULE-02 UNIT-II Intermolecular forces: Hydrogen bonding (theories of hydrogen bonding, valence bond treatment), receptor-guest interactions, Halogen bonds. Effects of chemical force, melting and boiling points. | DSE-2 MODULE-02 UNIT-V Flame Atomic Absorption and Emission Spectroscopy: Basic principles of instrumentation (choice of source, monochromator, and detector, choice of flame and Burner designs. Techniques of atomization and sample introduction; background correction, sources of chemical interferences and their removal. Techniques for the quantitative estimation of trace level of metal ions from environmental samples. |

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| Dec | | CC-6 MODULE-03 UNIT-I Nuclear stability and nuclear binding energy. Nuclear forces: meson exchange theory. Nuclear models (elementary idea): Concept of nuclear quantum number, magic numbers. | DSE-2 MODULE-05 (Separation techniques): UNIT-I Solvent extraction: Classification, principle and efficiency of the technique. Mechanism of extraction: extraction by solvation and chelation. UNIT-II Technique of extraction: batch, continuous and counter current extractions. UNIT-III Qualitative and quantitative aspects of solvent extraction: extraction of metal ions from aqueous solution, extraction of organic species from the aqueous and nonaqueous media. UNIT-IV Chromatography: Classification, principle and efficiency of the technique. Mechanism of separation: adsorption, partition & ion exchange. |
| | SEM-II(H) | SEM-IV (H) | SEM-VI (H) |
| Jan | CC-3 MODULE-02 UNIT-I & II Modern IUPAC Periodic table, Effective nuclear charge, screening effects and penetration, Slater's rules. | CC-9 MODULE-02 UNIT-I Relative stability of different oxidation states, diagonal relationship and anomalous behaviour of first member of each group. Allotropy and catenation. | MODULE-08 UNIT-I Significant figures, precision and accuracy, errors – systematic and random, mean, variance, standard deviation, different forms of standard deviations, sample and universal standard deviations. UNIT-II Qualitative idea about different frequency distribution, normal distribution, mathematical expression for normal distribution, calculation of area under normal distribution curve by numerical integration, relation between probability and area. UNIT-III Propagation of errors, general and specific cases, functions involving multiplication, division, exponential and logarithmic calculations. |
| Feb | CC-3 MODULE-02 UNIT-III & IV Atomic radii, ionic radii (Pauling's univalent), covalent radii, lanthanide contraction. Ionization potential, electron affinity and electronegativity (Pauling's, Mulliken's and Allred-Rochow's scales) and factors influencing these properties, group electronegativities. | CC-9 MODULE-02 UNIT-II Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses. Beryllium hydrides and halides. Boric acid and borates. | MODULE-08 UNIT-IV The t-distribution and application, confidence limit, significance testing, least-squares analysis, sensitivity and detection limit. MODULE-9A UNIT-I Acid-base reaction: polyprotic acids, mixture of monoprotic acids, reactions in non-aqueous solvents, levelling effect, titration in basic solvents and in glacial acetic acid. |
| Mar | CC-3 MODULE-02; UNIT-V Group trends and periodic trends in these properties in respect of s-, p- and d-block elements. Secondary periodicity, Relativistic Effect, Inert pair effect. MODULE-03; UNIT-I Acid-Base concept: Arrhenius concept, theory of solvent system (in H ₂ O, NH ₃ , SO ₂ and HF), Bronsted-Lowry's concept, relative strength of acids, Pauling's rule. | CC-9 MODULE-02 UNIT-III & IV Boron nitrides, borohydrides (diborane) and graphitic compounds, silanes. Oxides and oxoacids of nitrogen, phosphorus, sulphur and chlorine. Peroxo acids of sulphur. | MODULE-9A UNIT-II Redox reaction: Redox titrations: feasibility, indicator, different types like chromometry, permanganometry, iodometry and iodimetry. UNIT-III Complexometric reaction: different multidentate ligands as complexometric titrants, applications of EDTA, metal ion indicator, typical examples of EDTA titration, masking/demasking agent. UNIT-IV Precipitation reaction: a few typical examples like Vohlard titration, use of adsorption indicators. |
| Apr | CC-3 MODULE-03; UNIT-II & III Lux-Flood concept, Lewis concept, group characteristics of Lewis acids, solvent levelling and differentiating effects. Thermodynamic acidity parameters, Drago-Wayland equation. Superacids, Gas phase acidity and proton affinity | CC-9 MODULE-02 UNIT-V&VI Sulphur-nitrogen compounds, Basic properties of halides and polyhalides, interhalogen compounds, polyhalides, pseudohalides, fluorocarbons and chlorofluorocarbons. | MODULE-9C UNIT-I Spectrophotometric analysis; Principle and terminology, Lambert-Beer's law and its limitations. UNIT-II Colorimetric determination of single analyte, spectrophotometric determination of multicomponent analytes, atomic absorption/emission spectrometry: principles and instrumentations, estimation of sodium and potassium in water samples. |
| May | CC-3 MODULE-03; UNIT-IV .HSAB principle. Acid-base equilibria in aqueous solution (Proton transfer equilibria in water), | CC-9 MODULE-03 UNIT-I Noble Gases: Occurrence and uses, rationalization of inertness of noble | MODULE-10 UNIT-I Methodologies in separational chemistry; Basic principle of solvent extraction, distribution ratio, extraction equilibria and |

Debatrati Saha

Head of the Department,
Department of Chemistry
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| Jun | Special class, questions -answers discussions and evaluation. | Special class, questions -answers discussions and evaluation. | Special class, questions -answers discussions and evaluation. |
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SURI VIDYASAGAR COLLEGE

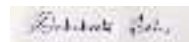
Department of Chemistry

Teaching Plan of Dr. Sandip Mondal for the Honours Course (2019-2020)

| Month | SEM - I | SEM - III | SEM – V |
|-------|---------|--|---|
| Jul | - | Theory Chemical Bonding-I CC-6: Ionic bond Practical Estimation of Cu(II) | Theory CC-11: Coordination Chemistry-II: VB description and its limitations. Elementary Crystal Field Theory Practical Principles involved in chromatographic separations. Paper chromatographic separation of following metal ions: Ni (II) and Co (II) |
| Aug | - | Theory Chemical Bonding-I CC-6: Ionic bond Practical Estimation of Vitamin C. Estimation of arsenite by iodimetric method | Theory CC-11: Coordination Chemistry-II: Crystal Field Theory Practical Principles involved in chromatographic separations. Paper chromatographic separation of following metal ions: Fe (III) and Al (III) |
| Sept | - | Theory Chemical Bonding-II CC-6: Other Types of Bonding: Molecular orbital concept of bonding. Practical Estimation of Cu in brass. | Theory CC-11: Coordination Chemistry-II: Metal- Ligand bonding MO concept Practical Gravimetry Estimation of nickel (II) using Dimethylglyoxime (DMG) and Estimation of copper as CuSCN Estimation of Al (III) by precipitating with oxine and weighing as Al(oxine) ₃ (aluminium oxinate and Estimation of chloride |
| Oct | - | Theory Chemical Bonding-II CC-6: Other Types of Bonding: Molecular orbital concept of bonding Practical Estimation of Cr and Mn in Steel. | Theory CC-11: Coordination Chemistry-II: Magnetism and Colour Practical Spectrophotometry : Measurement of 10Dq of 3d metal complexes by spectrophotometric method. Determination of λ -max of KMnO ₄ and K ₂ Cr ₂ O ₇ . Gravimetry |
| Nov | - | Theory Chemical Bonding-II CC-6: Other Types of Bonding: Metallic bonding Practical Repetition | Theory DSE-2: Analytical methods in chemistry: Qualitative and quantitative aspects of analysis Practical Separate a mixture of Sudan yellow and Sudan Red by TLC technique and identify them on |

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| | | | the basis of their R _f values. 3. Separation of the active ingredients of plants, flowers and juices by TLC |
| Dec | - | Theory Chemical Bonding-II CC-6: Other Types of Bonding: Weak Chemical Forces: Practical Repetition | Theory DSE-2: Analytical methods in chemistry: Chromatography and Development of chromatograms Practical 1. To separate a mixture of Ni ²⁺ & Fe ²⁺ by complexation with DMG and extracting the Ni ²⁺ - DMG complex in chloroform, and determine its concentration by spectrophotometry. 2. Analysis of soil: a. Determination of pH of soil. b. Total soluble salt c. Estimation of calcium, magnesium, phosphate, nitrate 3. Ion exchange: a. Determination of exchange capacity of cation exchange resins and anion exchange resins. |
| | SEM - II | SEM - IV | SEM – VI |
| Jan | Theory CC-3: Extra nuclear Structure of atom Practical Estimation of Fe(II) using standardized KMnO ₄ solution and Estimation of oxalic acid and sodium oxalate in a given mixture | Theory CC-9: Inorganic Chemistry III:- General Principles of –Metallurgy- Practical Complexometric titration: Zn(II) | Theory CC-13: Organometallic Chemistry Practical Qualitative semimicro analysis |
| Feb | Theory CC-3: Extra nuclear Structure of atom Practical 3. Estimation of Fe(II) and Fe(III) in a given mixture using K ₂ Cr ₂ O ₇ solution. | Theory CC-9: Inorganic Chemistry III: General Principles of Metallurgy Practical Zn(II) in a Zn(II) and Cu(II) mixture | Theory CC-13: Organometallic Chemistry Practical Qualitative semimicro analysis |
| Mar | Theory CC-3: Extra nuclear Structure of atom and numerical problem solve Practical 4. Estimation of Fe(III) and Mn(II) in a mixture using standardized KMnO ₄ solution | Theory CC-9: Inorganic Chemistry III: Coordination Chemistry-I Practical Ca(II) and Mg(II) in a mixture and Hardness of water | Theory CC-13: Catalysis by Organometallic Compounds Practical Qualitative semimicro analysis |
| Apr | Theory CC-3: Redox Reactions and precipitation reactions Practical Estimation of Fe(III) and Cu(II) in a mixture using K ₂ Cr ₂ O ₇ . | Theory CC-9: Inorganic Chemistry III: Coordination Chemistry-I Practical Inorganic preparations 1. [Cu(CH ₃ CN) ₄]PF ₆ /ClO ₄ and Potassium dioxalatodiaquachromate(III) | Theory CC-13: Catalysis by Organometallic Compounds Practical Qualitative semimicro analysis |
| May | Theory CC-3: Redox Reactions and precipitation reactions Practical Estimation of Fe(III) and Cr(III) in a mixture using K ₂ Cr ₂ O ₇ . | Theory CC-9: Inorganic Chemistry –II: Noble Gases Practical Tetraamminecarbonatocobalt (III) ion and Potassium tris(oxalate)ferrate(III) | Theory CC-13: Bioinorganic Chemistry Practical Qualitative semimicro analysis |

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| June | Theory CC-3: Redox Reactions and precipitation reactions and numerical problem solve Practical Repetition | Theory CC-9: Inorganic Chemistry –II: Inorganic Polymers Practical Tris-(ethylenediamine) nickel(II) chloride and $[\text{Mn}(\text{acac})_3]$ and $[\text{Fe}(\text{acac})_3]$ (acac= acetylacetonate). | Theory CC-13: Bioinorganic Chemistry Practical Qualitative semimicro analysis |
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Head of the Department,

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DEPARTMENT OF CHEMISTRY

TEACHING PLAN OF Mrs. Ishani Sinha
Chemistry (Honours) (2019-20) (July 2019– June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Bonding and Physical properties Valence Bond Theory | 4 | Theory CC7: Electrophilic aromatic substitution | 8 | Theory CC12: Polynuclear hydrocarbons and their derivatives | 6 |
| | Practical CC1: Identification of single compound | 2 | Practical CC7: <i>Qualitative Analysis of Single Solid Organic Compounds part 1</i> | 2 2 | Practical CC12: TLC separation of a mixture containing 2/3 amino acids 2. TLC separation of a mixture of dyes (fluorescein and methylene blue) | 2 |
| Aug | Theory: CC1: MO theory | 4 | Theory CC7: Nucleophilic aromatic substitution | 4 | Theory CC12: Carbohydrates | 6 |
| | Practical CC1: Identification of single compound | 2 | Practical CC: <i>Qualitative Analysis of Single Solid Organic Compounds Part 2</i> | 2 2 | Practical CC12: Paper chromatographic separation of a mixture containing 2/3 amino acids | 4 |
| Sept | Theory: CC1: Physical properties of organic compounds | 6 | Theory CC7: <i>Organometallics</i> | 8 | Theory CC12: Biomolecules: amino acids and peptides | 8 |
| | Practical CC1: Identification of single compound | 2 | Practical CC7: Melting point of the given compound Preparation of one derivative of the given sample Part 1 | 2 2 | Practical CC12: Column chromatographic separation of mixture of dyes | 2 |
| Oct | Theory: CC1: Mechanistic classification of reactions | 7 | Theory CC7: Nucleophilic addition to α,β -unsaturated carbonyl system | 8 | Theory CC12: Biomolecules: Nucleic acids | 8 |
| | Practical CC1: identification of single compound (liquid) | 2 | Practical CC7: Preparation of one derivative of the | 2 2 | Practical CC12: Spectroscopic Analysis of Organic Compounds: Part 1 | 2 |

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| | | | given sample Part 2 | | | |
| Nov | Theory: CC1: Reactive Intermediates Practical CC1: Practical Revision | 8 2 | Theory CC7: Nucleophilic addition to α,β -unsaturated carbonyl system Practical CC7: Detection of unknown organo sample | 7 2 2 | Practical CC12: Spectroscopic Analysis of Organic Compounds: Part 2 Theory CC12: Alkaloids and Terpenoids part I | 2 8 |
| Dec | Theory: CC1: Organic chemistry Special classes + doubt clearing+ discussions Practical CC1: Organic Chemistry Practice classes | 4 2 | Theory CC6: <i>Organometallics</i> Practical CC7: Revision | 3 1 1 | Theory CC12: Alkaloids and Terpenoids part II Practical CC12: Revision | 4 1 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC3: Reaction kinetics, Concept of organic acids and bases Practical CC3: Hydrolysis of amides/imides/esters | 6 2 | Theory CC10 <i>Nitrogen compounds</i> Practical CC10 Estimation of vitamin-C (reduced) SEC-2 <i>Drugs & Pharmaceuticals Part I</i> | 4 5 2 2 | Theory DSE-3: Designing greener processes Practical DSE-3: Benzoin condensation using Thiamine Hydrochloride as a catalyst | 5 2 12 2 |
| Feb | Theory CC3: Reaction thermodynamics Practical CC3: Condensation reactions: Synthesis | 5 | Theory CC10: Rearrangement to electron-deficient carbon and oxygen Practical | 5 5 | Theory DSE-3: Use of microwaves and ultrasonic energy in green processes. | 2 4 |

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| | of 7-hydroxy-4-methylcoumarin | 2 | CC10: 3. Estimation of phenol by bromination (Bromate-Bromide) method SEC-2 <i>Drugs & Pharmaceuticals Part 2</i> | 2 2 4 | Practical DSE-3: Photoreduction of benzophenone to benzopinacol in the presence of sunlight. | 2 12 2 |
| Mar | Theory CC3: Tautomerism Practical CC3: 1. Benzoylation of phenols/aromatic amines | | Theory CC10: Aromatic rearrangements Practical CC10: Estimation of acetic acid in commercial vinegar SEC-2 <i>Fermentation Part 1</i> | 5 4 2 3 | Theory DSE-3: Selection of starting materials, Preferential use of catalytic reagents Practical DSE-3: Preparation of propene by two methods can be studied, Other types of reactions, like addition, elimination, substitution and rearrangement should also be studied for the calculation of atom economy. | 12 2 8 2 |
| Apr | Theory CC3: Free-radical substitution reaction, Practical CC3 1. Bromination of acetanilide using green approach (Bromate-Bromide method) | 8 2 | Theory CC10: Migration from nitrogen to ring carbon, Rearrangement reactions by green approach Practical CC10 . Estimation of saponification value of oil/fat/ester SEC-2 <i>Fermentation</i> | 4 4 2 4 3 | Theory DSE-3: Development of green analytical techniques, Green synthesis of adipic acid Practical DSE-3: Revision | 10 2 6 |

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| | | | <i>Part 2</i> | | | 2 |
| May | Theory CC3: Elimination reactions, | 8 | Theory CC10: <i>Organic Spectroscopy: UV spectra</i> | 4 | Theory DSE-3: Application of surfactant absorbed carbon dioxide for dry cleaning | 8 |
| | Practical CC3: 1. Green 'multi-component-coupling' reaction: Synthesis of dihydropyrimidone 2. Selective reduction of m-dinitrobenzene to m-nitroaniline | 2 | Practical CC10: Revision | 2 3 | Practical DSE-3: Revision Theory DSE4: Industrial and Environmental Microbiology Unit 6: Microbial flora of water | 2 6 |
| June | Theory CC3: doubt clearing | 2 | Theory CC10: Asymmetric synthesis and Doubt clearing | 2 | Theory CC14: An efficient, green synthesis of a compostable and widely applicable plastic (poly lactic acid) made from corn | 6 |
| | Practical CC3: Practical revision | 2 | Practical CC10: Practical Revision | 1 3 | Practical DSE-3: Revision | 2 8 |
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Rishabh Saha

Head of the Department,
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DEPARTMENT OF CHEMISTRY

TEACHING PLAN OF DR. TRIJIT BHATTACHARYYA

Chemistry (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lectures | Sem-III (G) | No. of Lectures | Sem-V (G) | No. of Lectures | |
|-------|--|-----------------|---|-----------------|-------------------|-----------------|--|
| Jul | Theory CC1A/GE1: Stereochemistry Part 1 | 4 | TheoryCC1C/GE3: Alcohol, Diols, Rearrangement reaction | 4 | | | |
| Aug | Theory CC1A/GE1: Stereochemistry Part 2 | | TheoryCC1C/GE3: Ethers | 4 | : | | |
| Sept | Theory CC1A/GE1: Inductive Effect, Resonance, Hyperconjugation | 4 | ; TheoryCC1C/GE3: Carbonyl compounds Part 1 | 4 | . | | |
| Oct | Theory CC1A/GE1: Aliphatic Hydrocarbons | 4 | TheoryCC1C/GE3: Carbonyl compounds Part 2 | 4 | | | |
| Nov | Theory CC1A/GE1: Nucleophilic Substitution Reaction | 4 | TheoryCC1C/GE3: Carbonyl compounds Part 3 | 4 | | | |
| Dec | Theory CC1A/GE1: Elimination Reaction | 3 | TheoryCC1C/GE3: Dobt clearing, and revision | 2 | | | |
| Jan | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | | |
| | Theory : CC-1B (Theo) : Comparative study of p-block elements B-Al- Ga-In-Tl | 3 | Theory : CC-1D: Chromatographic methods | 3 | | | |

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| Feb | Theory : CC-1B (Theo) Comparative study of p-block elements C-Si-Ge-Sn-Pb | 4 | Theory : CC-1D : Volumetric analysis of NaHCO ₃ and Na ₂ CO ₃ by acidimetry | 4 | | | |
| Mar | Theory : CC-1B (Theo) Comparative study of p-block elements N-P-As-Sb-Bi | 4 | Theory : CC-1D Environmental <i>Chemistry: The</i> Atmosphere, Structure and composition | 4 | | | |
| Apr | Theory : CC-1B (Theo) Comparative study of p-block elements O-S-Se-Te | 4 | Theory : CC-1D: Environmental <i>Chemistry: The</i> Atmosphere, Pollutants | 2 | | | |
| May | Theory : CC-1B: Comparative study of p-block elements F-Cl-Br-I | 3 | Theory : CC-1D Environmental <i>Chemistry: The Atmosphere,</i> problem of ozone layer depletion | 3 | | | |
| June | Theory : CC-1B: Special classes . | 2 | Theory : CC-1D: Environmental <i>Chemistry: The Atmosphere</i> pollution control measures | 1 | | | |



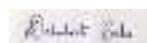
Head of the Department,
Department of Chemistry,
Suri Vidyasagar College

DEPARTMENT OF CHEMISTRY

**TEACHING PLAN OF PROF PANKAJ ROY
Chemistry (General) (2019-20) (July 2019 – June 2020)**

| Month | Sem-I (G) | No. of Lectures | Sem-III (G) | No. of Lectures | Sem-V (G) | No. of Lectures |
|-------|--|-----------------|---|-----------------|--|-----------------|
| Jul | | | Theory:CC-1C: Chemical Energetics ;thermodynamics;state and path functions; Practical : Measurement of pH of different solutions | 5 5 | Theory SEC-3: Basics & Application of Computer in Chemistry <i>Mathematics;Fundamentals:</i> | 5 |
| Aug | | | Theory:CC-1C: Chemical Energetics ;thermodynamics;Concept of heat, work, internal energy and statement of first law; Practical : Measurement of pH of different solutions | 5 5 | Theory SEC-3: <i>Mathematics;Uncertainty in measurement:</i> | 5 |
| Sept | | | Theory:CC-1C: Chemical Energetics ;thermodynamics;Heats of reaction; Practical : Preparation of buffer solutions and find the pH | 4 4 | Theory:SEC-3: <i>Mathematics;Differential calculus:</i> | 4 |
| Oct | | | Theory:CC-1C: Chemical Energetics ;thermodynamics;Laws of thermochemistry; Practical : Study of the solubility of benzoic acid in water. | 3 2 | Theory : SEC-3: Computer Programming; Simple computer programs,Statistical analysis. | 3 |
| Nov | | | Theory:CC-1C: Chemical Energetics ;thermodynamics;second law of thermodynamics; Practical : Practice. | 3 2 | Theory:SEC-3 Computer Programming ; BASIC programs for curve fitting, finding roots. | 3 |
| Dec | | | Theory:CC-1C: Special classes: Practical Practice. | 2 2 | Theory : SEC-3:Special classes: | 2 |
| Jan | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | |
| | Theory : CC-1B (Theo) : Kinetic Theory of Gases and Real gases . Practical : Surface tension measurement | 3 2 | Theory : CC-1D:Solutions ; Ideal solutions and Raoult's law. Practical : CC-1D: Distribution Law;Study of the equilibrium | 3 2 | Theory : SEC-4 :Introduction and history of polymeric materials. Theory: DSE-1B: Industrial Chemistry; Polymers: basic concept. | 1 1 |

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|------|--|---|---|---|---|---|
| Feb | Theory : CC-1B (Theo) Surface tension, Viscosity of a liquid . Practical : Study of the variation of surface tension of a detergent solution with concentration | 4 | Theory : CC-1D :Solutions; Distillation of solutions; curves of ideal and non-ideal solutions; Practical : CC-1D: potentiometric titration: | 4 | Theory : SEC-4: Functionality and its importance in polymer chemistry. Theory : DSE-1B: structure and types of plastics. | 2 |
| | | 2 | | 4 | 2 | |
| Mar | Theory : CC-1B (Theo) Chemical Kinetics ;Order and molecularity; Practical : Study of the variation of viscosity | 5 | Theory :Solutions; solvent extraction .Phase rule ;phase equilibrium; CC-1D: Practical: CC-1D; potentiometric titration: . | 4 | Theory : SEC-4: Kinetics of polymerization. Theory : DSE 1B: PVC; manufacture, physical properties. | 2 |
| | | 5 | | 4 | 2 | |
| Apr | Theory : CC-1B (Theo) Chemical Kinetics ;Collision theory;Transition State theory Practical : Study the kinetics Iodide-persulphate reaction | 4 | Theory : CC-1D: Phase rule ;thermodynamic derivation; Practical : CC-1D; Determination of dissociation constant | 4 | Theory : SEC-4: Properties of polymers. Theory : DSE 1B: Paints: constituents; formulation. | 2 |
| | | 4 | | 4 | 2 | |
| May | Theory : CC-1B: Temperature dependence of rate constant; Practical : Acid hydrolysis of methyl acetate with hydrochloric acid | 3 | Theory : CC-1D: Phase Equilibria; Phase diagrams Practical : CC-1D: Determination of dissociation constant. | 3 | Theory SEC-4: Determination of molecular weights. Theory : DSE1B: Binders and solvents for paints. | 2 |
| | | 3 | | 3 | 2 | |
| June | Theory : CC-1B: Special classes . Practical : Practice. | 1 | Theory : CC-1D: Special classes. Practical : Special classes. | 1 | Theory : SEC-4: Special classes. Theory : DSE1B : Special classes. | 1 |
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Head of the Department,
Department of Chemistry,
Suri Vidyasagar College

TEACHING PLAN OF DEBABRATA SAHA
Chemistry (General) 2019-20 (July 2019-June 2020)

| Month | SEM I(G) | SEM-III(G) | SEM-V |
|-------|--|------------------|--|
| Jul | MODULE-02 (Chemical Periodicity) UNIT-I Classification of elements on the basis of electronic configuration: general characteristics of s-, p-, d- and f-block elements. | NO CLASSES | MODULE-01 UNIT-I (Transition Elements (3d)): General group trends with special reference to electronic configuration, variable valency, colour, magnetic and catalytic properties, ability to form complexes and stability of various oxidation states (Latimer diagrams) for Mn, Fe and Cu. |
| Aug | MODULE-02 (Chemical Periodicity) UNIT-II Positions of hydrogen and noble gases. Atomic and ionic radii, ionization potential, electron affinity, and electronegativity. | NO CLASSES | MODULE-01 UNIT-II (Lanthanoids and actinoids): Electronic configurations, oxidation states, colour, magnetic properties, lanthanide contraction, separation of lanthanides (ion exchange method only). |
| Sept | MODULE-02 (Chemical Periodicity) UNIT-III Periodic and group-wise variation of above properties in respect of s- and p- block elements. | NO CLASSES | MODULE-04 UNIT-I (Error analysis): accuracy and precision of quantitative analysis, determinate, indeterminate, systematic and random errors; methods of least squares and standard deviations. |
| Oct | MODULE-04 (Redox reactions) UNIT-I Balancing of equations by oxidation number and ion-electron method oxidimetry and reductimetry. | NO CLASSES | MODULE-05 UNIT-I (Fertilizers): manufacture of ammonia & ammonium salts, urea, superphosphate, biofertilizers. UNIT-II (Cement): Portland cement: composition and setting of cement, white cement. |
| Nov | Special classes + doubt clearing + discussions | NO CLASSES | Problem solving + discussions and evaluation. |
| Dec | Doubt clearing + discussions + evaluation. | NO CLASSES | Problem solving + discussions and evaluation. |
| Jan | SEM-II (G) | SEM-IV(G) | SEM-VI (G) |
| | MODULE-5B UNIT-III Covalent bonding: VB Approach: Shapes of some inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. | NO CLASSES | NO CLASSES |
| Feb | MODULE-5C UNIT-IV Concept of resonance and resonating structures in various inorganic and organic compounds. | NO CLASSES | NO CLASSES |
| Mar | MODULE-5D UNIT-V MO Approach: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for s-s, s-p and p-p combinations of atomic orbitals, nonbonding combination of orbitals. | NO CLASSES | NO CLASSES |
| Apr | MODULE-05 UNIT-VI MO treatment of homonuclear diatomic molecules of 1st and 2nd periods. (including idea of s- p mixing) and heteronuclear diatomic molecules such as CO, NO and NO+. Comparison of VB and MO approaches. | NO CLASSES | NO CLASSES |
| May | Special classes + doubt clearing + discussions. | NO CLASSES | NO CLASSES |
| Jun | Doubt clearing + discussions + evaluation. | NO CLASSES | NO CLASSES |



Head of the Department,
Department of Chemistry
Suri Vidyasagar College

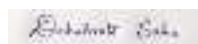
DEPARTMENT OF CHEMISTRY

TEACHING PLAN OF Mrs. Ishani Sinha
Chemistry (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|---|----------------|---|----------------|---|----------------|
| Jul | Theory: CC1A/GE1: Electronic Displacement: Inductive Effect, Resonance, Hyperconjugation, Homolytic and Heterolytic fission of bonds, Structure of organic molecules on the basis of VBT, Nucleophile, Electrophile, Reactive Intermediate: Carbonation, Carbanion, Free Radicals. | 6 | Theory CC1C/GE3: Aromatic hydrocarbons: Benzene, preparation from phenol, decarboxylation, acetylene, benzene sulphonic acid. Reaction: General Mechanism of aromatic electrophilic substitution. | 7 | Theory DSE 1A: Fuels | 3 |
| | Practical CC1A/ GE1: Lassaigne Test: Detection of Special Elements | 2 | Practical CC1C/GE3: Identification of pure organic compounds: oxalic acid, succinic acid | 2 | Practical DSE 1A: 1. Titration of Na ₂ CO ₃ and NaHCO ₃ mixture by HCl using Phenolphthalein indicator. 2. Practice classes. | 2 |
| Aug | Theory: CC1A/GE1: Stereochemistry CC1A/ GE 1: Solubility Test of solid organic compounds. | 6 | Theory CC1C/GE3: Nitration, Halogenation, Sulphonation, Friedel Craft Alkylation, acetylation and side chain oxidation of aromatic hydrocarbons. | 5 | Theory DSE 1A : Fertilizers | 4 |
| | | 2 | Practical CC1C/GE3: Identification of pure organic compounds: Salicylic Acid, Benzoic Acid | 2 | Practical DSE1A: 1. Titration of HCl and CH ₃ COOH mixture by NaOH using different indicators. 2. Practice classes. | 2 |
| Sept | Theory: CC1A/GE1: Substitution and Elimination Reaction: SN1, SN2, E1, E2, Saytzeff and Hoffmann Elimination Alkanes. Preparation: Catalytic hydrogenation, Wurtz Reaction, Kolbe Synthesis, From Grignard Reagent. | 6 | Theory CC1C/GE3: Aryl Halides, Preparation from Phenol, Sandmeyer Reaction, Nucleophilic Aromatic Substitution, Effect of Nitro group | 4 | Theory DSE 1A: Glass and Ceramics : Part 1 | 3 |
| | Practical CC1A/GE1: Detection of functional group: -COOH, phenolic -OH, carbonyl group. | 2 | Practical CC1C/GE3: Identification of pure organic compounds: Resorcinol, Urea | 2 | Practical DSE 1A: 1. Estimation of total hardness of water by standard EDTA solution. 2. Practice classes. | 2 |
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| Oct | Theory: CC1A/ GE1: Reaction of alkanes: General Mechanism for free radical substitution and Halogenation; Alkene. Preparation: Dehydration of Alcohol, Dehydrohalogenation. Cis Alkene and Trans Alkene. | 6 | Theory CC1C/GE3 : Grignard Reagent, Preparation, Concept of Umpolung, Reformatsky reaction | 4 | Theory DSE 1A : Glass and Ceramics: Part 2 | 3 |
| | Practical CC1A/GE1: Detection of functional group: Ar -NO ₂ and Ar -NH ₂ group | 2 | Practical CC1C/GE3 : Identification of pure organic compounds: Glucose, Acetone | 2 | Practical DSE 1A: Practice classes | 2 |
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| Nov | Theory: CC1A/GE1: Alkene. Cis addition, Trans addition, Markownikoff's Addition and anti Markownikoff's Addition, hydration, ozonolysis, oxymercuration, demercuration, | 4 | Theory CC1C/GE3 : Reimer Tiemann Reaction, Houben Hoesch Reaction, Schotten Baumann Reaction, Fries and Claisen Rearrangements, Problems with examples | 5 | Theory DSE 1A : Cement | 3 |
| | | 2 | | 2 | Practical | 2 |

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| | hydroboration, oxidation. CC1A/GE1: Detection of unknown organic sample | | Practical CC1C/GE3 :Identification of pure organic compounds: Aniline , Nitrobenzene | 2 | DSE 1A : Practice classes | |
| Dec | Theory: CC1A/GE1: Organic chemistry Alkyne. Preparation and conversation into higher alkynes. Formation of metal acetylides, addition of Br ₂ and alkaline KMnO ₄ Practical CC1A/GE1: Organic Chemistry Practice classes | 4 2 | Theory Revision and discussion of previous lessons Practical CC1C/GE3 :Unknown Samples | 3 1 1 | Theory DSE1A : Revision and doubt clearing classes Practical DSE 1A : Revision | 3 3 |
| | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | |
| Jan | Theory CC1B/GE2: Practical CC1B/GE2: | | Theory CC1D/GE4:Environmental Chemistry: Hydrosphere : Environmental Role of Water Practical CC1D/GE4: Estimation of total hardness of water by titration with EDTA. | 4 2 2 | Theory DSE-1B : Amino acids Practical DSE-1B: 1. Nitration of acetanilide 2.. practice classes | 4 2 |
| Feb | Theory CC1B/GE2: Practical CC1b/GE2 : | | Theory CC1D/GE 2- Waste Water Management Practical CC1D/GE4: 3. Acid Catalysed Hydrolysis of Ester | 3 2 | Theory DSE-1B: Carbohydrates: Part 1 Practical DSE-1B : Hydrolysis of Benzamide, Practice classes | 4 3 |

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| June | Theory CC1b/GE2 : Practical CC1b/ GE2 : | | Theory SEC 2 : Synthesis, use and adverse effects of antiviral and CNS depressant drugs, HIV related drugs. Practical CC1D/GE4 : Practical Revision | 4 3 | Theory DSE 1B: Food additives Practical DSE-1B: Revision classes | 3 2 |



Head of the Department,
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SURI VIDYASAGAR COLLEGE
Department of Chemistry
Teaching Plan of Dr. Sandip Mondal for the General Course (2019-2020)

| Month | SEM - I | SEM - III | SEM-V |
|-------|---|-----------|--|
| Jul | Theory CC-1A Atomic Structure Practical CC-1A: Inorganic Chemistry Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture Estimation of oxalic acid by titrating it with KMnO_4 . | | Theory DSE-1A <i>Transition Elements (3d series)</i> Soil Chemistry Practical <i>Gravimetric and Complexometric estimation of metals ion:</i> Estimation of the amount of nickel present in a given solution as bis(dimethylglyoximate) nickel(II) or aluminium as oxine in a given solution gravimetrically |
| Aug | Theory CC-1A Atomic Structure Practical CC-1A: Inorganic Chemistry Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 . Estimation of Fe (II) ions by titrating it with $\text{K}_2\text{Cr}_2\text{O}_7$ using internal indicator. | | Theory DSE-1A <i>Transition Elements (3d series)</i> Practical <i>Gravimetric and Complexometric estimation of metals ion:</i> Estimation of (i) Mg^{2+} or (ii) Zn^{2+} by complexometric titrations using EDTA. |
| Sept | Theory CC-1A Atomic Structure Practical CC-1A: Inorganic and Organic Chemistry Estimation of Cu (II) ions iodometrically using $\text{Na}_2\text{S}_2\text{O}_3$ Detection of special elements (N, Cl, and S) in organic compounds | | Theory DSE-1A Lanthanoids and actinoids: Practical <i>Preparation of any two of the following complexes and measurement of their conductivity:</i> a. tetraamminecarbonatocobalt (III) nitrate b. tetraamminecopper (II) sulphate c. potassium trioxalatoferrate (III) trihydrate |
| Oct | Theory CC-1A Acid and Bases Practical CC-1A: Organic Chemistry Solubility and Classification (solvents: H_2O , dil. HCl , dil. NaOH) | | Theory DSE-1A <i>Coordination Chemistry</i> Werner's coordination theory Practical Compare the conductance of the complexes with that of M/1000 solution of NaCl , MgCl_2 and LiCl_3 . |
| Nov | Theory CC-1A Acid and Bases Practical CC-1A: Organic Chemistry Detection of functional groups: Aromatic- NO_2 , Aromatic - NH_2 , - COOH , carbonyl (no distinction of - CHO and $>\text{C}=\text{O}$ needed), - OH (phenolic) in solid organic compounds. Experiments 1 to 3 with unknown (at least 6) solid samples containing not more than two of the above type of functional groups should be done. | | Theory DSE-1A Acid-base titration Practical Titration of Na_2CO_3 and NaHCO_3 mixture vs. HCl using phenolphthalein and methyl orange indicators. Titration of HCl and CH_3COOH mixture vs. NaOH using two different indicators to find the composition. |
| Dec | Theory CC-1A Acid and Bases Practical CC-1A: Organic Chemistry Detection of functional groups: Aromatic- NO_2 , Aromatic - NH_2 , - COOH , carbonyl (no distinction of - CHO and $>\text{C}=\text{O}$ needed), - OH (phenolic) in solid organic compounds. Experiments 1 to 3 with unknown (at least 6) solid samples containing not more than two of the | | Theory DSE-1A <i>Coordination Chemistry</i> Drawbacks of VBT; IUPAC system of nomenclature, <i>Crystal Field Theory</i> Practical Estimation of the total hardness of water sample by EDTA titration. Estimation of available oxygen in pyrolusite |

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| | above type of functional groups should be done. | | |
| | SEM - II | SEM - IV | SEM-VI |
| Jan | Theory CC-1B Ionic Bonding Practical CC-1B Qualitative semi-micro analysis of mixtures containing three radicals. Emphasis should be given to the understanding of the chemistry of different reactions; | | |
| Feb | Theory CC-1B Ionic Bonding Practical CC-1A: Practical CC-1B Qualitative semi-micro analysis of mixtures containing three radicals. Emphasis should be given to the understanding of the chemistry of different reactions; | | |
| Mar | Theory CC-1B Ionic Bonding Practical CC-1B Qualitative semi-micro analysis of mixtures containing three radicals. Emphasis should be given to the understanding of the chemistry of different reactions; | | |
| Apr | Theory CC-1B Comparative study of p-block elements Practical CC-1B Qualitative semi-micro analysis of mixtures containing three radicals. Emphasis should be given to the understanding of the chemistry of different reactions; | | |
| May | Theory CC-1B Comparative study of p-block elements Practical CC-1B Qualitative semi-micro analysis of mixtures containing three radicals. Emphasis should be given to the understanding of the chemistry of different reactions; | | |
| June | | | |

Debnati Saha

Head of the Department
 Dept. of Chemistry
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DEPARTMENT OF PHILOSOPHY

**TEACHING PLAN OF Mr. DASARATH MURMU
Philosophy (G) (July 2019 – June 2020)**

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|---|----------------|-------------|----------------|---|----------------|
| Jul | Theory: CC- 1: Indian Philosophy Unit 1: Introduction: General Features of Indian Philosophy | 4 | | | Theory GE: Indian Philosophy Unit 1: Introduction: General Features of Indian Philosophy | 6 |
| Aug | Theory: CC-1: Unit 2: <i>Cārvāka</i> : (a) <i>pratyakṣa</i> (perception) as the only Source of Knowledge | 4 | | | Theory GE: Unit 2: <i>Cārvāka</i> : (a) <i>pratyakṣa</i> (perception) as the only Source of Knowledge, (b) Refutation of <i>anumāna</i> (inference) and <i>śabda</i> (testimony) as Sources of Knowledge | 5 |
| Sept | Theory: CC-1: Unit 2: (b) Refutation of <i>anumāna</i> (inference) and <i>śabda</i> (testimony) as Sources of Knowledge | 4 | | | Theory GE: Unit 2: (c) <i>jaḍavāda</i> and <i>dehātmavāda</i> | 6 |
| Oct | Theory: CC-1: Unit 2: (c) <i>jaḍavāda</i> and <i>dehātmavāda</i> | 2 | | | Theory GE: Unit 6: <i>Sāṃkhya</i> : <i>Satkāryavāda</i> (Theory of Causality) | 3 |
| Nov | Theory: CC-1: Unit 6: <i>Sāṃkhya</i> : (a) <i>satkāryavāda</i> (Theory of Causality) (b) <i>pariṇāmavāda</i> (Theory of Evolution) | 4 | | | Theory GE: Unit 9: <i>Advaita Vedānta</i> : <i>Brahman</i> | 6 |

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|-----|---|---|---|---|---|---|
| Dec | Theory: CC-1: Unit 8: <i>Advaita Vedānta: Brahman, jīva and jagat</i> | 3 | | | Theory GE: Unit 9: <i>jīva and jagat.</i> | 5 |
| Jan | Sem-II (G) Theory CC: Western Philosophy Unit 1: Metaphysics: Nature of Metaphysics | 4 | Sem-IV (G) Theory SEC- 2: Philosophy of Human Rights Unit 1: Introduction & Definition and Nature of Human Rights | 5 | Sem-VI (G) Theory SEC: Ethics in Practice Unit 1: Morality and Ethics | 6 |
| Feb | Theory CC: Unit 1: Elimination of Metaphysics | 4 | SEC- 2: Unit 2: The Idea of Human Rights: Its Origins and Historical Developments during Ancient period, Modern Period and Contemporary Period | 5 | Theory SEC: Unit 2: Motive and Intention | 6 |
| Mar | Theory CC: Unit 2: Realism: Naïve Realism Scientific Realism, Representative Realism | 4 | SEC- 2: Unit 3: The Idea of Natural Law and Natural Rights: Thomas Hobbes and John Locke | 5 | Theory SEC: Unit 3: Moral Action | 6 |

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|-------------|--|----------|---|----------|---|----------|
| Apr | Theory CC: Unit: 2 Realism: Naïve Realism, Scientific Realism, Representative Realism | 4 | Theory SEC- 2: Unit 4: The Idea of Natural Law and Natural Rights: John Locke | 5 | Theory SEC: Unit 3: Moral Judgment | 6 |
| May | Theory CC: Unit 3: Idealism: Subjective Idealism, Objective Idealism | 4 | Theory SEC- 2: Unit 5: Natural Right, Fundamental Right and Human Right | 5 | Theory SEC: Unit 4: Normative Theories: (a) Ethical Egoism & Utilitarianism | 6 |
| June | Theory CC: Unit 4: Critical Theory of Kant | 4 | Theory SEC- 2: Unit 6: Preamble, Fundamental Rights and Duties (Indian Constitution) | 5 | Theory SEC: Unit 4: (b) Kant's Moral Theory | 6 |

Head of the Department,
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Suri Vidyasagar College

DEPARTMENT OF PHILOSOPHY

**TEACHING PLAN OF Mr. DASARATH MURMU
Philosophy (Honours) (July 2019 – June 2020)**

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------------|---|----------------|--|----------------|--|----------------|
| Jul | Theory: CC-1: Outlines of Indian Philosophy—I Unit 1: Detailed Introduction: (a) General Features of Indian Philosophy | 8 | Theory CC- 6: Western Ethics - Unit 1: Introduction & Nature and Scope of Ethics | 15 | Theory CC- 11: Unit 1: Introduction & Nature and Scope of Social Philosophy and Political Philosophy | 17 |
| Aug | Theory: CC-1: Unit 2: (b) Spirit of Indian Philosophy, (c) Basic Concepts of the Vedic and the Upaniṣadic World-Views | 8 | Theory CC- 6: Unit 2: Nature of Morality & Moral and Non-moral actions & Object of Moral Judgment: Motive and Intention | 14 | Theory CC- 11: Unit 2: Basic Concepts: Society, Social Group, Community, Association, Institution, Customs, Folkways and Mores | 15 |
| Sept | Theory: CC-1: Unit 3: Cārvāka: (a) Perception as the only Source of Knowledge, Refutation of Inference and Testimony as Sources of Knowledge | 8 | Theory CC- 6: Unit 3: Postulates of Morality & The Development of Morality | 13 | Theory CC- 11: Unit 3: Social Class and Caste: Class Attitude and Class Consciousness, Marxian Theory of Class | 16 |
| Oct | Theory: CC-1: Unit 4: (b) jaḍavāda and dehātmanvāda | 7 | Theory CC- 6: Unit 4: Normative Theories : Consequentialism (Teleology): (a) Hedonism, (b) Act Utilitarianism and Rule Utilitarianism; (c) Act Deontology and Rule Deontology, (d) Kant's Moral Theory | 11 | Theory CC- 11: Unit 4: B. R. Ambedkar's Criticism of Caste System, Dalit Movement. | 14 |
| Nov | Theory: CC-1: Unit 5: (b) Vaiśeṣika Metaphysics: Saptapadārtha (Seven Ontological Categories) | 8 | Theory CC- 6: Unit 5: Theories of Punishment: Retributive, Deterrent and Reformatory Theory | 13 | Theory CC- 11: Unit 5: Political Ideals: i) Democracy – its different forms ii) Socialism – Utopian and Scientific | 17 |

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| Dec | Theory: CC-1: Unit 6: (b) Paramāṇuvāda | 7 | Theory CC- 6: Unit 6: Issues in Applied Ethics : (a) Suicide, (b) Euthanasia, (c) Gender Equality, (d) Affluence and Morality | 15 | Theory CC- 11: Unit 6: Political Ideals: i) Nation, Nationalism and Internationalism (Rabindranath) ii) Radical Humanism (Manabendranath Roy) | 16 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC- 3: Outlines of Indian Philosophy-II Unit 1: Sāṃkhya : (i) satkāryavāda, (ii) pañcaviṃśati tattva and tattvapariṇāma, (iii) prakṛti and its guṇa-s, (iv) Notion of puruṣa, bahupurusavāda | 3 | Theory SEC- 2: Philosophy of Human Rights Unit 1: Introduction & Definition and Nature of Human Rights | 5 | Theory CC- 14: Philosophy in the Twentieth Century: Western Unit 1: G. E. Moore: A Defence of Common Sense | 6 |
| Feb | Theory CC- 3: Unit 4: Advaita Ve dānta: (i) vivartavāda,, (ii) māyā, | 8 | SEC- 2: Unit 2: The Idea of Human Rights: Its Origins and Historical Developments during Ancient period, Modern Period and Contemporary Period | 11 | Theory CC 14: Unit 2: B. Russell: Knowledge by Acquaintance and Knowledge by Description | 14 |
| Mar | Theory CC 3: Outlines of Indian Philosophy—II Unit 4: Advaita Ve dānta: (iii) Brahman, jīva and jagat | 8 | SEC- 2: Unit 3: The Idea of Natural Law and Natural Rights: Thomas Hobbes and John Locke | 10 | Theory CC 14: Unit 3: L. Wittgenstein: Theory of Meaning | 16 |
| Apr | Theory CC 3: Outlines of Indian Philosophy—II Unit 5: Viśiṣṭādvaita Vedānta: (i) Distinction between advaitavāda and viśiṣṭādvaitavāda | 9 | Theory SEC- 2: Unit 4: The Idea of Natural Law and Natural Rights: John Locke | 14 | Theory CC 14: Unit 4: A. J. Ayer: Verifiability Theory of Meaning | 17 |

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|-------------|---|----------|---|-----------|--|-----------|
| May | Theory CC 3: Outlines of Indian Philosophy—II Unit 5: Viśiṣṭādvaita Vedānta: (ii) Nature of īśvara, jīva and jagat | 7 | Theory SEC- 2: Unit 5: Natural Right, Fundamental Right and Human Right | 12 | Theory CC 14: Unit 5: M. Heidegger: (a)Being in the World : Existenz, Facticity and Falleness and (b)Authenticity and Inauthenticity | 15 |
| June | Theory CC 3: Outlines of Indian Philosophy—II Unit 5: Viśiṣṭādvaita Vedānta: (iii) Criticism of Saṅkara's Doctrine of māyā | 8 | Theory SEC- 2: Unit 6: Preamble, Fundamental Rights and Duties (Indian Constitution) | 11 | Theory CC 14: Unit 6: J. P. Sartre: (a) Nothingness and (b) Freedom | 14 |

Head of the Department,
Department of Philosophy,
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DEPARTMENT OF MATHEMATICS

TEACHING PLAN OF PROF. SHUBHENDU GHOSH
 Mathematics (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------------|--|----------------|---|----------------|---|----------------|
| Jul | CC01: Calculus Unit-2:Reduction Formula | 5+1 | CC06: Group Theory-1 Unit-1:Groups and its elementary property. | 12+2 | DSE21: Probability and Statistics Unit-1: Sample space, probability axioms, real random variables, cumulative distribution function, probability mass/density functions, mathematical expectation, moments | 14+1 |
| | CC02: Algebra Unit 2: Equivalence Relation and Partition | 3+1 | | | | |
| Aug | CC01: Calculus Unit-2:Parametric Equation and Parametrization | 4+1 | CC06: Group Theory-1 Unit-2: Sub-groups and examples, Product of two sub-group | 5+1 | DSE21: Probability and Statistics Unit-1: Some discrete and continuous distributions Unit-2: Joint distributions and its properties. marginal and conditional distributions, expectation of function of two random variables | 3+1 |
| | CC02: Algebra Unit 2: Functions, Cardinality of a set | 4+1 | Unit-3: Cyclic groups and properties, Permutations and Permutation groups | 7+1 | | 11+1 |
| Sept | CC01: Calculus Unit-2:Arc length of curve | 4+1 | CC06: Group Theory-1 Unit-3: Symmetric and Alternating groups, Cosets, Lagrange's theorem and consequences including Fermat's Little theorem | 12+2 | DSE21: Probability and Statistics Unit-2: Bivariate normal distribution, correlation coefficient, joint moment generating function, linear regression for two variables Unit-3: Chebyshev's inequality, law of large numbers, Central Limit | 6+1 |
| | CC02: Algebra Unit 2: Well ordering property of positive integers, division algorithm | 4+1 | | | | 8+1 |

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| | | | | | theorem | |
| Oct | CC01: Calculus Unit-2: Area of surface of revolution | 3+1 | CC06: Group Theory-1 Unit-4: External direct product of a finite number of groups. | 4+1 | DSE21: Probability and Statistics Unit-3: Markov Chains, Chapman-Kolmogorov equations, | 4+1 |
| | CC02: Algebra Unit 2: Congruence relation | 2 | | | | |
| Nov | CC01: Calculus Unit-2: Techniques of sketching conics | 3+1 | CC06: Group Theory-1 Unit-4: Normal subgroups, Factor groups, Cauchy's theorem for finite abelian groups Unit-5: Group homomorphisms, properties of homomorphisms | 6+1 | DSE21: Probability and Statistics Unit-3: Classification of states. Unit-4: Random Samples, Sampling Distributions, Estimation of parameters, | 18+1 |
| | CC02: Algebra Unit 2: Principle of mathematical induction, Fundamental theorem of arithmetic | 3+1 | | 10+1 | | |
| Dec | CC01: Calculus Unit-2: Group discussions and evaluation | 4 | CC06: Group Theory-1 Unit-5: Cayley's theorem, properties of isomorphisms, First, Second and Third isomorphism theorems. Group discussions and evaluation | 7 | DSE21: Probability and Statistics Unit-4: Testing of hypothesis. Group discussions and evaluation | 5+1 |
| | CC02: Algebra Unit 2: Group discussions and evaluation | 4 | | 5 | | 5 |

| Month | Sem-II(H) | No. of Lecture | Sem-IV(H) | No. of Lecture | Sem-VI (H) | No. of Lecture |
|------------|--|----------------|---|----------------|--|----------------|
| Jan | CC03: Real Analysis Unit-3: Introduction to Sequences, Infinite series, convergence and divergence of infinite series | 6+1 | CC10: Ring Theory and Linear Algebra I Unit-1: Rings, properties of rings, Sub-rings, Integral domains | 10+2 | CC14: Ring Theory and Linear Algebra II Unit-1: Polynomial rings over commutative rings, division algorithm and consequences, principal ideal domains, factorization of polynomials | 10+2 |
| Feb | CC03: Real Analysis Unit-3: Cauchy Criterion, Tests for convergence: | 8+1 | CC10: Ring Theory and Linear Algebra I Unit-1: Fields, characteristic of a ring, Ideal, factor rings, | 12+2 | CC14: Ring Theory and Linear Algebra II Unit-1: Reducibility tests, | 12+2 |

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| | Comparison test, Ratio Test | | operations on ideals, prime and maximal ideals | | irreducibility tests, Eisenstein criterion, and unique factorization in $\mathbb{Z}[x]$ | |
| Mar | CC03: Real Analysis Unit-3: Cauchy's nth root test, Integral test | 8+1 | CC10: Ring Theory and Linear Algebra I Unit-2: Ring homomorphisms, properties of ring homomorphisms. Isomorphism theorems I, II and III, field of quotients | 12+2 | CC14: Ring Theory and Linear Algebra II Unit-1: Divisibility in integral domains, irreducible, primes, unique factorization domains, Euclidean domains | 10+1 |
| Apr | CC03: Real Analysis Unit-3: Alternating series, Leibniz test | 8+1 | CC10: Ring Theory and Linear Algebra I Unit-4: Linear transformations, null space, range, rank and nullity of a linear transformation, matrix representation of a linear transformation, algebra of linear transformations | 12+2 | CC14: Ring Theory and Linear Algebra II Unit-2: Dual spaces, dual basis, double dual, transpose of a linear transformation and its matrix in the dual basis, annihilators | 12+2 |
| May | CC03: Real Analysis Unit-3: Absolute and Conditional convergence | 8+1 | CC10: Ring Theory and Linear Algebra I Unit-4: Isomorphisms, Isomorphism theorems, invertibility and isomorphisms | 10+2 | CC14: Ring Theory and Linear Algebra II Unit-2: Eigen spaces of a linear operator, diagonalizability, invariant subspaces and Cayley-Hamilton theorem, the minimal polynomial for a linear operator | 12+2 |
| June | CC03: Real Analysis Unit-3: Group discussions and evaluation | 4 | CC10: Ring Theory and Linear Algebra I Unit-4: Change of coordinate matrix Group discussions and evaluation | 4 4 | CC14: Ring Theory and Linear Algebra II Unit-2: Canonical forms Group discussions | 4+1 4 |

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Head of the Department,
Department of Mathematics,
Suri Vidyasagar College

TEACHING PLAN OF DR. RAMPROSAD SAHA
Mathematics (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Geometry Unit 3: Reflection properties of conics, translation and rotation of axes and second degree equations | 3+2 | Theory CC7: Numerical Methods Unit 4: Interpolation: Lagrange and Newton's methods, Error bounds, Finite difference operators. Gregory forward and backward difference interpolations. | 5+2 | Theory CC11: Partial Differential Equations and Applications Unit 3: The Cauchy problem of 2nd order partial differential equation, Cauchy-Kowalewskaya theorem, | 4+4 |
| | | | Practical CC7: Numerical Methods Lab Unit 7: 1. Solution of transcendental and algebraic equations by (a) Newton Raphson method. | 3+3 | CC12: Mechanics I Unit 1: Co-planar forces. Astatic equilibrium. Friction. | 6 |
| | | | Theory SEC1: Logic Unit 1: Introduction, propositions, truth table, negation | 3 | | |
| Aug | Theory: CC1: Geometry Unit 3: Classification of conics using the discriminant, : polar equations of conics | 3+1 | Theory CC7: Numerical Methods Unit 4: Numerical differentiation: Methods based on interpolations, methods based on finite differences. | 4+1 | Theory CC11: Partial Differential Equations and Applications Unit 3: Cauchy problem of an infinite string, Initial and Boundary Value Problems. | 3+1 |
| | | | Practical CC7: Numerical Methods Lab Unit 7: 1. Solution of transcendental and algebraic equations by (b) Regula Falsi method. | 3+1 | CC12: Mechanics I Unit 1: Equilibrium of a particle on a rough curve. Virtual work, Forces in three dimensions. | 7 |
| | | | Theory SEC1: Logic Unit 1: Conjunction and disjunction. Implications, biconditional propositions | 4 | | |
| Sept | Theory: CC1: Geometry Unit 3 Spheres, Cylindrical surfaces | 3+3 | Theory CC7: Numerical Methods Unit 5: Numerical Integration: Newton Cotes formula, Trapezoidal rule, Simpson's 1/3rd rule, Simpsons 3/8 th rule, Weddle's rule, Boole's rule. Midpoint rule, Composite Trapezoidal rule, | 4+3 | Theory CC11: Partial Differential Equations and Applications Unit 3: Semi-Infinite String with a fixed end, Semi-Infinite String with a Free end. | 3+3 |
| | | | Practical CC7: Numerical Methods Lab Unit 7: 2. Solution of system of linear equations (a) Gaussian elimination method | 3+3 | CC12: Mechanics I Unit 1: General conditions of equilibrium, Centre of gravity for different bodies. Stable and unstable equilibrium, | 7+2 |

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| | | | Theory SEC1: Logic Unit 1: Converse, contra positive and inverse propositions and precedence of logical operators | 3 | Equilibrium of flexible string. | |
| Oct | Theory: CC1: Geometry Unit 3: Central conicoids, paraboloids | 3+1 | Theory CC7: Numerical Methods Unit 5: Composite Simpson's 1/3rd rule, Gauss quadrature formula. Practical CC7: Numerical Methods Lab Unit 7: 2. Solution of system of linear equations (b) Gauss-Seidel method | 3+2 2+2 | Theory CC11: Partial Differential Equations and Applications Unit 3: Equations with non-homogeneous boundary conditions. CC12: Mechanics I Unit 3: Degrees of freedom, Moments and products of inertia. | 3+1 3+1 |
| Nov | Theory: CC1: Geometry Unit 3: Plane sections of conicoids, Generating lines, classification of quadrics | 5 | Theory CC7: Numerical Methods Unit 5: The algebraic eigenvalue problem: Power method. Unit 6: Ordinary Differential Equations: The method of successive approximations Practical CC7: Numerical Methods Lab Unit 7: 3. Interpolation : Lagrange Interpolation 4. Numerical Integration (a) Trapezoidal Rule Theory SEC1: Logic Unit 1: Propositional equivalence: Logical equivalences, Predicates and quantifiers: Introduction | 3+1 5+3 6 | Theory CC11: Partial Differential Equations and Applications Unit 3: Non-Homogeneous Wave Equation, Method of separation of variables: Solving the Vibrating String Problem. Solving the Heat Conduction Problem. CC12: Mechanics I Unit 3: Momental Ellipsoid, Principal axes, D'Alembert's Principle, Motion about a fixed axis, Compound pendulum. | 4+4 8+2 |
| Dec | Theory: CC1: Geometry Unit 3: Illustrations of graphing standard quadric surfaces like cone, ellipsoid | 5 | Theory CC7: Numerical Methods Unit 6: Euler's method, the modified Euler method, Runge-Kutta methods of orders two and four. Practical CC7: Numerical Methods Lab Unit 7: 4. Numerical Integration (b) Simpson's one third rule 5. Solution of ordinary differential equations : Runge Kutta method Theory SEC1: Logic Unit 1: Quantifiers, Binding variables and Negations | 2+2 4 2+1 | Theory CC11: Partial Differential Equations and Applications: Graphical Demonstration : 4. Solution of wave equation $\frac{\partial^2 u}{\partial t^2} - \frac{\partial^2 u}{\partial x^2} = 0$ for the following associated conditions: (a) $u(x,0) = f(x)$, $u_x(x,0) = y(x)$, $x \in \mathbb{R}$, $t > 0$. (b) $u(x,0) = f(x)$, $u_x(x,0) = y(x)$, $u(0, t) = 0$, $x \in (0, \infty)$, $t > 0$. 5. Solution of wave equation $\frac{\partial^2 u}{\partial t^2} - c^2 \frac{\partial^2 u}{\partial x^2} = 0$ for the following associated conditions: (a) $u(x,0) = f(x)$, $u(0, t) = a$, $u(l, t) = b$, $0 < x < l$, $t > 0$. (b) $u(x,0) = f(x)$, $x \in \mathbb{R}$, $0 < t < T$. CC12: Mechanics I Unit 3: Motion of a system of particles, Motion of a rigid body in two dimensions under finite and impulsive forces, | 5+2 4+2 |

| | | | | | Conservation of momentum and energy. | |
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| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC4: Differential Equation Unit 1: Lipschitz condition and Picard's Theorem (Statement only). General solution of homogeneous equation of second order. | 4 | Theory CC9: Multivariate Calculus Unit 3: Vector operators, Gradient of a scalar function, directional derivatives. | 3 | Theory DSE4: Mechanics-II Unit 1: Interpretation of Newton's laws of motion, Galilean transformation, Concept of absolute length and time. | 8 |
| | | | Theory SEC2: Graph Theory Unit 1: Definition, examples and basic properties of graphs. | | 4 | |
| Feb | Theory CC4: Differential Equation Unit 1: Principle of super position for homogeneous equation, Wronskian: its properties and applications. | 6 | Theory CC9: Multivariate Calculus Unit 3: Definition of vector field, divergence and curl, Line integrals. | 5 | Theory DSE4: Mechanics-II Unit 1: Limitations of Newton's laws in solving problems. | 7+1 |
| | | | Theory SEC2: Graph Theory Unit 1: Pseudo graphs, complete graphs, Bi-partite graphs isomorphism of graphs. | | 6 | |
| Mar | Theory CC4: Differential Equation Unit 1: Linear homogeneous and non-homogeneous equations of higher order with constant coefficients, Euler's equation. | 6 | Theory CC9: Multivariate Calculus Unit 3: Fundamental theorem for line integrals, conservative vector fields, Application of line integral to Workdone. | 2+2 | Theory DSE4: Mechanics-II Unit 3: Constraints and their classifications, Lagrange's equation of motion for holonomic system. | 10 |
| | | | Theory SEC2: Graph Theory Unit 2: Eulerian circuits, Eulerian graph, semi-Eulerian graph and theorems. | | 7 | |
| Apr | Theory CC4: Differential Equation Unit 1: Method of undetermined coefficients, method of variation of parameters. | 4 | Theory CC9: Multivariate Calculus Unit 4: Green's theorem, surface integrals. | 4 | Theory DSE4: Mechanics-II Unit 3: Gibbs-Appell's principle of least constraint. | 8 |
| | | | Theory SEC2: Graph Theory Unit 2: Hamiltonian cycles and theorems, Representation of a graph by a matrix, the adjacency matrix, incidence matrix, weighted graph. | | 8 | |
| May | Theory CC4: Vector Calculus Unit 3: Triple product, introduction to vector functions. Operations with vector-valued functions, Limits and continuity of vector functions. | 6 | Theory CC9: Multivariate Calculus Unit 4: Integrals over parametrically defined surfaces. Stoke's theorem. | 4 | Theory DSE4: Mechanics-II Unit 3: Work energy relation for constraint forces of shielding friction | 7 |
| | | | Theory SEC2: Graph Theory Unit 3: Travelling salesman's problem, shortest path, Tree and their properties, spanning tree. | | 8 | |
| June | Theory CC4: Vector Calculus Unit 3: Differentiation and integration of vector functions. | 4 | Theory CC9: Multivariate Calculus Unit 4: The Divergence theorem. | 2+2 | Theory DSE4: Mechanics-II Unit 1 & 3: Revision of Mechanics – II. | 4 |
| | | | Theory SEC2: Graph Theory Unit 3: Dijkstra's algorithm, Warshall algorithm. | | 7 | |

Head of the Department,
Department of Mathematics,

TEACHING PLAN OF DR. PRASENJIT SAHA
Mathematics (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|--|--|----------------------------------|---|-------------------------------------|
| Jul | CC01: Differential Equations Unit 4: Differential equations and mathematical models. General, particular solution CC02: Algebra Unit 3: Systems of linear equations | 3+1 3+1 | CC07: Numerical Methods Unit 1: Algorithms, Convergence, Errors: Relative, Absolute. Round off, Truncation CC07: Numerical Methods Lab (Practical) | 2+1 4 | CC11: Partial Differential Equations and Applications Unit 1: Basic concepts and Definitions. Mathematical Problems. First-Order Equations: Classification, Construction and Geometrical Interpretation. Method of Characteristics for obtaining General Solution of Quasi Linear Equations. | 18+2 |
| Aug | CC01: Differential Equations Unit 4: Explicit, implicit and singular solutions of a differential equation. CC02: Algebra Unit 3: Row reduction and echelon forms | 3+1 2+1 | CC07: Numerical Methods Unit 2: Transcendental and Polynomial equations: Bisection method, Newton's method, Secant method CC07: Numerical Methods Lab (Practical) | 3+2 4 | CC11: Partial Differential Equations and Applications Unit 1: Canonical Forms of First-order Linear Equations. Method of Separation of Variables for solving first order partial differential equations. Unit 2: Derivation of Heat equation, Wave equation and Laplace equation | 12+2 6+2 |
| Sept | CC01: Differential Equations Unit 4: Exact differential equations and | 4+1 | CC07: Numerical Methods Unit 2: Regula falsi method, fixed point iteration, Newton-Raphson method. Rate of | 3+2 | CC11: Partial Differential Equations and Applications Unit 2: Classification of | 14+2 |

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| | integrating factors CC02: Algebra Unit 3: Vector equations | 3 | convergence of these methods CC07: Numerical Methods Lab (Practical) | 4 | second order linear equations as hyperbolic, parabolic, elliptic. Reduction of second order Linear Equations to canonical forms | |
| Oct | CC01: Differential Equations Unit 4: Separable equations and equations reducible to this form | 3 | CC07: Numerical Methods Unit 3: System of linear algebraic equations: Gaussian Elimination and Gauss Jordan methods. | 2+1 | CC11: Partial Differential Equations and Applications Unit 3: The Cauchy problem of 2nd order partial differential equation, Cauchy-Kowalewskaya theorem. | 6+2 |
| | CC02: Algebra Unit 3: The matrix equation $Ax=b$, solution sets of linear systems | 2+1 | CC07: Numerical Methods Lab (Practical) | 2 | | |
| Nov | CC01: Differential Equations Unit 4: Linear equation and Bernoulli equations | 4+1 | CC07: Numerical Methods Unit 3: Gauss Jacobi method, Gauss Seidel method and their convergence analysis, LU Decomposition | 6+2 | CC11: Partial Differential Equations and Applications Unit 3: Cauchy problem of an infinite string, Initial and Boundary Value Problems, Semi-Infinite String with a fixed end, Semi-Infinite String with a Free end. Graphical Demonstration | 15+2 |
| | CC02: Algebra Unit 3: Applications of linear systems | 2+1 | CC07: Numerical Methods Lab (Practical) | 6 | | |
| Dec | CC01: Differential Equations Unit 4: Special integrating factors | 3 | CC07: Numerical Methods Unit 4: Ordinary Differential Equations: The method of successive approximations, Euler's method, the modified Euler method, Runge-Kutta methods of orders two and four | 5+2 | CC11: Partial Differential Equations and Applications Unit 3: Equations with non-homogeneous boundary conditions. Non-Homogeneous Wave Equation | 15+2 |
| | CC02: Algebra Unit 3: linear independence | 3 | | | | |
| | Group discussions | 2 | | | | |

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| | and evaluation | | CC07: Numerical Methods Lab (Practical) Group discussions and evaluation | 4 2 | Method of separation of variables: Solving the Vibrating String Problem. Solving the Heat Conduction Problem Graphical Demonstration Group discussions and evaluation | 4 2 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | CC04: Differential Equation Unit 2: Systems of linear differential equations, types of linear systems | 7+1 | CC09: Multivariate Calculus Unit 1: Functions of several variables, limit and continuity, Partial differentiation, total differentiability and differentiability, sufficient condition for differentiability | 12+2 | DSE43: Mechanics-II Unit 2: Equilibrium of fluid in a given field of force PW01: Project Work | 6+2 8 |
| Feb | CC04: Differential Equation Unit 2: Differential operators, an operator method for linear systems with constant coefficients, | 6+2 | CC09 Multivariate Calculus Unit 1: Chain rule for one and two independent parameters, directional derivatives | 14+2 | DSE43: Mechanics-II Unit 2: Pressure in a heavy homogeneous liquid PW01: Project Work | 6+2 8 |
| Mar | CC04: Differential Equation Unit 2: Basic Theory of linear systems in normal form | 6+2 | CC09 Multivariate Calculus Unit 1: The gradient, Jacobian, maximal and normal property of gradient, tangent planes | 14+2 | DSE43: Mechanics-II Unit 2: Equilibrium of floating bodies, Isothermal and adiabatic changes in Gases PW01: Project Work | 6+2 8 |
| Apr | CC04: Differential | | CC09 Multivariate Calculus | | DSE43: Mechanics-II | |

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| | Equation Unit 2: Homogeneous linear systems with constant coefficients: Two Equations in two unknown functions | 6+2 | Unit 1: Extrema of functions of n variables with necessary and sufficient conditions, method of Lagrange multipliers | 14+2 | Unit 2: Convective equilibrium PW01: Project Work | 6+2 8 |
| May | CC04: Differential Equation Unit 3: Equilibrium points, Interpretation of the phase plane, Power series solution of a differential equation about an ordinary point, | 6+2 | CC09 Multivariate Calculus Unit 2: Double integration over rectangular region, double integration over non-rectangular region, Double integrals in polar co-ordinates | 12+2 | DSE43: Mechanics-II Unit 2: Stress in continuum body PW01: Project Work | 6+2 8 |
| June | CC04: Differential Equation Unit 3: Solution about a regular singular point Group discussions and evaluation | 4 4 | CC09 Multivariate Calculus Unit 2: Triple integrals, Triple integral over a parallelepiped and solid regions. Volume by triple integrals, cylindrical and spherical coordinates. Change of variables in double integrals and triple integrals Group discussions and evaluation | 10+2 2 | DSE43: Mechanics-II Unit 2: Stress quadric PW01: Project Work Group discussions and evaluation | 6+2 8 2 |

Head of the Department,
Department of Mathematics,
Suri Vidyasagar College

TEACHING PLAN OF SUJOY DAS

Mathematics (Honours) (2019-20) (July 2019 – June 2020)

| Month | SEM-I (H) | No. of Lectures | SEM-III (H) | No. of Lectures | SEM-V(H) | No. of Lectures |
|-------|---|-----------------|--|-----------------|--|-----------------|
| July | Paper-CC-01, Unit -1: Hyperbolic functions, higher order derivatives, Leibnitz rule and its applications to problems of type | 5+6 | Paper-CC-05, Unit -1: Limits of functions ($\epsilon - \delta$ approach), sequential criterion for limits, | 6+6 | Paper-DSE-11, Unit -1: Introduction to linear programming problem. Theory | 5+6 |

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| | $e^{ax+b} \sin x, e^{ax+b} \cos x, (ax+b)^n \sin x, (ax+b)^n \cos x$ | | divergence criteria. Limit theorems, one sided limits. | | of simplex method, | |
| August | Paper-CC-01, Unit -1: Concavity and inflection points envelopes, asymptotes, curve tracing in Cartesian coordinates, tracing in polar coordinates of standard curves, | 4+4 | Paper-CC-05, Unit -1: Infinite limits and limits at infinity. Continuous functions, sequential criterion for continuity and discontinuity. | 7+6 | Paper-DSE-11, Unit -1: graphical solution, convex sets, optimality and unboundedness | 6+4 |
| Sept | Paper-CC-01, Unit -1: L'Hospital's rule, applications in business, economics and life sciences. | 3+6 | Paper-CC-05, Unit -1: Algebra of continuous functions. Continuous functions on an interval, intermediate value theorem, | 6+6 | Paper-DSE-11, Unit -1: The simplex algorithm | 7+5 |
| Oct | Paper-CC-02, Unit -4: Introduction to linear transformations, matrix of a linear transformation, inverse of a matrix, characterizations of invertible matrices. | 6+6 | Paper-CC-05, Unit -1: Location of roots theorem, preservation of intervals theorem. | 3+2 | Paper-DSE-11, Unit -1: Simplex method in tableau format | 3+2 |
| Nov | Paper-CC-02, Unit -4: Vector Spaces of \mathbb{R}^n , Subspaces of \mathbb{R}^n , dimension of subspaces of \mathbb{R}^n , rank of a matrix, Eigen values, Eigen Vectors and Characteristic Equation of a matrix. | 8+6 | Paper-CC-05, Unit -1: Uniform continuity, non-uniform continuity criteria, theorems on uniform continuity. Unit -4: Metric spaces: Definition and examples. Open and closed balls, neighbourhood, Open set, interior of a set. Limit point of a set, closed set, diameter of a set, subspaces, | 9+6 | Paper-DSE-11, Unit -4: Games with mixed strategies, graphical solution procedure., | 11+7 |
| Dec | Paper-CC-02, Unit -4: Cayley-Hamilton theorem and its use in finding the inverse of a matrix. | 4+2 | Paper-CC-05, Unit -4: Dense sets, separable spaces. | 4+4 | Paper-DSE-11, Unit -4: Linear programming solution of games. | 5+2 |
| | SEM-II (H) | | SEM-IV(H) | | SEM-VI(H) | |
| Jan | Paper-CC-03, Unit -1: Review of Algebraic and Order Properties of \mathbb{R} , ε -neighbourhood of a point in \mathbb{R} . Idea of countable sets, uncountable sets and uncountability of \mathbb{R} . | 4+4 | Paper-CC-08, Unit -3: Pointwise and uniform convergence of sequence of functions. Theorems on Continuity, derivability and integrability of the limit function of a sequence of functions. | 8+4 | Paper-CC-13, Unit -1: Metric spaces: Sequences in Metric Spaces, Cauchy sequences. Complete Metric Spaces, Cantor's theorem. | 5+5 |
| Feb | Paper-CC-03, Unit -1: Bounded above sets, Bounded below sets, Bounded Sets, Unbounded sets. Suprema and Infima. Completeness Property of \mathbb{R} and its equivalent properties. | 4+4 | Paper-CC-08, Unit -3: Series of functions, Theorems on the continuity and derivability of the sum function of a series of functions; Cauchy criterion for uniform convergence and Weierstrass M-Test. | 8+4 | Paper-CC-13, Unit -2: Continuous mappings, sequential criterion and other characterizations of continuity, Uniform continuity, Connectedness, connected subsets of \mathbb{R} . | 6+4 |
| Mar | Paper-CC-03, Unit -1: The Archimedean Property, Density of Rational (and Irrational) numbers in \mathbb{R} , Intervals. | 4+4 | Paper-CC-08, Unit -3: Fourier series: Definition of Fourier coefficients and series, Riemann-Lebesgue lemma, Bessel's inequality, Parseval's identity, Dirichlet's condition. Examples of Fourier expansions and summation results for series. | 9+4 | Paper-CC-13, Unit -2: Compactness: Sequential compactness, Heine-Borel property, Totally bounded spaces, | 6+4 |
| Apr | Paper-CC-03, Unit -1: Limit points of a set, Isolated points, | 3+6 | Paper-CC-08, Unit -3: Power series, radius of convergence, Cauchy Hadamard Theorem. Differentiation and integration of power series; Abel's Theorem; Weierstrass Approximation Theorem. | 8+4 | Paper-CC-13, Unit -2: finite intersection property, and continuous functions on compact sets. | 6+4 |
| May | Paper-CC-03, Unit -1: Open set, closed set, derived set, Illustrations of Bolzano-Weierstrass theorem for sets, | 3+6 | Paper-CC-10, Unit -3: Vector spaces, subspaces, algebra of subspaces, quotient spaces, linear combination of vectors, linear span, linear independence, Basis and dimension, dimension of subspaces, extension, | 9+6 | Paper-CC-13, Unit -2: Homeomorphism, Contraction mappings, Banach Fixed point Theorem | 5+6 |
| Jun | Paper-CC-03, Unit -1: compact sets in \mathbb{R} , Heine-Borel Theorem | 2+2 | Paper-CC-08, Unit -3: Deletion and replacement theorems. | 3+2 | Paper-CC-13, Unit -2: Application of Banach Fixed point Theorem to ordinary differential equation | 2+8 |

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| | | | | | Project Work | |
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Head of the Department,
Department of Mathematics
Suri Vidyasagar College

TEACHING PLAN OF SOUMI DAS
Mathematics (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------------|---|----------------|--|--|---|----------------|
| Jul | Theory: CC02:Algebra Unit 1:Polar representation of complex numbers,nth roots of unity ,De Moivre's theorem for rational indices and its applications | 6+1 | Theory CC05:Theory of Real Functions Unit 2: Differentiability of a function at a point and in an interval,Caratheodorystheorem,algebra of differentiable functions Theory SEC1: Set Unit2:Sets,Subsets,set operations and the laws of set theory and Venn diagrams | 8+2 3 | Theory:DSE11:Linear Programming Unit 2:Duality,Formulation of dual problem | 8+4 |
| Aug | Theory: CC02 Unit 1:Theory of equations,Relation between roots and coefficients | 3+2 | Theory CC05:Theory of real function Unit02:Relative extrema,interiorextremum,Rollestheorem,Mean value theorem Theory SEC1: Set Unit 2:Examples of finite and infinite sets,Finite sets and counting principle | 7+1 3 | Theory DSE11:Linear Programming Unit 2:Primal dual relationships,economic interpretation of the dual,Dual simplex method | 9+2 |
| Sept | Theory: CC2:Algebra Transformation of equation,Descartes rule of signs,Cubic equations | 5+2 | Theory CC05:Theory of real function Unit2:Intermediate value property of derivatives,Darbouxtheorem,Applications of mean value theorem to inequalities and approximation of polynomials Theory SEC1:Set Unit 2:Empty set and property of empty set,Standard set operations,Classes of sets,power of a set | 8+3 3 | Theory DSE11:Linear Programming Unit 2:Transportation problem and its mathematical formulation,north west corner method,least cost method | 8+2 |

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| Oct | Theory: CC02:Algebra Biquadratic equation,Reciprocal equation | 3 | Theory CC05:Theory of real functions Unit2:Application of differential calculus,Curvature Theory SEC 1:Set Unit 3:Difference and symmetric difference of two sets,Set identities | 3 2 | Theory DSE11:Linear Programming Unit 3:Vogel approximation method for determination of starting basic solution | 3 |
| Nov | Theory: CC02:Algebra Unit 1:Separation of the roots of the equations,Strums theorem | 4+2 | Theory CC05:Theory of Real functions Unit 3:Cauchy's mean value theorem,Taylor's theorem with Lagrange's form of remainder,Taylor's theorem with Cauchy's form of remainder,Application of Taylor's theorem to convex functions,relativeextrema Theory SEC1: Set Unit 3:Generalized union and intersections,Relation,Productset, Compositionof relations,Type of relations | 10+2 2+1 | Theory DSE11:Linear Programming Unit 3:Algorithm for solving transportation problem,assignmentproblem,and its mathematical formulation | 10+2 |
| Dec | Theory CC02: Unit 1:The inequality involving $AM>GM>HM$ Cauchy-Schwartz inequality | 4 | Theory CC05:Theory of real functions Unit 3:Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions,Application of Taylor's theorem to inequalities Theory SEC1:Set Unit 3:Partitions,Equivalence Relatipns with examples of congruence modulo relation,Partial ordering relations,n -ary relation | 8+1 3 | Theory DSE11:Linear Programming Unit3:Hungarian method for solving assignment problem,Travelling salesman proble | 8 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC3Real Analysis Unit 2:Sequnces,Bounded sequence,convergent sequence | 3+1 | Theory CC08:Riemann Integration and series of functions Unit1:Riemann integration,inequalities of upper and lower sumsDarbouxintegration,Darboux theorem | 8 | Theory:CC13:Complex Analysis Unit 3:Limits,Limits involving the point at infinity,continuity,properties of complex numbers | 8+4 |

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| Feb | Theory CC3:Real Analysis Unit 2: .Limit of a sequence,liminf,limsup,Limit theorems | 4 | Theory CC08:Riemann integration and series of functions Unit1:Riemann conditions of integrability,Riemann sum and definition of Riemann integral through Riemann sums,equivalence of two definitions | 8+3 | Theory CC13:Complex Analysis Unit3:,regions in the complex plane,functions of complex variable ,mappings,derivatives,differentiation formulas | 7+4 |
| Mar | Theory CC3:Real Analysis Unit 2:Monotone sequences,Monotone convergence theorem | 4+2 | Theory CC08:Riemann integration and series of functions Unit 1:Riemann integrability of monotone and continuous functions,Properties of riemannintegral,definition and integrability of piecewise continuous and monotone functions | 6+4 | Theory:CC13:Coplex Analysis Unit 3: Cauchy -Riemann equations,sufficient conditions for differentiability,analyticfunctions, example of analytic functions,exponential functions | 10+2 |
| Apr | Theory CC3:Real Analysis Unit 2:Subsequences,Divergence criteria,Monotone Subsequence theorem | 4+2 | Theory CC08:Riemann integration and series of functions Unit 1:Intermediate Value theorem for integrals,Fundamentaltheorem of integral calculus | 8+4 | Theory:CC13:Complex Analysis: Logarithmic function,trigonometricfunction,Derivatives of functions,definite integrals of functions,contours | 10+1 |
| May | Theory CC3:Real Analysis Unit 2:Bolzano Weierstrass theorem for sequences,Cauchy sequence | 4 | Theory CC908:Riemann integration and series of functions Unit2:Improper integrals | 6+3 | Theory:CC13:Complex Analysis:Unit4: contour integrals and its examples, upper bounds for moduli of contour integrals,Cauchy-Goursat theorem | 8+2 |
| June | Theory CC3:Real Analysis Unit 2:Cauchys Convergence Criterion | 4+1 | Theory CC08:Riemann integration and series of functions Unit 2:Beta and Gamma function. | 4+3 | Theory:CC13:Complex Analysis:Unit 4: Unit4:Cauchy integral formula and Revision of complex analysis | 4 |

Head of the Department,
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DEPARTMENT OF PHILOSOPHY

**TEACHING PLAN OF Associate professor Rita Mukherjee
Philosophy (General) (July 2019 – June 2020)**

| | Sem-I (G) | Sem-III (G) | Sem-V (G) |
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| | <p>1st Sem. General/GE CC-1A/CC-1B/GE-1-Indian Philosophy Mimansha Philosophy- 4 Significance of the term 'Mimansha' . Classification of Mimansha Philosophy -- Main two promana of Mimansha Philosophy. Aorthaportti and Anupolobddhi What is Aorthaportti? Why it is called separate promana- according to Mimansha Philosophy? Different types of Aorthaportti- Anupolobddhi - Vedanta philosophy-4 Meaning of the term " Vedanta" . What is the main theme of Vedanta philosophy? Nature of Brahman? What is 'Maya'? Relation between Brahman to jiv and jagat.</p> | <p>Subject -Philosophy, 3rd Sem.General GE-3/CC-1C/CC-2C-Logic</p> <p>Unit - I -Basic Concept of Logic -9</p> <p>Introduction -2</p> <p>Nature and Scope of Logic-2</p> <p>Sentence, Proposition and Statement -2</p> <p>Inference and argument -2</p> <p>Tutorial -1</p> <p>Unit -2 Types of argument -5</p> <p>What is Deductive argument?</p> <p>What is Inductive argument?</p> <p>What are the differences between Deductive & Inductive argument?-1</p> <p>Conception of the term 'Valid' & 'Invalid' .</p> <p>Relation between Truth & Validity - 2</p> <p>Tutorial - 2</p> <p>Unit -3- Opposition of Proposition -- 10</p> <p>What is Opposition of Proposition?-- 1</p> <p>Different types of Opposition of Proposition.</p> <p>What is Square of Opposition,</p> <p>Different types of square of opposition.-- 2</p> <p>Rules of truth & falsity depend on traditional square of opposition --2</p> <p>Follow some exercise and question papers ---4</p> <p>Tutorial --1</p> <p>Unit -4 -Immediate Inference -Conversion-Obversion - Contraposition -10</p> <p>What is Immediate Inference? , What is the difference between mediate and immediate ? , What is Conversion? ,How many types of conversion?</p> <p>Discuss it's rules with example.--2</p> <p>Why 'O' Proposition can't be converted?--1</p> <p>Do simple conversion is possible to 'A' Proposition?</p> <p>In which cases simple conversion possible to 'A' Proposition?</p> <p>What is obversion? Discuss its rules with example -1</p> <p>What is contraposition? Rules of contraposition-2</p> <p>Why contraposition is impossible for 'I' proposition?</p> <p>Which cases existential fallacy occur in immediate inference?--2</p> <p>Practice from exercise & B.U.question papers -1</p> <p>Unit -5 Categorical Syllogism -25</p> <p>What is Categorical Syllogism?</p> <p>Rules of Categorical Syllogism.</p> <p>Formal nature of Categorical Syllogism.</p> | <p>5th Sem.General-SEC-3-Philosophical Analysis</p> <p>Unit-1 Meaning -10</p> <p>Word Meaning and Sentence Meaning -4</p> <p>Testability and Meaning -- 4</p> <p>Discuss short type of question and follow University question papers -2</p> <p>Unit -2 Concept of Truth -10</p> <p>What is Truth ?</p> <p>Criteria of Truth.-1</p> <p>Different types of the theory about the nature of truth. -1</p> <p>Correspondence theory of Truth.-2</p> <p>Coherence theory of Truth-2</p> <p>Pragmatic theory of Truth-2</p> <p>Discuss which theory is acceptable.-2</p> <p>Unit -3 Knowledge -Nature & Source of Knowledge -10</p> <p>What is knowledge?</p> <p>Different types of meaning about the verb "To Know " .-2</p> <p>Knowledge by acquaintance</p> <p>Knowledge by ability</p> <p>Knowledge by Propositional sense</p> <p>Necessary and Sufficient condition of knowledge - 4</p> <p>Theory of Empiricism -2</p> <p>Theory of Rationalism -2.</p> <p>Discuss the important role about the source of knowledge.-2.</p> <p align="center">-----+-----+-----</p> |

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| | | <p>Fallacy of Categorical Syllogism --- 10</p> <p>Figure & Mood of Categorical Syllogism.</p> <p>Follow exercise & University question papers-4</p> <p>Venn Diagram of single term , Categorical proposition & Categorical Syllogism.-6</p> <p>Testing Validity by Venn Diagram Method - 2</p> <p>Follow exercise & University question papers -3</p> <p>Unit -6 Truth Functional Arguments -20</p> <p>Modern symbolic logic and it's application</p> <p>Symbol of Conjunction , Disjunction,Negation and uses in truth - functional proposition.</p> <p>What is Truth -table? How do make form of Truth table -- 5</p> <p>Meterial Implication , Meterial Equivalence-4</p> <p>Transfer the general argument to truth-functional argument, Testing argument with Truth -table method - 4</p> <p>What is statement form? Difference between Statement form and proposition, Determine the truth -value of statement form with the help of truth -table method -- 4</p> <p>Follow exercise and University question papers -3</p> <p>Unit -7 Science and Hypothesis -9</p> <p>What is Hypothesis?</p> <p>Explanation of scientific and Un- scientific.</p> <p>Criteria of Scientific explanation -3</p> <p>Difference between scientific and unscientific explanation according to I.M.Copy.-2</p> <p>Scientific Inquiry ,Seven stages of scientific Inquiry with example -2</p> <p>Different Condition of good hypothesis -2</p> | |
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| Sem-II (G) | Sem-IV (G) | Sem-VI (G) |
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| | | <p>Philosophy Department 6th Sem.General DSE- 1B -Tarka samgraha.(Text Book)</p> <p>Syllabus - Sapta Padertha</p> <p>Unit - 1 - Poder tho -10</p> <p>What is Poder tho?</p> <p>How many types of Podertho & what are they?</p> <p>What is the meaning of sapto pader tho?</p> <p>Why the term "Sapto" is important in Tarka Samgraha?</p> <p>Unit -2- Dravya -8.</p> <p>What is the lakshana of Dravya ?- 2</p> <p>How many types of Dravya? What are they? --2</p> <p>Is darkness a separate substance? -4</p> <p>Unit -3 - Guna -6</p> <p>What is Guna? How many types of Guna according to Annanmbhatta?</p> <p>Lakshana of Guna.</p> <p>Unit -4-Karma--6</p> <p>What is karma?</p> <p>How many types of karma?</p> <p>Lakshana of karma.</p> <p>Unit -4-Samanya -10</p> <p>What is the meaning of Samanya in general?</p> <p>Lakshana of Samanya (Universal) according to Tarka Samgraha?</p> <p>Types of Samanya?</p> <p>Why it is a separate podartha according to Tarka Samgraha?</p> <p>What is jatibadhaka?(জাতি-বাধক)? How many types of jatibadhaka? What are they?</p> <p>Unit --- 5 - Vishesh (Peticular) -10</p> <p>What is Vishesh?</p> <p>Lakshana of Vishesh according to Tarka Samgraha?</p> <p>Why it is a separate podartha according to Tarka Samgraha?</p> <p>Unit - 6 - Samavya --10</p> <p>Lakshana of Samavya.</p> <p>What is the difference between Samavya and sanjoga?</p> <p>In which cases Samavya relation are possible?</p> <p>Tutorial --2</p> <p>Unit -7 - Avabo -10</p> <p>The Lakshana of Avabo.</p> <p>Why it is a separate podartha according to Tarka Samgraha?</p> <p>How many types of Avabo? what are they?</p> |

Head of the Department,
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DEPARTMENT OF PHILOSOPHY

TEACHING PLAN OF Mr. RAMESH DAS
Philosophy (Honours) (July 2019– June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|--|----------------|---|----------------|
| Jul | Theory: CC-1: Unit3: Outlines of Indian Philosophy—I Jainism: (a) anekāntavāda, (b) syādvāda and nayavāda, | 8 | Theory CC-5: Indian Ethics Unit-1: puruṣārtha (Cārṇvāka and Āstikaviews) | 17 | Theory DSE-1: Kaṭhōpaniṣad Chapter 1: Kaṭhōpaniṣad First Chapter : vallis – I, | 16 |
| Aug | Theory: CC-1: Unit 3 (c) Theory of Self and Liberation (d) Nature of Substance: Relation between Substance, Attributes & Modes | 7 | Theory CC-5: Unit 2: Vedic Concepts : ṛta, satya, yajña, ṛṇa | 17 | Theory DSE-1: Chapter 1: Kaṭhōpaniṣad First Chapter : vallis – I, | 18 |
| Sept | Theory: CC-1: Unit 4: Buddhism: (a)Four Noble Truths, (b) praṭīyasamutpāda (c) kṣaṇabhangavāda, | 9 | Theory CC-5: Unit 3: Ethics in Śrīmadbhagavadgītā : niṣkāmakarma and sthitaprajña | 17 | Theory DSE-1: Chapter 2: First Chapter : vallis – II | 17 |
| Oct | Theory: CC-1: Unit 4: (d) nairātmyavāda (e) Four Major Schools of Buddhism | 9 | Theory CC-5: Unit 4: Buddhist Ethics: pañcaśīla and brahmavihāra | 16 | Theory DSE-1: Chapter 2: First Chapter : vallis – II | 15 |
| Nov | Theory: CC-1: Unit 5: Nyāya: (a) Nyāya Epistemology : pratyakṣa (Perception), (b) anumāna (Inference), | 9 | Theory CC-5: Unit 5 Jaina Ethics: pañcavrata: mahāvratā and anuvratā, and triratna | 18 | Theory DSE-1: Chapter 3: First Chapter : vallis – III | 17 |

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| Dec | Theory: CC-1: Unit 5: (c)upamāna (Comparison) and (d) śabda (Testimony); (e) khyātivāda (Theory of Error) | 9 | Theory CC-5: Unit 6: Yoga Ethics: yama and niyama | 17 | Theory DSE-1: Chapter 3: First Chapter : vallis – III | 16 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC-3: Outlines of Indian Philosophy-II Unit-2: Yoga: (i) citta,(ii) cittabhūmi,(iii) cittavṛtti, | 7 | Theory CC-9: Psychology Unit-1&2: 1.Nature of Psychology 2.Research Methods in Psychology | 16 | Theory DSE-3: Rabindranath Tagore:Sa dhana Unit 1: THE RELATION OF THE INDIVIDUAL TO THE UNIVERSE | 17 |
| Feb | Theory CC-3: Unit-2: (iv) cittavṛttinirodha (v) īśvara | 9 | Theory CC-9: Unit-3: Central Nervous system | 18 | Theory DSE-3: Unit 1: THE RELATION OF THE INDIVIDUAL TO THE UNIVERSE | 18 |
| Mar | Theory CC-3: Unit-3: Pūrva- Mīmāṃsā: (i) pramāṇa-s with special reference to arthāpatti and anupalabdhī | 7 | Theory CC-9: Unit 4&5: 4.Perception: Colour and Depth , Pattern Recognition, Perceptual Organization 5.Attention: Nature, Conditions, Span and Division of Attention | 17 | Theory DSE-3: Unit 2: SOUL CONSCIOUSNESS | 17 |

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| Apr | Theory CC-3: Unit-3: (ii) prāmāṇyavāda | 8 | Theory CC-9: Unit -6: Learning: Classical Conditioning Theory, Instrumental (Operant) Conditioning Theory, Trial and Error Theory, Insight Theory | 18 | Theory DSE-3: Unit-3: THE PROBLEM OF EVIL | 16 |
| May | Theory CC-3: Unit-6: <i>Khyātivāda:</i> (Theory of Error): Bhāṭṭa | 8 | Theory CC-9: Unit -7& 8: 7.Memory: Factors of Memory, Marks of Good Memory, Laws of Association, Causes of Forgetfulness 8. Consciousness: Levels of Consciousness, Freud's Theory of Dream | 17 | Theory DSE-3: Unit-4: THE PROBLEM OF SELF | 16 |
| June | Theory CC-3: Unit-6: <i>Khyātivāda:</i> (Theory of Error): Advaita Vedanta | 7 | Theory CC-9: Unit-9: Intelligence: Insight and Intelligence, Measurement of Intelligence, I. Q. Test of Intelligence | 15 | Theory DSE-3: Unit-5: REALISATION IN LOVE | 18 |

Head of the Department,
Department of Philosophy,
Suri Vidyasagar College

DEPARTMENT OF PHILOSOPHY

**TEACHING PLAN OF Associate professor Rita Mukherjee
Philosophy (Honours) (July 2019 – June 2020)**

| Sem-I (H) | Sem-III (H) | Sem-V (H) |
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| <p>CC-2 Outline of Western philosophy . Unit -1-Descartes -20 Introduction -2 Method of Doubt -2 Cogito Ergo sum - 4 Criterion of truth -2 Classification of Ideas-4 Substance--Defination of substance, Types of Substance--4 Interactionism -2</p> <p>Unit -2- Spinoza -17 Introduction-2 The doctrine of Substance -4 Diffination of Substance, characteristics of substance Substance=God=Nature "Natura-Naturans" &"Natura-Naturata" Attributes-2 Relation between Substance & attribodes-2 Parallelism-1 Degrees of knowledge 2 Determinism and Freedom-2 Tutorial-2</p> <p>Unit - 3 Leibniz -- 14 Introduction -2 Monadology - -3 Pre-established Harmony - 2 Truths of Reason and Truths of Fact -2 Theory of knowledge -2 Substance theory of Descartes, Spinoza and Leibniz comparative discussion 2 Tutorial -1</p> | <p>CC-VII- Indian Logic</p> <p>Unit 1: 16</p> <ul style="list-style-type: none"> • Introduction -2 • <i>Buddhi</i> and its different types • <i>Smriti</i>-4 • <i>Anuvaba</i> • <i>Prama – Aprama</i>-4 <p>Difference between <i>Prama</i> & <i>Aprama</i>-4 Tutorial -2</p> <p>Unit 2: -16</p> <ul style="list-style-type: none"> • <i>Karana</i>-2 • <i>Karana</i>-4 • <i>Anyathasiddhi</i>-2 • Different types of <i>Anyathasiddhi</i>-2 • Different types of <i>Karana</i>-3 • <i>Karya</i>-1 • <i>Tutorial</i> -2 <p>Unit 3: 14</p> <ul style="list-style-type: none"> • <i>Pratyaksa</i>-<i>Pramana</i>-2 • Different types of <i>Pratyaksa</i>-2 • Difference between <i>Nirvikalpaka</i> & <i>Savikalpaka Pratyaks</i>--4 • Argument for the existence of <i>Nirvikalpaka Pratyaksa</i>-2 • <i>Sannikarsa</i>-1 • Different types of <i>Sannikarsa</i>-2 • <i>Tutorial</i> -2 <p>Unit 4:- 25</p> <ul style="list-style-type: none"> • <i>Anumana</i>-<i>Pramana</i>--6 • <i>Laksna</i> of <i>Anumana</i>-3 • Different Stages of <i>Anumana</i> (<i>Vyapti</i>, <i>Paksa-dharmata</i> & <i>Paramarsa</i>)--4 • <i>Laksna</i> of <i>Paramarsa</i>-2 • Utility of <i>Paramarsa</i> in <i>Anumana</i>-<i>Pramana</i>-2 • <i>Laksna</i> of <i>Vyapti</i>, Different types of <i>Vyapti</i> • How <i>Vyapti</i> established--3 • Different types of <i>Anumana</i> • Difference between <i>Swarthanumana</i> & <i>Parathanumana</i>-3 • <i>Tutorial</i> -2 <p>Unit 5: --12</p> <ul style="list-style-type: none"> • Different types of <i>Linga</i> or <i>Hetu</i> • <i>Laksna</i> of different types of <i>Hetvabhasa</i> <p>Unit 6: 4</p> <ul style="list-style-type: none"> • <i>Upamana</i>-<i>Pramana</i> <p><i>Laksna</i> and its <i>Karana</i></p> | <p>CC- XII -Western Logic -II.</p> <p>Unit -1 -Analogical Reasoning - 10. Introduction -01 Argument by Analogy - Defination of Analogical argument . symbolic example and example by proposition.--2 Criteria of Analogical argument -2 Term 'Valid' and 'Invalid' are applicable in Analogical argument? -1 Refutation by logical Analogy - 1 Summary of this ch.-2 Tutorial -1</p> <p>Unit -2 -Causal Reasoning-20 Defination of Cause, Condition, type of Condition -2 Sufficient Condition, Necessary Condition and Sufficient - Necessary Condition - explain with example -4 Various types of Cause -2 Causal Laws and the Uniformity of Nature -1 Induction by Simple Enumeration -1 Methods of Causal Analysis -6 Method of Agreement Method of Difference Method of Agreement & Difference Method of Concomitant Variation Method of Residues Limitations of Inductive Techniques -2 Tutorial -2</p> <p>Unit -3 Science & Hypothesis -12 Scientific Explanation -1 Distinguishes Scientific from Unscientific -2 Scientific Inquiry, Different stages of Scientific Inquiry -2 Evaluating Scientific Explanations-2 Crucial Experiment -1 Ad- hoc Hypothesis -1 Summary of this chapter -1 Tutorial -2</p> <p>Unit -4-Probability-10</p> <p>Unit -5 - Philosophy of Logic & Language Text- John Hospers : An Introduction to Philosophical Analysis -35 Meaning - word meaning & Sentence meaning -16 What is word , How a word can be defined?-2 Natural Sign and Conventional sign or Symbol -2 Meanings of the word "meaning"-4 Ambiguity -2. Sentence meaning -Criteria of Sentence meaning -4 Tutorial -2 Definition -9 What is Definition? Need of Definition. Verbal Definition Different types of Definitions Tutorial -1 Truth -10 Diffination of Truth Three types of theory about Truth Correspondence theory of Truth Coherence theory of Truth Pragmatic theory of Truth Tutorial</p> |

| Sem-II (H) | Sem-IV (H) | Sem-VI (H) |
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| <p>2nd sem Hons.CC-4 Outlines of Western philosophy-II</p> <p>Unit -1 -Locke -22 Introduction-2 Refutation of innate ideas -3 Theory of ideas -4 Diffinition of ideas Source of ideas Two types of ideas (Simple & Complex) Four types of Simple ideas Primary quality & Secondary quality -2 Tertiary quality -1 Complex ideas ,Three types structure of Complex ideas -2 Different types of Complex ideas-1 Theory of Substance--2 Theory of knowledge--2 Degrees of knowledge-1 Tutorial-2</p> <p>Unit-2 Berkeley -17 Introduction -2 Rejection of the Locke's notion of Substance- 3 Refutation of Abstract ideas -2 Rejection of the distinction between primary and secondary qualities - 2 Esse Est Percipi- 4 Idealism, Subjective Idealism , Is Berkeley's Idealism Solipsism? -2 Criticism of Berkeley's Idealism-1 Tutorial- 1</p> <p>Unit -3, Hume -18 Introduction-2 Origin of knowledge- Impression and Ideas -3 Laws of Association-2 Relation of Ideas and Matters of fact -3 Nation of Causality -2 Problem of personal Identity -2 Scepticism- 3 Tutorial-1</p> | <p>CC-VIII- Western Logic-1</p> <p>Unit 1: Categorical Proposition 16</p> <ul style="list-style-type: none"> • What is Proposition? ---2 • Classes & Categorical Proposition--2 • Four kinds of Categorical Proposition-----2 • Quality, Quantity and Distribution----- 2 • Traditional Square of Opposition----2 • Immediate Inference • Existential Import & Interpretation of Categorical Proposition---2 • Symbolism & Diagrams for Categorical Proposition---2 • Tutorial --- 2 <p>Unit 2: Categorical Syllogism- 16</p> <ul style="list-style-type: none"> • What is Syllogism?--2 • Characteristics of Categorical Syllogism-----2 • Formal nature of syllogistic argument--2 • Figure & Mood of Syllogism • Rules of Categorical Syllogism---4 • Venn-Diagram for testing Syllogism-----4 • Tutorial ---2 <p>Unit 3: Syllogism in Ordinary Language---22</p> <ul style="list-style-type: none"> • Syllogistic Argument---2 • Reduction the number of terms to three----3 • Translating categorical proposition into standard form--2 • Uniform Translation---2 • Enthymemes---2 • Sorties--2 • Disjunctive and Hypothetical Syllogism---3 • The Dilemma---4 • Tutorial ---2 <p>Unit 4: Symbolic Logic –28</p> <ul style="list-style-type: none"> • Significance of Symbol • Simple & Compound Statement-----4 • Different types of Compound Statement & Uses their Symbol---4 • Uses Truth-table method of different Compound Statement---4 • Testing the validity by using Truth-table method---4 • Logical Equivalent • Material Equivalent---2 • Statement Form, Difference between Statement & Statement Form---2 • Determine truth-values of different types of Statement | <p>DSE-04- An Enquiry Concerning Human Understanding</p> <p>Introduction -2</p> <p>Ch.-1 Of the different species of Philosophy -18</p> <p>Different types of philosophy based on two perspectives of men.First perspective view & 2nd perspective view -2</p> <p>Easy and Obvious Philosophy, Accurate and abstruse Philosophy, Profound Philosophy -4</p> <p>Differentiation between two types of philosophy -2</p> <p>What is 'Mental Geography'?</p> <p>"Be a Philosopher but, amidst all your philosophy,be still a man"-Significance the Sentence of Enquiry -4</p> <p>Metaphysics, Does Hume exclusion Metaphysics?</p> <p>What type of Metaphysics approved by Hume?-4</p> <p>Tutorial -2</p> <p>Ch -II- Of the Origin of ideas -12</p> <p>Source of ideas</p> <p>What is Sensation?</p> <p>Why Hume said, "The most lively thought is still inferior to the dullest sensation"</p> <p>Difference between sensation and ideas - 4</p> <p>"No ideas without impression"- Is there any exception in ' Enquiry ' . Discuss with example that exception.- 2</p> <p>Different argument given by Hume to established his opinion on Impression & Ideas.-2</p> <p>Criticism of this chapter.-2</p> <p>Tutorial -2</p> <p>Ch.- III - Of the Association of ideas.- 6</p> <p>What is Association?</p> <p>What is the Association of ideas?-2</p> <p>Law of the Association of ideas.</p> <p>Explain with example three laws of the Association of ideas.2</p> <p>Natural relation & Philosophical relation.-1</p> <p>Criticism of this chapter.-1</p> <p>Ch-IV-Sceptical Doubts Concerning the Operations of the Understanding -20</p> <p>Relations of ideas & Matters of fact.-2</p> <p>What is Relation of ideas.-Example.</p> <p>What is Matters of fact</p> <p>Difference between relation of Ideas and Matters of fact.-4</p> |

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| | | <p>Form by using Truth-table method---4</p> <ul style="list-style-type: none"> • Refutation by logical analogy---1 • The Laws of Thought---1 • Tutorial ---2 <p>Unit 5: Method of Deduction – 30</p> <ul style="list-style-type: none"> • Formal Proof of Validity by Rules of Inference & Rules of Replacement---15 • Invalidity Proof---4 • Indirect Proof of Validity---4 • practice ---5 • Tutorial -2 <p>Unit 6: Quantification Theory -14</p> <ul style="list-style-type: none"> • Symbolism of Quantifier Proposition-----3 • Rules of Quantification Theory & Its Practice---5 • Invalidity Proof by Using Quantification Theory---2 • practice ---2 • Tutorial ---2 | <p>"All reasoning Concerning matters of fact founded on the relation of cause and effect "- Significance this sentence by Hume.-2</p> <p>What is Custom?-1</p> <p>Why Hume said that the relation of cause and effect is a Custom?-2</p> <p>"The effect is totally different from the cause and consequently can never be discovered in it"</p> <p>-- Discuss.-3</p> <p>Demonstrative Reasoning & Moral Reasoning.-2</p> <p>Criticism of this chapter.-2</p> <p>Tutorial class -2</p> <p>Ch.-V-Sceptical Solution of these Doubts- 10</p> <p>Academic or Sceptical philosophy - 02</p> <p>"Custom is the great guide of human life " - Significance this statement -2</p> <p>What is Belief? What is Fiction?</p> <p>Difference between fiction and belief -2</p> <p>Instinct -1</p> <p>Relation are established in ideas by three laws - Resemblance , Contiguity and Causality -2</p> <p>Criticism of this chapter -1</p> <p>Ch-VI - Of the Idea of Necessary Connection -20</p> <p>What is Necessary Connection in general ?</p> <p>What is the Necessary Connection in Hume's idea? -4</p> <p>What is Power?</p> <p>What are the argument to deny the existence of power - by Hume.-4</p> <p>Given arguments from external world & internal world to established there are no power in relation of Causality.-4</p> <p>What is the name of the causal theory in Hume's philosophy?</p> <p>Hume's theory of Causation.-3</p> <p>"They seemed to be conjoined , but never connected."- 2</p> <p>Defination of causation given by Hume's "Enquiry". -1</p> <p>Tutorial -2.</p> |
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Head of the Department,
Department of Philosophy,
Suri Vidyasagar College

SURI VIDYASAGAR COLLEGE, DEPARTMENT OF ENGLISH

TEACHING PLAN OF DR. SUSANTA KUMAR BARDHAN

ENGLISH (Honours) (2019-20) (July 2019 – June 2020)

- After the expiry of Lien (from 01.09.2018 to 20.11.2019) I resumed my duty on and from 21.11.2019

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V(H) | No. of Lecture |
|-------|---|---------------------------|--|-----------------------------|--|--|
| Jul | CC1: Indian Classical Literature Unit 1: Vyasa: 'The Book of the Assembly Hall', in <i>The Mahabharata</i> | Lecture 7 + Tutorial 1 =8 | --- | | --- | |
| Aug | CC1: Indian Classical Literature Unit 3: Vyasa: 'The Book of the Assembly Hall', in <i>The Mahabharata</i> | Lecture 7 + Tutorial 1 =8 | --- | | DSE 1: Modern Indian Writing Rabindranath Tagore: <i>Gitanjali</i> • 'Where the mind is without fear' | Lecture 4 + Tutorial 2 =6 |
| Sept | CC1: Indian Classical Literature Unit 3: Vyasa: 'The Book of the Assembly Hall', in <i>The Mahabharata</i> | Lecture 6 + Tutorial 2 =8 | CC6: Popular Literature Agatha Christie: <i>The Murder of Roger Ackroyd</i> | Lecture 10 + Tutorial 2 =12 | DSE 1: Modern Indian Writing Rabindranath Tagore: <i>Gitanjali</i> • 'Leave thy chanting and singing and telling beads' • 'Art thou abroad on this stormy night' • 'Obstinate are the trammels, but my heart aches when I try to break them' | Lecture 15 + Tutorial 3 =18 |
| Oct | --- | | CC6: Popular Literature Agatha Christie: <i>The Murder of Roger Ackroyd</i> | Lecture 4 + Tutorial 2 = 6 | --- | |
| Nov | --- | | --- | | --- | |
| Dec | --- | | --- | | --- | |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | CC3: Indian Writing in English Unit 1: Lal Behari Dey's Govinda Samanta Or The History of Bengal Rayat | Lecture 7 + Tutorial 1 =8 | CC 8: British Literature Defoe's <i>Moll Flanders</i> | Lecture 14 + Tutorial 3 =17 | DSE4: Criticism and History of English Language and Criticism 1. History of the English Language. a) Evolution of the English language(Semantic Change, Standardization, Outgrowing Gender Bias) | Lecture 6 + Tutorial 1 =7 |
| Feb | CC3: Indian Writing in English Unit 1: Lal Behari Dey's Govinda Samanta Or The History of Bengal Rayat | Lecture 7 + Tutorial 1 =8 | CC9 : British Romantic Literature Austen's <i>Pride and Prejudice</i> | Lecture 14 + Tutorial 1 =15 | DSE4: Criticism and History of English Language and Criticism a) Evolution of the English language(Semantic Change, Standardization, Outgrowing Gender Bias) b) Event, Translation, Individual contribution and the English language (Christianization, Bible, | Lecture 2 + Tutorial 1 =3 Lecture 3 + Tutorial =3 |

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| | | | | | Shakespeare) | |
| Mar | CC3: Indian Writing in English Unit 1: Lal Behari Dey's Govinda Samanta Or The History of Bengal Rayat | Lecture 6 + Tutorial 2 =8 | CC9 : British Romantic Literature Austen's <i>Pride and Prejudice</i> 18+3 CC 10: British Literature (19th Century) Unit 1: <i>Jane Eyre</i> | Lecture 4 + Tutorial 2 =6 Lecture 8 + Tutorial 1 =9 | DSE4: Criticism and History of English Language and Criticism b) Event, Translation, Individual contribution and the English language (Christianization, Bible, Shakespeare) c) Enrichment of the English language (Latin, French & Scandinavian Influences and the Influence of Science and Technology) | Lecture 5 + Tutorial 2 =7 Lecture 3 + Tutorial =3 |
| Apr | CC4: British Poetry, Drama & Rhetoric and Prosody Unit 1: <i>Rhetoric and Prosody</i> | Lecture 4 + Tutorial 1 =5 | CC 10: British Literature (19th Century) Unit 1: <i>Jane Eyre</i> | Lecture 12 + Tutorial 2 =14 | DSE4: Criticism and History of English Language and Criticism c) Enrichment of the English language (Latin, French & Scandinavian Influences and the Influence of Science and Technology) d) Expansion of Vocabulary & Branching Off (Word Formation, Indian English & American English) | Lecture 5 + Tutorial 2 =7 Lecture 3 + Tutorial =3 |
| May | CC4: British Poetry, Drama & Rhetoric and Prosody Unit 1: <i>Rhetoric and Prosody</i> | Lecture 8 + Tutorial 2 =10 | CC10: British Literature (19th Century) Unit 1: <i>Jane Eyre</i> | Lecture 5 + Tutorial 2 =7 | DSE4: Criticism and History of English Language and Criticism d) Expansion of Vocabulary & Branching Off (Word Formation, Indian English & American English) | Lecture 5 + Tutorial 2 =7 |
| June | Remedial Class (on Demand) | | Remedial Class (on Demand) | | Remedial or Extra Classes on the demand of the Students | |

Head of the Department,
Department of English,
Suri Vidyasagar College

DEPARTMENT OF ENGLISH

TEACHING PLAN OF PROF SAURAV CHAKRABARTI
English (Honours) (2019-20) (July 2019– June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Indian Classical Literature Introduction to Bharata's Natyashastra | 4 | CC5: American Literature Unit 3: Poetry Introduction i) Prologue | 4+ 5 | CC11: Womens' Writing Unit4: Wide Sargasso Sea | 12 |
| | Unit 2: Mricchakatika (Introduction and text) | 4 | | | | |
| Aug | | | CC5: American Literature Unit 3: Poetry ii) Crow Testament iii) Passage to India | 5+5 | CC11: Womens Writing Unit 4: Wide Sargasso Sea | 6 |
| | | | | | CC12: Early 20 th C. British Literature Unit4: Portrait of the Artist as a Young Man | 6 |
| Sept | CC1: Mricchakatika (continued) | 8 | CC6: Popular Literature Unit 4: Tintin in Tibet (Introduction and text) | 10 | CC12: Early 20 th C. British Literature Unit4: Portrait of the Artist as a Young Man | 12 |

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|------------|---|------|---|-----------------------|---|-----|
| Oct | CC1: Mricchakatika (completed) | 8 | CC6: Popular Literature Unit 4: Tintin in Tibet (continued) | 10 | DSE-1A: Indian Writing in English Translation Unit 4: Hind Swaraj (Swaraj and Passive Resistance) | 6+6 |
| Nov | CC2: Classical European Literature Unit4: Pot of Gold Introduction and text | 4+ 4 | CC6: Popular Literature Unit 4: Tintin in Tibet (completed) SEC1: Creative Writing Unit 2 | 5 5 | DSE-1A: Indian Writing in English Translation Unit 4: Hind Swaraj (Education) | 8 |
| Dec | CC2: Pot of Gold (continued) | 8 | | | Revision | 6 |
| | CC2: Pot of Gold (completed) | 8 | Revision | 5 | | |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | CC3: Indian Writing in English Unit 3: Poetry (Introduction) i)The Night of the Scorpion | 2+ 4 | CC8: 18 th C British Literature CC8: Unit 4 Gulliver's Travels (Introduction and Text) | 4+6 2 2 | CC13: Modern European Drama Unit1: A Dolls' House | 16 |

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| Feb | | | | | | |
| Mar | CC3: Unit 3 (Poetry) ii) Freedom to the Slave | 6 | CC8: 18 th C British Literature Unit 4: Gulliver's Travels (continued and completed) | 10 | CC13: Modern European Drama Unit 1: A Dolls' House (completed) Unit 2: Waiting for Godot | 8 8 |
| Apr | CC3: Unit 3 (Poetry) iii) Introduction (Kamala Das) | 6 | CC9: British Romantic Literature i) Ozymandias ii) Ode to the West Wind | 5+ 5 | CC13: Modern European Drama Unit 2: Waiting for Godot (completed) | 16 |
| | CC3:Unit 3 | | CC9: British Romantic Literature | | CC13: Modern European Drama | 16 |

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|-------------|-----------------------------------|----------|--|--------------------------|---|-----------|
| May | (Poetry) iv) A Poem for Mother | 6 | iii) Childe Harold's Pilgrimage | 10 | Unit3: Rhinoceros | |
| | Revision | 4 | CC9: British Romantic Literature iv) Childe Harold's Pilgrimage (completed) CC10: 19th C British Literature Unit4: Goblin Market | 6 4 | CC13: Modern European Drama Unit 4: The Good Woman of Schezwan | 16 |
| June | | | SEC 2: Film Studies Unit 2: Cinematic Techniques and Devices Revision | 5 5 | Revision | 10 |

Head of the Department,
Department of English,
Suri Vidyasagar College

DEPARTMENT OF PHILOSOPHY

TEACHING PLAN OF SIMANTI CHATTERJEE
Philosophy (General) (July 2019 – June 2020)

| Month | Part-III | No. of Class |
|----------------------|---|---------------------|
| July-December | <p style="text-align: center;"><u>Paper IV: Philosophy of Religion and Socio-Political Philosophy</u></p> <p>Half-I Philosophy of Religion:</p> <p>1. Nature and Scope of Philosophy of Religion 2. Origin of Religion in the Light of Anthropology 3. Psychological Origin and Development of Religion 4. Historical Development of Religion 5. Arguments for the Existence of God: Ontological, Cosmological and Teleological 6. The Principle of Secularism</p> | 50 |
| January-June | <p style="text-align: center;"><u>Paper IV: Philosophy of Religion and Socio-Political Philosophy</u></p> <p>Half-II Socio-Political Philosophy:</p> <p>1. Nature and Scope of Social Philosophy and Political Philosophy 2. Basic Concepts: Society, Social Groups, Community, Association, Institution 3. Social Class and Caste: Class and Caste in India 4. Current Social Problems: Justice and Equality, National Integration, Marriage and Divorce 5. Political Ideas : Democracy, Socialism, Sarvodaya and Swaraj</p> | 50 |

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|------|---|---|--|---------|--|----------|
| Sept | <p>Theory: CC-1A: Unit 4: Unit 5:</p> <p>5. Nyāya–Vaiśeṣika: (a) pramāṇa: pratyakṣa (perception), anumāna (inference), upamāna (comparison) and śabda (testimony) and (b) saptapadārthā (Seven Categories)</p> | 9 | <p>Theory CC-1C: Unit 3</p> <p>3. Opposition of Propositions</p> <p>SEC- 1 Unit 3: 3. Outlines of the Types of Inquiry in Philosophy and darśana: (a) Epistemic Inquiry in Philosophy and darśana and (b) Metaphysical Inquiry in Philosophy and darśana</p> | 10 4 | <p>Theory DSE- 1A Unit 3:</p> <p>3. Fundamental Features of Major Religions: Hinduism, Christianity, Islam: Basic Tenets, Bondage and Liberation</p> <p>GE- 1 Unit 5:</p> <p>5. Nyāya–Vaiśeṣika: pramāṇa: pratyakṣa (perception), anumāna (inference), upamāna (comparison) and śabda (testimony)</p> | 14 13 |
| Oct | <p>Theory: CC-1A: Unit 6:</p> <p>6. Sāṃkhya: (a) satkāryavāda (Theory of Causality) and (b) parināmavāda (Theory of Evolution)</p> | 9 | <p>Theory CC-1C: Unit 4:</p> <p>4. Immediate Inference: Conversion, Obversion and Contraposition</p> <p>SEC- 1 Unit 4:</p> <p>4. A few Model World-views and Corresponding Paths Leading to Perfection: (a) Plato's view, (b) Kant's view,</p> | 11 5 | <p>Theory DSE- 1A : Unit 4:</p> <p>4. Arguments for the Existence of God: (Indian and Western): Yoga Arguments, Cosmological Arguments, Teleological Arguments, Ontological Arguments</p> <p>GE- 1 Unit 6&7:</p> <p>6. Sāṃkhya: Satkāryavāda (Theory of Causality) 7. Yoga : (a) cittavṛttinirodha and (b) aṣṭāṅgayoga</p> | 15 13 |
| Nov | <p>Theory: CC-1A: Unit 7&8: Nyāya:</p> <p>7. Yoga : (a) cittavṛttinirodha and (b) aṣṭāṅgayoga 8. Mīmāṃsā: (a) arthāpatti and (b) anupalabdhi</p> | 9 | <p>Theory CC-1C: Unit 5&6:</p> <p>5. Categorical Syllogisms : Rules and Fallacies, Venn Diagram 6. Truth-functional Arguments</p> <p>SEC- 1 Unit 4:</p> <p>4. A few Model World-views and Corresponding Paths Leading to Perfection: (c) Sāṃkhya</p> | 12 4 | <p>Theory DSE- 1A : Unit 5:</p> <p>5. Arguments against the Existence of God: Sociological Arguments, Freudian Arguments</p> <p>GE- 1 Unit 8:</p> <p>8. Mīmāṃsā : (a) arthāpatti and</p> | 15 10 |

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| | 4. Critical Theory of Kant | | <p>SEC- 2 Unit2:</p> <p>2. The Idea of Human Rights: Its Origins and Historical Developments during Ancient period</p> | 5 | <p>Unit3:</p> <p>3. Idealism: Subjective Idealism, Objective Idealism</p> | 12 |
| Mar | <p>Theory CC-1B: Unit-5:</p> <p>5. Theories of Causation :Regularity Theory and Entailment Theory</p> | 7 | <p>Theory CC-1D: Unit3:</p> <p>3. Sri Aurobindo: (a)Nature of Reality,(b)Human Evolution–its different stages,(c)Integral Yoga</p> <p>SEC- 2 Unit2:</p> <p>2. The Idea of Human Rights: Modern period and Contemporary period</p> | 11 4 | <p>Theory DSE-1B Unit1: karma</p> <p>GE- 2 Unit4&5:</p> <p>4. Critical Theory of Kant 5. Theories of Causation :Regularity Theory and Entailment Theory</p> | 17 12 |
| Apr | <p>Theory CC-1B: Unit-6:</p> <p>6. Substance :Views of Descartes, Spinoza, Locke and Berkeley</p> | 8 | <p>Theory CC-1D: Unit4:</p> <p>4. S. Radhakrishnan: (a)Nature of Man,(b)Nature of Religious Experience</p> <p>SEC- 2 Unit3:</p> <p>3. The Idea of Natural Law and Natural Rights: Thomas Hobbes and John Locke</p> | 10 5 | <p>Theory DSE-1B Unit1: samanya</p> <p>GE- 2 Unit6:</p> <p>6. Substance :Views of Descartes, Spinoza, Locke and Berkeley</p> | 16 10 |
| May | <p>Theory CC-1B: Unit-7:</p> <p>7. Relation between Mind and Body: Interactionism and Parallelism</p> | 8 | <p>Theory CC- 1D:</p> <p>5. Md. Iqbal:(a)Nature of the Self,(b) Nature of the World,(c) Nature of God</p> <p>SEC- 2</p> <p>4. Natural Right, Fundamental Right and Human Right</p> | 12 4 | <p>Theory DSE-1B Unit1: Visesa, samabaya</p> <p>GE- 2 Unit7:</p> <p>7. Relation between Mind and Body: Interactionism and Parallelism</p> | 16 12 |
| June | <p>Theory CC-1B: Unit-8:</p> <p>8. Theories of</p> | 7 | <p>Theory CC- 1D: Unit6:</p> <p>6. Mahatma Gandhi: (a)God and</p> | 11 | <p>Theory DSE-1B Unit1: Avaba</p> | 12 |

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| | Evolution :Mechanistic and Emergent | | Truth and(b)Ahimsa SEC- 2 Unit5: 5. Preamble, Fundamental Rights and Duties (Indian Constitution) | 5 | GE- 2 Unit8: 8. Theories of Evolution :Mechanistic and Emergent | 11 |
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Head of the Department,
Department of Philosophy,
Suri Vidyasagar College

DEPARTMENT OF PHILOSOPHY

TEACHING PLAN OF SUJIT MONDAL
Philosophy (General) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC-1A/GE-1: Indian Philosophy Unit 5/5: Nyāya (a) pramāṇa: pratyakṣa (perception), | 5 | Theory SEC- 1: Philosophy in Practice Unit-1: 1. Common and Differentiating Characteristics of Philosophy And <i>darśana</i> | 4 | Theory DSE- 1A: Philosophy of Religion Unit-1: 1. Nature and Scope of Philosophy of Religion: (a) Religion, Dharma, Dhamma, (b) Philosophy of Religion, Comparative Religion and Theology | 10 |
| Aug | Theory: CC-1A: Unit 5/5: Nyāya– (a) pramāṇa: anumāna (inference), | 4 | Theory SEC- 1: Philosophy in Practice Unit-2: 2. Nature of Inquiry in Philosophy and <i>darśana</i> | 4 | Theory DSE- 1A: Philosophy of Religion Unit-2: 2. Anthropological and Freudien Theories concerning the Origin and Development of Religion | 13 |
| Sept | Theory: CC-1A: Unit 5: Nyāya pramāṇa: upamāna (comparison) and śabda (testimony) | 4 | Theory SEC- 1: Philosophy in Practice Unit-3: 3. Outlines of the Types of Inquiry in Philosophy and <i>darśana</i>: (a) Epistemic Inquiry in Philosophy and <i>darśana</i> and (b) Metaphysical Inquiry in Philosophy and <i>darśana</i> | 5 | Theory DSE- 1A: Philosophy of Religion Unit-3: 3. Fundamental Features of Major Religions: Hinduism, Christianity, Islam: Basic Tenets, Bondage and Liberation | 14 |
| Oct | Theory: CC-1A: Unit 5/5: Vaiśeṣika: (b) sapta padārtha (Seven Categories) DRAVYA, GU | 3 | Theory SEC- 1: Philosophy in Practice Unit-4: 4. A few Model World-views and Corresponding Paths Leading to Perfection: (a) Plato's view, | 4 | Theory DSE- 1A: Philosophy of Religion Unit-4: 4. Arguments for the Existence of God: (Indian and Western): | 10 |

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| | NA, KARMA, | | (b) Kant's view | | Yoga Arguments, Cosmological Arguments, Teleological Arguments, Ontological Arguments | |
| Nov | Theory: CC-1A: Unit 5/5: Vaiśeṣika: (b)sapta padārtha (Seven Categories) SAMANYA, VISESA, SAMAVAYA | 4 | Theory SEC- 1: Philosophy in Practice Unit-4: 4. A few Model World-views and Corresponding Paths Leading to Perfection: (c) Sāṃkhya view and (d) Advaita Vedānta View | 4 | Theory DSE- 1A: Philosophy of Religion Unit-5: 5. Arguments against the Existence of God: Sociological Arguments, Freudian Arguments | 12 |
| Dec | Theory: CC-1A: Vaiśeṣika: (b)sapta padārtha (Seven Categories) AVAVA | 3 | Theory SEC- 1: Philosophy in Practice Unit-5: 5. Methods of Philosophical Discourse (kathā): (a)vāda, (b)jalpa, (c)vitaṇḍā,(d)chhala,(e)jāti and (f) nigrasthāna | 4 | Theory DSE- 1A: Philosophy of Religion Unit-6: 6. Monotheism, Polytheism, Henotheism | 8 |
| | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | |
| Jan | | 7 | Theory CC- 1D: Contemporary Indian Philosophy Unit-1: 1. Rabindranath Tagore: (a) Nature of Man: The Finite Aspect of Man, the Infinite Aspect of Man, (b) Nature of Religion and (c) Surplus in man | 8 | Theory GE- 2: Western Philosophy Unit-1: 1. Metaphysics :Nature of Metaphysics, Elimination of Metaphysics | 8 |

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| Feb | | 9 | <p>Theory CC- 1D: Contemporary Indian Philosophy Unit-2:</p> <p>2. Swami Vivekananda: (a) Practical Vedānta and (b) Universal Religion</p> | 7 | <p>Theory GE- 2: Western Philosophy Unit-2: 2. Realism : Naive Realism, Scientific Realism</p> | 7 |
| Mar | | 7 | <p>Theory CC- 1D: Contemporary Indian Philosophy Unit-3:</p> <p>3. Sri Aurobindo: (a) Nature of Reality, (b) Human Evolution – its different stages, (c) Integral Yoga</p> | 8 | <p>Theory GE- 2: Western Philosophy Unit-2: 2. Realism : Scientific Realism, Representative Realism</p> | 8 |
| Apr | | 8 | <p>Theory CC- 1D: Contemporary Indian Philosophy Unit-4:</p> <p>4. S. Radhakrishnan: (a) Nature of Man, (b) Nature of Religious Experience</p> | 6 | <p>Theory GE- 2: Western Philosophy Unit-3: 3. Idealism: Subjective Idealism</p> | 10 |
| May | | 8 | <p>Theory CC- 1D: Contemporary Indian Philosophy Unit-5:</p> <p>5. Md. Iqbal: (a) Nature of the Self, (b) Nature of the World, (c) Nature of God</p> | 5 | <p>Theory GE- 2: Western Philosophy Unit-3: 3. Idealism: Objective Idealism</p> | 7 |
| June | | 7 | <p>Theory CC- 1D: Contemporary Indian Philosophy Unit-6:</p> | 4 | <p>Theory GE- 2: Western Philosophy Unit-4: 4. Critical Theory of Kant</p> | 6 |

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| | | | 6.MahatmaGandhi: (a)GodandTruthand(b)Ahimsa | | | 11 |
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Head of the Department,
Department of Philosophy,
Suri Vidyasagar College

DEPARTMENT OF PHILOSOPHY

**TEACHING PLAN OF Mr. SUJIT MONDAL
Philosophy (Honours) (July 2019 – June 2020)**

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|--|----------------|--|----------------|
| Jul | Theory: CC-2: Outlines of Western Philosophy—I Unit1: Introduction to The Pre-Socratic Period: (a) Ionian School. | 10 | Theory SEC-1: Philosophy in Practice Unit1: Common and Differentiating Characteristics of Philosophy and <i>darśana</i>. | 6 | Theory DSE-2: B. Russell: The Problems of Philosophy Chapter 1: Appearance and Reality. | 18 |
| Aug | Theory: CC-2: Unit 1: (b) Parmenides. (c) Heraclitus and | 10 | Theory SEC-1: Unit 2: Nature of Inquiry in Philosophy and <i>darśana</i> . | 6 | Theory DSE-2: Chapter 2: The Existence of Matter. | 18 |
| Sept | Theory: CC-2: Unit 1: (d) Zeno (Paradoxes) Unit 2: Plato: (a) Theory of Knowledge | 10 | Theory SEC-1: Unit 3: Outlines of the types of Inquiry in Philosophy and <i>darśana</i>: (a) Epistemic Inquiry in Philosophy and <i>darśana</i> , (b) Metaphysical Inquiry in Philosophy and <i>darśana</i> ,(c) Axiological Inquiry in Philosophy and <i>darśana</i> . | 7 | Theory DSE-2: Chapter 3: The Nature of Matter. | 17 |
| Oct | Theory: CC-2: Unit 2: Plato: (b) Theory of Ideas. Unit 3: Aristotle: (a) Refutation of Plato's Theory of Ideas. | 9 | Theory SEC-1: Unit 4: A few Model World-views and corresponding paths leading to Perfection: (a) Plato's view, (b) Kant's view. | 6 | Theory DSE-2: Chapter 4: Idealism. | 18 |
| Nov | Theory: CC-2: Unit 3: Aristotle: (b) Theory of Substance (c) Form and Matter | 7 | Theory SEC-1: Unit 4:(c) Sāṃkhya view and (d) Advaita Vedānta View. | 7 | Theory DSE-2: Chapter 5: Knowledge by Acquaintance and Knowledge by Description. | 16 |

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| Dec | Theory: CC-2: Unit 3:(d) Theory of Causation. | 8 | Theory SEC-1: Unit 5: Methods of Philosophical Discourse (kathā) : (a) vāda, (b) jalpa, (c) vitaṇḍā, (d) chhala, (e) jāti and (f) nigrahasthāna | 7 | Theory DSE-2: Chapter 6: On Induction . | 18 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC4: Outlines of Western Philosophy—II Unit 4: Introduction: Kant: (a) Idea of the Critical Philosophy, | 10 | Theory CC10: Philosophy of Religion Unit 1: Introduction: Nature and Scope of Philosophy of Religion: (a) Religion, Dharma, Dhamma and (b) Philosophy of Religion, Comparative Religion and Theology | 18 | Theory CC13: Philosophy in the Twentieth Century: Indian Unit 1: Rabindranath Tagore: (a) Nature of Man : The Finite Aspect of Man, the Infinite Aspect of Man, (b) Nature of Religion, and (c) Surplus in Man | 17 |
| Feb | Theory CC4: Outlines of Western Philosophy—II Unit 4: (b) Possibility of Metaphysics, (c) Kant’s Copernican Revolution in Philosophy. | 9 | Theory CC10: Unit 2: Origin and Development of Religion : Anthropological and Freudien Theories | 16 | Theory CC13: Unit 2: Swami Vivekananda: (a)Practical Vedānta, (b) Universal Religion and (c) Yoga | 17 |
| Mar | Theory CC4: Outlines of Western Philosophy—II Unit 4: (d) Role of Sensibility and Understanding in the Origin of Knowledge. | 10 | Theory CC10: Unit 3: Fundamental Features of Major Religions: Hinduism, Christianity, Islam, Buddhism: Basic Tenets, | 17 | Theory CC13: Unit 3: Sri Aurobindo: (a)Nature of Reality, (b) Human Evolution– its different stages and (c) Integral Yoga | 18 |

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| | | | Bondage and Liberation | | | |
| Apr | Theory CC4: Outlines of Western Philosophy—II Unit 4: (e) Possibility of Synthetic A-priori Judgments and (f) Space and Time | 9 | Theory CC10: Unit 4: Arguments against the Existence of God: Sociological Arguments, Freudian Arguments, Buddhist Arguments. | 18 | Theory CC13: Unit 4: S. Radhakrishnan: (a)Nature of Man, (b) Nature of Religious Experience and (c) Nature of Intuitive Apprehension | 17 |
| May | Theory CC4: Outlines of Western Philosophy—II Unit 5: (a) Dialectical Method | 7 | Theory CC10: Unit 5: Arguments for the Existence of God (Indian and Western): Yoga Arguments, Nyāya Arguments, Cosmological Arguments, Teleological Arguments, Ontological Arguments. | 16 | Theory CC13: Unit 5: Md. Iqbal: (a)Nature of the Self, (b) Nature of the World and (c) Nature of God | 18 |
| June | Theory CC4: Outlines of Western Philosophy—II Unit 5: (b) The Absolute | 8 | Theory CC10: Unit 6: The Problem of Evil. Unit 7: Monotheism, Polytheism and Henotheism. | 16 | Theory CC13: Unit 6: Mahatma Gandhi: (a) God and Truth and (b) Ahimsa | 18 |

Head of the Department,
Department of Philosophy,
Suri Vidyasagar College

DEPARTMENT OF ENGLISH

TEACHING PLAN OF MD TAUSIF AHAMED ENGLISH (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|---|----------------|--|----------------|
| Jul | CC1: Indian Classical Literature Unit 3: <i>Kadambari</i> | 8 | CC5: American Literature Unit 2: 'The Purloined Letter' CC7: British Poetry and Drama Unit 1: <i>Paradise Lost</i> | 10 9 | CC11: Women's Writing Unit 3 (a): 'A Vindication' Unit 3 (b): 'A Testimony' DSE2: Partition Literature Unit 3 (a): 'Alam's Own House' | 9 5 5 |
| Aug | CC1: Indian Classical Literature Unit 3: <i>Kadambari</i> | 8 | CC5: American Literature Unit 2: 'The Crack-up' CC7: British Poetry and Drama Unit 1: <i>Paradise Lost</i> | 10 9 | CC11: Women's Writing Unit 3 (a): 'A Vindication' Unit 3 (b): 'A Testimony' DSE2: Partition Literature Unit 3 (b): 'Final Solution' | 8 5 6 |
| Sept | CC1: Indian Classical Literature Unit 3: <i>Kadambari</i> | 6 | CC5: American Literature Unit 2: 'Dry September' CC7: British Poetry and Drama Unit 1: <i>Paradise Lost</i> | 5 8 | CC11: Women's Writing Unit 3 (c): 'Amar Jiban' DSE1: Modern Indian Writing Unit 3: <i>Gora</i> DSE2: Partition Literature Unit 3 (c): 'Toba Tek Sing' | 6 11 6 |
| Oct | CC2: European Classical Literature Unit 1: <i>The Iliad</i> | 8 | CC6: Popular Literature Unit 1: <i>Alice's Adventures in Wonderland</i> | 10 | CC11: Women's Writing Unit 3 (c): 'Amar Jiban' DSE1: Modern Indian Writing Unit 3: <i>Gora</i> DSE2: Partition Literature Unit 3 (d): 'Leaf in the Storm' | 6 10 6 |
| Nov | CC2: European Classical Literature Unit 1: <i>The Iliad</i> | 8 | CC6: Popular Literature Unit 1: <i>Alice's Adventures in Wonderland</i> | 10 | CC12: British Literature Unit 3 (a): 'Leda and the Swan' & 'The Second Coming' Unit 3 (b): 'Prufrock' & 'The Hollow Men' | 6 9 |
| Dec | CC2: European Classical Literature Unit 1: <i>The Iliad</i> | 8 | CC6: Popular Literature Unit 1: <i>Alice's Adventures in Wonderland</i> SEC1: Creative Writing Unit 3: 'Modes of Creative Writing' | 4 5 | CC12: British Literature Unit 3 (a): 'Leda and the Swan' & 'The Second Coming' Unit 3 (b): 'Prufrock' & 'The Hollow Men' | 5 9 |

| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
|-------------|--|----------|--|---------------------------|---|--------------------------|
| Jan | CC3: Indian Writing in English Unit 4: <i>Bravely Fought the Queen</i> | 9 | CC8: British Literature Unit 2 (a): 'Elegy Written in a Country Churchyard' | 6 | DSE3: Literary Theory Unit 1: 'Marxism' | 10 |
| | | | Unit 2 (b): 'Ode to Evening' | 5 | DSE3: Literary Theory Unit 3: 'Feminism' | 10 |
| Feb | CC3: Indian Writing in English Unit 4: <i>Bravely Fought the Queen</i> | 9 | CC8: British Literature Unit 2 (a): 'Elegy Written in a Country Churchyard' CC10: British Literature Unit 1: <i>Hard Times</i> | 6 10 | DSE3: Literary Theory Unit 1: 'Marxism' DSE3: Literary Theory Unit 4: 'Postcolonial Studies' | 9 9 |
| Mar | CC3: Indian Writing in English Unit 4: <i>Bravely Fought the Queen</i> | 8 | CC9: British Romantic Literature Unit 2: 'The Lamb', 'Chimney Sweeper' (both), 'The Tyger' | 6 | DSE3: Literary Theory Unit 2: 'Poststructuralism' DSE3: Literary Theory Unit 4: 'Postcolonial Studies' | 9 8 |
| Apr | CC4: British Poetry, Drama & Rhetoric and Prosody Unit 2: <i>Macbeth</i> | 8 | CC9: British Romantic Literature Unit 2: 'The Lamb', 'Chimney Sweeper' (both), 'The Tyger' SEC2: Film Studies Unit 1: 'Evolution of the Cinema' | 5 5 | DSE3: Literary Theory Unit 2: 'Poststructuralism' DSE3: Literary Theory Unit 4: 'Postcolonial Studies' | 8 8 |
| May | CC4: British Poetry, Drama & Rhetoric and Prosody Unit 2: <i>Macbeth</i> | 8 | CC10: British Literature Unit 1: <i>Hard Times</i> | 10 | DSE3: Literary Theory Unit 2: 'Poststructuralism' | 8 |
| June | CC4: British Poetry, Drama & Rhetoric and Prosody Unit 2: <i>Macbeth</i> | 7 | CC10: British Literature Unit 1: <i>Hard Times</i> | 10 | DSE3: Literary Theory Unit 3: 'Feminism' | 11 |

Head of the Department,
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SURI VIDYASAGGAR COLLEGE
DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF SK ABDUR ARIF
Political Science (General) (July 2019 – June 2020)

| | SEMESTER-I | No. of Lecture | SEMESTER-III | No. of Lecture | SEMESTER-V | No. of Lecture |
|---------------------------|---|-----------------------|--|-----------------------|---|-----------------------|
| <i>July-December 2019</i> | CC-1A: Western Political Thought | (30) | CC-1C: Indian Political Thought | (36) | DSE-1A: Select Comparative Political Thought | (31) |
| | Chapter-1: Ancient Greek Thought: Main Features | 10 | Chapter-1.Ancient Indian Political Thought : Features ; Kautilya’s theory of Saptanga and the concept of ‘Dandaniti’. | 12 | 1 Distinctive features of Indian and Western political thought | 5 |
| | Introduction | 4 | Introduction | 2 | Chapter - 2(a) Aristotle on Citizenship | 5 |
| | About Greek politics | 2 | Source and features of Indian political thought | 5 | Introduction | 2 |
| | Main features | 4 | Kautilya’s theory of saptanga | 3 | Concept of citizenship | 3 |
| | Chapter-2:Medieval Political Thought: Main features: | 10 | ‘Dandaniti’ | 2 | Chapter-2(b) Locke on Rights | 5 |
| | Introduction | 2 | Chapter-2: Main features of medieval Muslim Political Thought. | 6 | Introduction | 3 |
| | Clash between church and king | 3 | Introduction | 2 | Concept of rights | 6 |
| | Main features | 3 | Chapter-2(d) J. S. Mill on liberty and democracy | 10 | Chapter-(c)Rousseau on inequality | 6 |
| | Two sword theory | 2 | Main features | 4 | Introduction | 2 |
| | Chapter-3: Machiavelli: Concept of statecraft and power politics | 10 | | | Concept of liberty | 4 |
| | Introduction | | | | | |

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|------------------------------------|--|--------|---|----------------------|---------------------------------------|--|--------|
| <i>July- December 2019</i> | Concept of state | 1 | Chapter-3: Rammohan Roy : perception of British Colonial Rule and their role as Modernizers. Introduction Perception of British Rule Role as Modernizers Chapter-4: Bankim, Vivekananda: Nationalism About Bankim Nationalism of Bankim About Vivekananda Nationalism of Vivekananda Man making theory of vivekananda SEC-1: Electoral Practice and Procedures in India Chapter-4:Role of State Election Commission | 4 | Concept of democracy | 4 | |
| | Concept of power | 4 | | 6 | | | |
| | Separation of Politics and Religion | 3 2 | | 1 | | | |
| | | | | 2 | | GE-1: Indian Political Thought | 36 |
| | | | | 3 | | Chapter-1.Ancient Indian Political Thought : Features ; Kautilya's theory of Saptanga and the concept of 'Dandaniti'. | 12 |
| | | | | 12 | | Introduction | 2 |
| | | | | 1 | | Source and features of Indian political thought | 5 |
| | | | | 4 | | Kautilya's theory of saptanga | 3 |
| | | | | 2 | | 'Dandaniti' | 2 |
| | | | | (10) | | Chapter-2: Main features of medieval Muslim Political Thought. Introduction | 6 2 |
| | | 5 | | Main features | 4 | | |

July -
December
2019

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| | | | <p>Chapter-5:Electoral Reforms in India</p> | <p>5</p> | <p>Chapter-3: Rammohan Roy : perception of British Colonial Rule and their role as Modernizers.</p> <p>Introduction</p> <p>Perception of British Rule</p> <p>Role as Modernizers</p> <p>Chapter-4: Bankim, Vivekananda: Nationalism</p> <p>About Bankim</p> <p>Nationalism of Bankim</p> <p>About Vivekananda</p> <p>Nationalism of Vivekananda</p> <p>Man making theory of vivekananada</p> <p>SEC-3: Democratic Awareness Through Legal Literacy</p> | <p>6</p> <p>1</p> <p>2</p> <p>3</p> <p>12</p> <p>1</p> <p>4</p> <p>1</p> <p>4</p> <p>2</p> <p>16</p> |
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| <p><i>July - December 2019</i></p> | | | | | <p>Chapter-1: Constitution – Fundamental rights</p> <p>Fundamental duties</p> <p>other constitutional rights</p> <p>Chapter-2: Laws relating to dowry</p> <p>sexual harassment</p> <p>violence against women</p> <p>laws relating to consumer rights</p> <p>cyber crimes</p> | <p>2</p> <p>5</p> <p>1</p> <p>1</p> <p>2</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p> |
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SURI VIDYASAGGAR COLLEGE
DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF SK ABDUR ARIF
Political Science (General) (July 2019 – June 2020)

| | SEMESTER-II | No. of Lecture | SEMESTER-IV | No. of Lecture | SEMESTER-VI | No. of Lecture |
|-----------------------------------|--|--|--|-----------------------|--|-----------------------|
| January- June 2020 | CC-1B: Political Theory | (29) | CC-1D: Indian Government and Politics | (35) | DSE-1B: Understanding Globalization | (30) |
| | Chapter 1: The meaning of Politics and Political Theory; Importance of Political Theory; Different Approaches: (a) Traditional (b) Behavioural and Post-Behavioural (c) Marxist | 12 | Chapter 5. Union Executive: President and Prime Minister: Powers and functions; | 8 | Chapter-3. Transnational economic actors-Role of MNC s. | 10 |
| | | | Governor and Chief Minister: Powers and function | 7 | Chapter -4: Globalization and new international order | 8 |
| | | | Chapter 6. Judiciary: Supreme Court and High Courts | 3 | 5. Dynamics of Civil Society: New Social Movements and Various interests, Role of NGOs. | 12 |
| | Chapter 2- The Concept of Sovereignty: | | Composition | 3 | | |
| | (a) Monistic | 2 | Functions; | | | |
| | (b) Pluralist | 2 | Chapter 7. Party System in India: | 2 | GE-2 Indian Government and Politics | (35) |
| | (c) Popular | 2 | Features | 2 | Chapter 5. Union Executive: President and Prime Minister: Powers and functions; | 4 |
| | Chapter 3- Liberty and Equality: Meaning and | | Trends; | 2 | Governor and Chief Minister: Powers and function | 4 |
| | | | Coalition Governments | 2 | | |
| | | 8. Electoral Process: Election Commission | 2 | | | |

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| January- June 2020 | their Inter-relationship | 2 | Introduction | | Chapter 6. Judiciary: Supreme Court and High Courts | 7 |
| | Introduction | | | | | 3 |
| | Meaning of Liberty and Equality | 2 | Composition and Functions; | 4 | Composition | |
| | | | Electoral Reforms | 2 | Functions; | 3 |
| | Types of Liberty and Equality | 4 | | | Chapter 7. Party System in India: | |
| | Inter-relationship of Liberty and Equality | 3 | SEC-2 | | Features | 2 |
| | | | Environmental Awareness | (16) | Trends; | 2 |
| | | | Chapter-3. Major Environmental Movements in India: | | Coalition Governments | 2 |
| | | | Introduction | | 8. Electoral Process: Election Commission | |
| | | | Chipko | 2 | Introduction | 2 |
| | | NarmadaBanchao | 2 | Composition and Functions; | 4 | |
| | | 4. Regional and international efforts to address climate change. | 5 | Electoral Reforms | | |
| | | Chapter-5: Green Governance: | 2 | SEC-4 | | |
| | | Sustainable Human Development | 3 | HumanRights Education | (17) | |
| | | | | 4. National Human Rights Commission IntroductionComposition and functions | 10 | |
| | | | | 5.Human Rights Movements in India – | | |
| | | | | Evolution | 2 | |
| | | | | Nature | 2 | |
| | | | | challenges and prospects | 3 | |

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DEPARTMENT OF ARABIC

TEACHING PLAN OF WASIM REJA Arabic (Honours)&Gen (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H)G | No. of Lecture | Sem-III (H)G | No. of Lecture | Sem-V (H)G | No. of Lecture |
|-------|---|----------------|--|----------------|--|----------------|
| Jul | Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 4 | Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa | 4 | Theory CC11: Prose (Modern Period unit 1) Unit 2: Marta al Bania | 5 |
| | CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat Unit :3 Sahih Hadith | | CC7: History of Arabic Literature in Egypt: Unit: A,B&C | | 5 | |
| | Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 2 | SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 | 2 | DSE1: History of Islam, Rhetoric, Prosody, & Philology Unit 1: History of Islam | 2 |
| | | | Theory: CC1C: Prose :(Islamic medieval & modern period) Unit :6 Sura Hujrat Unit:7 Sahih Hadith | | 3 | |
| Aug | Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 4 | Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa | 4 | Theory CC11: Prose (Modern Period unit 1) Unit 2: Marta al Bania | 3 |
| | CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat Unit :3 Sahih Hadith | | CC7: History of Arabic Literature in Egypt: Unit: A,B&C | | 6 | |
| | Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 3 | SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 | 2 | DSE1: History of Islam, Rhetoric, Prosody, & Philology Unit 1: History of Islam | 3 |
| | | | Theory: CC1C: Prose :(Islamic medieval & modern period) Unit :6 Sura Hujrat Unit:7 Sahih Hadith | | 1 | |
| Sept | Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 4 | Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa | 4 | Theory CC11: Prose (Modern Period unit 1) Unit 2: Marta al Bania | 4 |
| | CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat Unit :3 Sahih Hadith | | CC7: History of Arabic Literature in Egypt: Unit: A,B&C | | 5 | |
| | Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D. | 4 | SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 | 2 | DSE1: History of Islam, Rhetoric, Prosody, & Philology Unit 1: History of Islam | 2 |
| | | | Theory: CC1C: Prose :(Islamic medieval & modern period) Unit :6 Sura Hujrat Unit:7 Sahih Hadith | | 1 | |

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| | <p>Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 3 | <p>Theory: CC1C: Prose :(Islamic medieval & modern period) 2 Unit :6 Sura Hujrat Unit:7 Sahih Hadith</p> <p>SEC1: Grammar ,translation & latter writing Unit 1 1</p> | <p>Theory: SEC3: Specific literary feature of modern Arabic Literature 2</p> |
| Oct | <p>Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 3 | <p>Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa</p> <p>CC7: History of Arabic Literature in Egypt: Unit: A,B&C 3</p> <p>SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 1</p> | <p>Theory CC11: Prose (Modern Period unit 1) 3 Unit 2: Marta al Bania</p> <p>CC12: Poetry (Modern Period unit 1) 3 Unit 3: Ustaj Md. Abduhu</p> <p>DSE1: History of Islam, Rhetoric, Prosody, & Philology 3 Unit 1: History of Islam</p> |
| | <p>CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat Unit :3 Sahih Hadith</p> | 3 | | |
| | <p>Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 2 | <p>Theory: CC1C: Prose :(Islamic medieval & modern period) 1 Unit :6 Sura Hujrat Unit:7 Sahih Hadith</p> <p>SEC1: Grammar ,translation & latter writing Unit 1 1</p> | <p>Theory: SEC3: Specific literary feature of modern Arabic Literature 2</p> |
| Nov | <p>Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 4 | <p>Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa</p> <p>CC7: History of Arabic Literature in Egypt: Unit: A,B&C 6</p> <p>SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 2</p> | <p>Practical CC11: Prose (Modern Period unit 1) 3 Unit 2: Marta al Bania</p> <p>CC12: Poetry (Modern Period unit 1) 4 Unit 3: Ustaj Md. Abduhu</p> <p>DSE1: History of Islam, Rhetoric, Prosody, & Philology 4 Unit 1: History of Islam</p> |
| | <p>CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat Unit :3 Sahih Hadith</p> | 4 | | |
| | <p>Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 4 | <p>Theory: CC1C: Prose :(Islamic medieval & modern period) 2 Unit :6 Sura Hujrat Unit:7 Sahih Hadith</p> <p>SEC1: Grammar ,translation & latter writing Unit 1 1</p> | <p>Theory: SEC3: Specific literary feature of modern Arabic Literature 3</p> |
| Dec | <p>Theory: CC1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 3 | <p>Theory CC5: Unit:3 Two poetry of Hassan bin Thabit. Unit:4 A poetry of Abbas bin Mirdas from Hamasa</p> <p>CC7: History of Arabic Literature in Egypt: Unit: A,B&C 4</p> <p>SEC1: Translation & Composition (on the basis of Grammatical rules) UNIT: 1 2</p> | <p>Theory CC11: Prose (Modern Period unit 1) 4 Unit 2: Marta al Bania</p> <p>CC12: Poetry (Modern Period unit 1) 3 Unit 3: Ustaj Md. Abduhu</p> <p>DSE1: History of Islam, Rhetoric, Prosody, & Philology 2</p> |
| | <p>CC2:Arabic Prose (Islamic & Medieval) (Part-A) Unit :1 Tarjama Surah Hjrat</p> | 4 | | |
| | <p>Theory: GE1: A. Hist. of Arabic Literature(from Pre-Islamic to Umayyad Period Unit 1: Pre-Islamic Period (500-622 A. D.</p> | 4 | <p>Theory: CC1C: Prose :(Islamic medieval & modern period) 2 Unit :6 Sura Hujrat Unit:7 Sahih Hadith</p> <p>SEC1: Grammar ,translation & latter writing Unit 1 1</p> | <p>Theory: SEC3: Specific literary feature of modern Arabic Literature 3</p> |

Unit :3 Sahih Hadith

Theory:

GE1: A. Hist. of Arabic Literature (from Pre-Islamic to Umayyad Period

Unit 1: Pre-Islamic Period (500-622 A. D.

2

Theory:

CC1C: Prose :(Islamic medieval & modern period) 2

**Unit :6 Sura Hujrat
Unit:7 Sahih Hadith**

SEC1: Grammar ,translation & latter writing

Unit 1 1

Unit 1: History of Islam

Theory:

SEC3: Specific literary feature of modern Arabic Literature 2

Sem-II (H)G

Theory:

CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.),Gram. &Trans .:

A.Hist. of Arabic Lit. (Abbasid Period -750-1258) & Indian Arabic Lit.)

Unit : a) & b)

4

Sem-IV (H)G

Theory:

CC8: Poetry (Abbasid & Fatimid) المتنبّي نعد المشرفية والعوالي 2)

(Poetry of Mutanabbi)
CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A

4

3

Sem-VI (H)G

Theory:

CC13: Prose (Modern Period Unit -II) الثقافة الهندية أحمد أمين 3)

CC14: Poetry (Modern Period Unit -II) صلوات في هيكل الحب أبو 4) القاسم الشابي

4

3

Jan

CC4: Arabic Prose (Islamic & Medieval) (Part-B)

Unit 1: خطبة عمر (رض) في الحكم (khutbah umar)
Unit 3: القضاء و القدر: (al kada wa al kadar)

4

CC10: Development of Modern Arabic Novel, short-story, Drama & Formation of Literary Groups **A & B**

5

Theory:

DSE3: Outline History of Modern Arab World & Composition Group-A

2

DSE-1B Outline History of Modern Arab World

2

Theory:

GE2: A. History of Arabic Literature (Abbasid Period, 750-1258 A.D.), Grammar & Translation

Abbasid Period : (1) PROSE Literature with special reference to Ibn-ul-Muqaffa , Al-Jahiz, Al-Hariri and Al-Hamazan

3

SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1)

2

Theory:

CC1D: Poetry : (Islamic, medieval, & Modern Period))

1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم
2) الحماسة العباس بن مرداس السلمى 5)

2

2

SEC2: Grammar ,translation & latter writing Unit-a)

Theory

CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.),Gram. &Trans .:

A.Hist. of Arabic Lit. (Abbasid Period -750-1258) & Indian Arabic Lit.)

Unit : a) & b)

3

Theory

CC8: Poetry (Abbasid & Fatimid) المتنبّي نعد المشرفية والعوالي 2)

(Poetry of Mutanabbi)
CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A

3

4

2

Theory

CC13: Prose (Modern Period Unit -II) الثقافة الهندية أحمد أمين 3)

CC14: Poetry (Modern Period Unit -II) صلوات في هيكل الحب أبو 4) القاسم الشابي

3

3

Feb

CC4: Arabic Prose (Islamic & Medieval) (Part-B)

Unit 1: خطبة عمر (رض) في الحكم
Unit 3: القضاء و القدر

3

CC10: Development of Modern Arabic Novel, short-story, Drama & Formation of Literary Groups **A & B**

2

Theory:

DSE3: Outline History of Modern Arab World & Composition Group-A

3

DSE-1B Outline History of Modern Arab World

2

Theory:

GE2: A. History of Arabic Literature (Abbasid Period, 750-1258 A.D.), Grammar & Translation

Abbasid Period : (1) PROSE Literature with special reference to Ibn-

SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 2

Theory:

CC1D: Poetry : (Islamic, medieval, & Modern Period)

1) حسان بن ثابت وقال يرثي النبي صلى الله

| | | | | |
|--|--|---|--|------------|
| | ul-Muqaffa , Al-Jahiz, Al-Hariri and Al- Hamazan 2 | عليه وسلم الحماسة العباس بن مرداس السلمي (5) SEC2: Grammar ,translation & latter writing Unit-a) | | |
| | Theory CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.),Gram. &Trans . : A.Hist. of Arabic Lit. (Abbasid Period -750- 1258) & Indian Arabic Lit.) Unit : a) & b) CC4: Arabic Prose (Islamic & Medieval) (Part-B) Unit 1: خطبة عمر (رض) في الحكم Unit 3: القضاء و القدر | Theory: CC8: Poetry (Abbasid & Fatimid) 2) المتنبي نعد المشرفية والعوالي (2) (Poetry of Mutanabbi) CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A CC10: Development ofModern Arabic Novel, short-story, Drama & Formation of Literary Groups A & B SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1) Theory: CC1D: Poetry : (Islamic, medieval, & Modern Period) 1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم الحماسة العباس بن مرداس السلمي (5) 2 SEC2: Grammar ,translation & latter writing Unit-a) 2 | Theory CC13: Prose (Modern Period Unit -II) 3 الثقافة الهندية أحمد أمين (3) CC14: Poetry (Modern Period Unit -II) 3 صلوات في هيكل الحب أبو (4) القاسم الشابي Theory: DSE3: Outline History of Modern Arab World & Composition Group-A 3 DSE-1B Outline History of Modern Arab World 2 | Mar |
| | Theory CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.),Gram. &Trans . : A.Hist. of Arabic Lit. (Abbasid Period -750- 1258) & Indian Arabic Lit.) Unit : a) & b) CC4: Arabic Prose (Islamic & Medieval) (Part-B) Unit 1: خطبة عمر (رض) في الحكم Unit 3: القضاء و القدر | Theory: CC8: Poetry (Abbasid & Fatimid) 2) المتنبي نعد المشرفية والعوالي (2) (Poetry of Mutanabbi) CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A CC10: Development ofModern Arabic Novel, short-story, Drama & Formation of Literary Groups A & B SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1) Theory: CC1D: Poetry : (Islamic, medieval, & Modern Period) 1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم الحماسة العباس بن مرداس السلمي (5) 2 SEC2: Grammar ,translation & latter writing Unit-a) 2 | Theory CC13: Prose (Modern Period Unit -II) 3 الثقافة الهندية أحمد أمين (3) CC14: Poetry (Modern Period Unit -II) 3 صلوات في هيكل الحب أبو (4) القاسم الشابي Theory: DSE3: Outline History of Modern Arab World & Composition Group-A 3 DSE-1B Outline History of Modern Arab World 2 | Apr |
| | Theory CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.),Gram. &Trans . : A.Hist. of Arabic Lit. (Abbasid Period -750- 1258) & Indian Arabic Lit.) Unit : a) & b) CC4: Arabic Prose (Islamic & Medieval) (Part-B) Unit 1: خطبة عمر (رض) في الحكم Unit 3: القضاء و القدر | Theory: CC8: Poetry (Abbasid & Fatimid) 2) المتنبي نعد المشرفية والعوالي (2) (Poetry of Mutanabbi) CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A CC10: Development ofModern Arabic Novel, short-story, Drama & Formation of Literary Groups A & B SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1) Theory: CC1D: Poetry : (Islamic, medieval, & Modern Period) 1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم الحماسة العباس بن مرداس السلمي (5) 2 SEC2: Grammar ,translation & latter writing Unit-a) 2 | Theory CC13: Prose (Modern Period Unit -II) 3 الثقافة الهندية أحمد أمين (3) CC14: Poetry (Modern Period Unit -II) 3 صلوات في هيكل الحب أبو (4) القاسم الشابي Theory: DSE3: Outline History of Modern Arab World & Composition Group-A 3 DSE-1B Outline History of Modern Arab World 2 | May |

CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.), Gram. & Trans . :

A.Hist. of Arabic Lit. (Abbasid Period -750-1258) & Indian Arabic Lit.)

Unit : a) & b)

CC4: Arabic Prose (Islamic & Medieval) (Part-B)

Unit 1: خطبة عمر (رض) في الحكم

Unit 3: القضاء و القدر

Theory:

GE2: A. History of Arabic Literature (Abbasid Period, 750-1258 A.D.) , Grammar & Translation

Abbasid Period : (1) PROSE Literature with special reference to Ibn-ul-Muqaffa , Al-Jahiz, Al-Hariri and Al-Hamazan

Theory

CC3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.), Gram. & Trans . :

A.Hist. of Arabic Lit. (Abbasid Period -750-1258) & Indian Arabic Lit.)

Unit : a) & b)

CC4: Arabic Prose (Islamic & Medieval) (Part-B)

Unit 1: خطبة عمر (رض) في الحكم

Unit 3: القضاء و القدر

Theory:

GE2: A. History of Arabic Literature (Abbasid Period, 750-1258 A.D.) , Grammar & Translation

Abbasid Period : (1) PROSE Literature with special reference to Ibn-ul-Muqaffa , Al-Jahiz, Al-Hariri and Al-Hamazan

Wasim Raza

Signature of the Teacher

CC8: Poetry (Abbasid & Fatimid) المتنبّي نعد المشرفية والحوالي (2) **(Poetry of Mutanabbi)**

CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A

CC10: Development of Modern Arabic Novel, short-story, Drama & Formation of Literary Groups **A & B**

SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1)

Theory:

CC1D: Poetry : (Islamic, medieval, & Modern Period)

1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم

5) الحماسة العباس بن مرداس السلمي

SEC2: Grammar ,translation & latter writing Unit-a)

Theory

CC8: Poetry (Abbasid & Fatimid) المتنبّي نعد المشرفية والحوالي (2) **(Poetry of Mutanabbi)**

CC9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation 1- History of Mahjarite literature in North+South America /Adabul Mahjar A

CC10: Development of Modern Arabic Novel, short-story, Drama & Formation of Literary Groups **A & B**

SEC2: Translation & Interpretation (from English into Arabic & vice versa from News papers) & Communicative Skill: 1)

Theory:

CC1D: Poetry : (Islamic, medieval, & Modern Period)

1) حسان بن ثابت وقال يرثي النبي صلى الله عليه وسلم

5) الحماسة العباس بن مرداس السلمي

SEC2: Grammar ,translation & latter writing Unit-a)

CC13: Prose (Modern Period Unit -II) الثقافة الهندية أحمد أمين (3)

CC14: Poetry (Modern Period Unit -II) صلوات في هيكل الحب أبو (4) القاسم الشابي

Theory:

DSE3: Outline History of Modern Arab World & Composition Group-A

DSE-1B Outline History of Modern Arab World

Theory:

CC13: Prose (Modern Period Unit -II) الثقافة الهندية أحمد أمين (3)

CC14: Poetry (Modern Period Unit -II) صلوات في هيكل الحب أبو (4) القاسم الشابي

Theory:

DSE3: Outline History of Modern Arab World & Composition Group-A

DSE-1B Outline History of Modern Arab World

Department of Arabic,
Suri Vidyasagar College

DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF HEMANTA SUTRADHAR
Geography (GENERAL/GE) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|----------------|---|----------------|--|----------------|
| Jul | Theory: CCIA Geomorphology and Cartography Unit 1: 1. Weathering: Types and related landforms. | 5 | Theory CC 1C: Human Geography Unit 1: 3. Eskimos: Adjustment to the environment and recent development | 2 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 1. Physical Setting – Landforms, Drainage, Climate | 5 |
| | Practical CCIA Geomorphology and Cartography Unit 2: 3. Composite bar diagram and age- sex pyramid. | 2 | Practical CC 1C: Unit II: Map Projection and Map interpretation 3. Interpretation of Topographical maps: Relation between Physiography, drainage and settlement | 3 | 2. Population – Size and Growth since Independence | 5 |
| Aug | Theory: CCIA Geomorphology and Cartography Unit 1: 7. Fluvial Cycle of Erosion – Davis and Penck Practical | 5 | Theory CC 1C: Human Geography Unit 1: 3. Eskimos: Adjustment to the environment and recent development | 3 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 3. Settlement – Rural and Urban Types | 5 |
| | CCIA Geomorphology and Cartography Unit 2: 3. Composite bar diagram and age- sex pyramid. | 3 | Practical CC 1C: Unit II: Map Projection and Map interpretation 3. Interpretation of Topographical maps: Relation between Physiography, drainage and settlement | 2 | 4. Agricultural Resource: Rice and Wheat and Cotton | 5 |
| Sept | Theory: CCIA Geomorphology and Cartography 8. Hydrological Cycle and ground water. Practical | 5 | Theory CC 1C: Human Geography Unit 1: 4. Population: Population Growth and Demographic Transition Theory | 3 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 5. Mineral Resource - Iron ore and Bauxite | 5 |
| | CCIA Geomorphology and Cartography Unit 2: 4. Taylor's Climograph and | 3 | Practical CC 1C: Unit II: Map Projection and Map interpretation 4. Interpretation of weather | 2 | | |

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| | Hythergraph | | maps | | | |
| Oct | Practical CC1A Geomorphology and Cartography Unit 2: 4. Taylor's Climograph and Hythergraph | 2 | Theory CC 1C: Human Geography Unit 1: 4. Population: Population Growth and Demographic Transition Theory Practical CC 1C: Unit II: Map Projection and Map Interpretation 4. Interpretation of weather maps | 2 3 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 6. Energy Resources: Coal and Petroleum | 5 |
| Nov | Practice classes | 5 | Theory CC 1C: Human Geography Unit 1: 5. Types of population migration with reference to India Practice classes | 5 5 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 7. Industries: Cotton Textile and Iron and Steel Practice classes | 5 5 |
| Dec | Special class | 5 | Theory Theory CC 1C: Human Geography Unit 1: 6. World Population Distribution and Composition (Age, Gender and Literacy) Special class | 5 5 | Theory DSE-1A : GEOGRAPHY OF INDIA UNIT: 1 8. Regional Account of Sunderban and Marusthali Special class | 5 5 |
| | Sem-II (G) | | Sem-IV (G) | | Sem-VI (G) | |
| Jan | Practical Surveying and Levelling Unit II: 1. Definition and classification of surveying | 5 | Theory CC - 1D Environmental Geography 1. Concepts and approaches of Environmental Geography: 2. Concept, Structure and Functions of Ecosystem Practical CC-1D ENVIRONMENTAL GEOGRAPHY 1. Questionnaire for Air Pollution and Health | 5 5 5 | Theory DSE- 1B : Disaster Management UNIT: 1 7. Cyclone: Causes, Consequences and Management SEC-4 : Collection, Mapping and Interpretation of Pedological Data 1. Soil Sampling Techniques Practical DSE- 1B : Disaster | 3 6 5 |

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| | | | Perception Survey | | Management Project Work Unit: 2 | |
| Feb | Practical Surveying and Levelling Unit II: 2. Plane table survey by radiation method. | 2 | Theory CC – 1D Environmental Geography 3. Human-Environment Relationship in Mountain and Coastal Regions 4. Environmental Problems and Management: Air and Water Pollution Practical CC-1D ENVIRONMENTAL GEOGRAPHY 2. Soil Test using Kit : pH and Organic Carbon | 5 5 5 | Theory DSP- 1B : Disaster Management UNIT: 1 7. Cyclone: Causes, Consequences and Management SEC-4 : Collection, Mapping and Interpretation of Pedological Data 2. Representation of Soil Texture Data using Ternary Diagram Practical DSE- 1B : Disaster Management Project Work Unit: 2 | 2 6 5 |
| Mar | Practical Surveying and Levelling Unit II: 2. Plane table survey by radiation method. | 3 | Theory CC-1D, ENVIRONMENTAL GEOGRAPHY 5. Environmental Programmes and Policies: MAB Practical CC-1D: ENVIRONMENTAL GEOGRAPHY 3. Mapping of Wetlands from Topographical Sheet | 5 5 | Theory DSE- 1B : Disaster Management UNIT: 1 8. Flood: Causes, Consequences and Management SEC-4 : Collection, Mapping and Interpretation of Pedological Data 3. Estimation of Nitrogen using Soil Kit Practical DSE- 1B : Disaster Management Project Work Unit: 2 | 2 7 5 |
| Apr | Practical | | Theory | | Theory DSE- 1B : Disaster | |

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| | Surveying and Levelling Unit II: 3. Open and close traversing by Prismatic Compass | 5 | CC-ID, ENVIRONMENTAL GEOGRAPHY 6. Forest and Wild Life Policy of India Practical CC-ID: ENVIRONMENTAL GEOGRAPHY 4. Mapping of Forest from Topographical Sheet | 5 5 | Management UNIT: 1 8. Flood: Causes, Consequences and Management SEC-4 : Collection, Mapping and Interpretation of Pedological Data 4. Estimation of Soil pH using Soil Kit Practical DSE- ID : Disaster Management Project Work Unit: 2 | 3 7 5 |
| May | Practical Surveying and Levelling Unit II: 4. Drawing of longitudinal profile by Dumpy level Practice classes | 5 5 | Theory CC-ID, ENVIRONMENTAL GEOGRAPHY 7. Environmental Movements in India: Chipko Practice classes | 5 5 | SEC-4 : Collection, Mapping and Interpretation of Pedological Data 5. Estimation of Soil Organic Carbon using Soil Kit Practice classes | 7 5 |
| June | Special class | 5 | Theory CC-ID, ENVIRONMENTAL GEOGRAPHY 8. Wetlands: Ramsar Sites in India Special class | 5 5 | Theory DSE-3 (Theoretical): RESOURCE GEOGRAPHY Unit 2: 5. Contemporary Energy Crisis and Future Scenario 6. Sustainable Resource Development SEC-4 : Collection, Mapping and Interpretation of Pedological Data 6. Analysis and Mapping – pH and Organic Carbon | 5 5 7 |

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Demasita Schuster

Department of Geography
Baruch College

DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF CHAITALI GORAI
Geography (GENERAL/GE) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|---|----------------|--|----------------|--|----------------|
| Jul | Theory CCI-A: Geomorphology and Cartography 4. Landform development in arid regions | 3 | Theory CC 1C: Human Geography Unit 1: 1. Definition, Nature, Major Subfields, Contemporary Relevance | 2 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 1. Scope and Content of Economic Geography 2. Von Thunen Theory of Land Use | 5 5 |
| Aug | Theory CCI-A: Geomorphology and Cartography 4. Landform development in arid regions | 2 | Theory CC 1C: Human Geography Unit 1: 1. Definition, Nature, Major Subfields, Contemporary Relevance | 3 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 3. Theory of Industrial Location - Weber 4. Types of Farming | 5 5 |
| Sept | Theory CCI-A: Geomorphology and Cartography 5. Landform development in glaciated regions. | 3 | Theory CC 1C: Human Geography Unit 1: 2. Space and Society: Cultural Regions; Race; Religion and Language | 3 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 5. Intensive Subsistence Farming and Plantation Agriculture | 5 |
| Oct | Theory CCI-A: Geomorphology and Cartography 5. Landform development in glaciated regions. | 2 | Theory CC 1C: Human Geography Unit 1: 2. Space and Society; Cultural Regions; Race; Religion and Language | 2 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 6. Commercial Fishing | 5 |
| Nov | Theory CCI-A: Geomorphology and Cartography 6. Development of fluvial landforms | 3 | Theory CC 1C: Human Geography Unit 1: 7. Settlements: Types and Patterns of Rural Settlements; Practice classes | 5 5 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 7. Mining (iron ore, coal and petroleum) Practice classes | 5 5 |

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| Dec | Theory CCI-A: Geomorphology and Cartography | 2 | Theory Theory CC 1C: Human Geography Unit 1: 8. Classification of Urban Settlements; Functional classification of towns | 5 | Theory DSE 1A : ECONOMIC GEOGRAPHY UNIT: 1 8. Cotton Textile Industry, Petro- Chemical Industry | 5 |
| | | | Special class | | 5 | |
| Sem-II (G) | | | Sem-IV (G) | | Sem-VI (G) | |
| Jan | Theory CC - 1B Climatology, Soil and Biogeography Unit 1: 1. Elements of weather and climate, Thermal and chemical composition and layering of the atmosphere. | 5 | | | Theory DSE- 1B : Disaster Management UNIT: 1 1. Meaning and Classification of Hazards and Disasters. | 3 |
| | 2. Horizontal and vertical distribution of temperature | 5 | | | | |
| Feb | Theory CC - 1B Climatology, Soil and Biogeography Unit 1: 3. Forms of precipitation and types of rainfall | 5 | | | Theory DSE- 1B : Disaster Management UNIT: 1 1. Meaning and Classification of Hazards and Disasters. | 2 |
| | 4. Tropical and Temperate Cyclones, Climatic Classification (Koppen) | 5 | | | | |
| Mar | Theory CC - 1B Climatology, Soil and Biogeography Unit 1: 5. Definition of soil. Physical and chemical properties of soil (soil texture, colour and pH) | 5 | | | Theory DSE- 1B : Disaster Management UNIT: 1 2. Approaches to hazard study: Risk perception and vulnerability assessment. | 2 |

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| Apr | <p>Theory CC - 1B Climatology, Soil and Biogeography Unit I: 6. Soil forming factors. Soil formation (Podzol and Laterite)</p> | 5 | | | <p>Theory DSE- 1B : Disaster Management UNIT: 1 2. Approaches to hazard study: Risk perception and vulnerability assessment.</p> | 3 |
| May | <p>Theory CC - 1B Climatology, Soil and Biogeography Unit I: 7. Definition of Biosphere and Biogeography. Meaning of Ecology, Ecosystem, Environment, Ecotone, Communities, Habitats and Biotopes. Practice classes</p> | 5 | | | <p>Theory DSE- 1B : Disaster Management UNIT: 1 3. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building. Practice classes</p> | 5 5 |
| June | <p>Theory CC - 1B Climatology, Soil and Biogeography Unit I: 8. Biomes: Rainforest and Temperate Grassland. Special class</p> | 5 5 | | | <p>Theory DSE- 1B : Disaster Management UNIT: 1 4. Hazard mapping: Data and techniques. Special class</p> | 5 5 |

Chaitali Gorai
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DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF RANAJIT GHOSH
Geography (GENERAL/GE) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|--|---|----------------|---|----------------|
| Jul | Theory: CC1A Geomorphology and Cartography Unit 1: 2. Lithosphere – Internal Structure of Earth based on Seismic Evidence, Practical CC1A Geomorphology and Cartography Unit 2: 1. Linear and Comparative scale | 3 2 | Practical CC 1C: Unit II: Map Projection and Map Interpretation 1. Simple Conical projection with one standard parallel | 3 | Practical SEC 1 – Computer Basics and Computer Applications 1. Numbering Systems, Binary Arithmetic | 5 |
| Aug | Theory: CC1A Geomorphology and Cartography Unit 1: 2. Lithosphere – Internal Structure of Earth based on Seismic Evidence, Practical CC1A Geomorphology and Cartography Unit 2: 1. Linear and Comparative scale | 2 3 | Practical CC 1C: Unit II: Map Projection and Map Interpretation 1. Simple Conical projection with one standard parallel | 2 | Practical SEC 1 – Computer Basics and Computer Applications 2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation. | 3 |
| Sept | Theory: CC1A Geomorphology and Cartography Unit 1: 3. Plate Tectonics and its associated landforms Practical CC1A Geomorphology and Cartography Unit 2: | 3 | Practical CC 1C: Unit II: Map Projection and Map interpretation 2. Cylindrical Equal Area projection | 2 | Practical SEC 1 – Computer Basics and Computer Applications 2. Data Computation, Storing and Formatting in Spreadsheets: | 5 |

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| | 5. Definition of soil. Physical and chemical properties of soil (soil texture, colour and pH) | 5 | 1. Definition of Region; Types of Regions | 5 | UNIT: 1 5. Earthquake: Causes, Consequences and Management | 3 |
| Feb | Theory CC 2 Unit 1: 6. Soil forming factors. Soil formation (Podzol and Laterite) | 5 | SEC-2:Regional Planning and Development 2. Regional Planning – Concept and Significance 3. Human Development Index – Concept and Indicators | 5 2 | Theory DSE- 1B : Disaster Management UNIT: 1 5. Earthquake: Causes, Consequences and Management | 2 |
| Mar | Theory CC 2 Unit 1: 7. Definition of Biosphere and Biogeography. Meaning of Ecology, Ecosystem.Environment, Ecotone, Communities, Habitats and Biotopes. | 5 | SEC-2:Regional Planning and Development 3. Human Development Index – Concept and Indicators 4. Agricultural Development in India Since 1970s | 3 5 | Theory DSE- 1B : Disaster Management UNIT: 1 8. Flood: Causes, Consequences and Management SEC-4 : Collection, Mapping and Interpretation of Pedological Data 3. Estimation of Nitrogen using Soil Kit Practical DSE- 1B : Disaster Management Project Work Unit: 2 | 2 7 5 |
| Apr | Theory CC 2 Unit 1: 8. Biomes: Rainforest and Temperate Grassland. | 5 | SEC-2:Regional Planning and Development 5. Industrial Development in India Since 1990s 6. Planning Region: DVC | 5 3 | Theory DSE- 1B : Disaster Management UNIT: 1 6. Landslide: Causes, Consequences and Management | 3 |
| May | Practice classes | 5 | SEC-2:Regional Planning and Development 6. Planning Region: DVC 7. Preparation of Questionnaire on Sanitation and Health | 2 5 | Theory DSE- 1B : Disaster Management UNIT: 1 6. Landslide: Causes, Consequences and Management Practice classes | 2 5 |
| June | Special class | 5 | SEC-2:Regional Planning and Development 8. Preparation of | 5 | Special class | 5 |

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| | | Questionnaire on Waste Management | | | |
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Ranjit Ahoo
Department of Geography,
SriVidyasagar College

Chaitali Ghosal
Head of the Department,
Department of Geography,
SriVidyasagar College



DEPARTMENT OF PHYSICAL EDUCATION

**Teaching Plan of Mr. Bappa Sanguin
Physical Education (General) (2018-19) (July 2018 – June 2019)**

| Month | Sem-I (Gen) | No. of Lecture | Sem-III (Gen) | No. of Lecture | Sem-V (Gen) | No. of Lecture |
|-------------|--|--------------------|---|--------------------|--|--------------------------------------|
| | PAPER-1: Foundation and History of Physical Education Corse Code- CC1A Total number of classes – 30+6 | | CORE PAPER- 3: Anatomy, Physiology and Exercise Physiology Corse Code- CC1C Total number of classes - 60 | | Tests, Measurements and Evaluation in Physical Education Course code: DSE 1 Total number of classes – 60 & Modern Trends and Practices in Physical Education Exercise Sciences (For the students other than Physical Education) Course code: GE1 Total number of classes – 60 | |
| Jul | <u>Theory</u> Unit- I: Introduction 1.1. Meaning and definition of Physical Education. <u>Practical</u> Learn and demonstrate the technique of Suryanamaskar. | 2 3 | <u>Theory</u> Unit- I: Introduction 1.1 Meaning and definition of Anatomy, Physiology and Exercise Physiology. 1.2. Importance of Anatomy, Physiology and Exercise Physiology in Physical Education. | 6 8 | <u>Theory</u> Unit- I: Introduction Course code: DSE 1 1.1. Concept of test, measurement & Evaluation. 1.2. Criteria of good test. Course code: GE1 Unit- I: Introduction 1.1. Meaning, definition and importance of physical Education and Sports. 1.2. Aims, objectives and scope of Physical Education. Indian Games and Racket Sports Course Code: SEC3 BADMINTON A. Fundamental skills 1. Basic Knowledge: Various parts of the Racket and Grip. 2. Service: Short service, Long service, Long-high service. 3. Shots: Over head shot, Defensive clear shot, Attacking clear shot, Drop shot, Net shot, Smash. | 6 10 7 |
| Aug | <u>Theory</u> 1.2. Aim and objectives of Physical Education. 1.3. Modern concept of Physical Education. <u>Practical</u> Learn and demonstrate the technique of Suryanamaskar. | 7 3 | <u>Theory</u> 1.1. Human Cell- Structure and function. 1.2. Tissue- Types and functions. <u>LAB PRACTICAL</u> 1. Assessments of BMI and WHR. | 8 4 | <u>Theory</u> Course code: DSE 1 1.3. Principles of Evaluation. 1.4. Importance of Test, Measurement and Evaluation in Physical Education and Sports. Course code: GE1 Unit- I: Introduction 1.2. Types of sports and their utility in physical education. 1.4. Meaning, definition and importance of Physical fitness and Motor fitness. Difference between physical fitness and motor fitness. Components of Physical fitness. | 7 8 |
| Sept | <u>Theory:</u> 1.4. Importance of Physical Education. | 3 | <u>Theory</u> Unit- II: Musculo-skeletal System 2.1. Skeletal System- Structure of Skeletal | | <u>Theory</u> Course code: DSE 1 Unit- II:Measurements of Body Compositions and Somatotype | |

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| | <p>Practical</p> <p>Learn and demonstrate the technique of Suryanamaskar.</p> | 4 | <p>System. Classification and location of bones and joints. Anatomical differences between male and female.</p> <p>LAB PRACTICAL</p> <p>2. Assessment of Heart rate, Blood Pressure, Respiratory Rate, and Pick Flow Rate (any two).</p> | 8 | <p>Assessment</p> <p>Body Mass Index (BMI)- Concept and method of measurement.</p> <p>Course code: GE1 Unit- II: Biological, Psychological and Sociological Foundations of Physical Education</p> <p>2.1. Biological Foundation- Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.</p> <p>2.2. Meaning and definition of Psychology. Importance of Psychology in Physical Education. Qualities of good leader in Physical Education. Principles of leadership activities.</p> <p>LAB & FIELD PRACTICAL</p> <p>1. Assessment of somatotype and % body fat (any one).</p> | 2 |
| Oct | <p>Unit- II: Biological and Sociological Foundations of Physical Education</p> <p>2.1. Biological Foundation- Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.</p> | 5 | <p>Theory</p> <p>2.2. Muscular System- Type, location, function and structure of muscle.</p> <p>Practical: Track and Field Course code: SEC 1</p> <p>1. Track Events 1.1. Starting Techniques: Standing start and Crouch start (its variations) use of Block. 1.2. Acceleration with proper running techniques.</p> | 4 | <p>Theory Course code: DSE 1</p> <p>2.1. Body Fat- Concept and method of measurement. 2.2. Lean Body Mass (LBM)- Concept and method of measurement.</p> <p>Course code: GE1 Unit- II: Biological, Psychological and Sociological Foundations of Physical Education</p> <p>2.3. Sociological Foundation- Meaning and definition of Sociology. Social values and their Importance. Socialization Through Sports</p> <p>LAB & FIELD PRACTICAL</p> <p>2. Assessment of AAHPER Youth Fitness Test and Harvard Step Test (any one).</p> | 8 |
| Nov | <p>Theory:</p> <p>2.2. Age- Chronological age, anatomical age, physiological age and mental age.</p> | 3 | <p>Theory</p> <p>2.3. Types of muscular contraction.</p> <p>Practical: Track and Field Course code: SEC 1</p> <p>1.3. Finishing technique: Run Through, Forward Lunging and Shoulder Shrug. 1.4. Relay Race: Starting, Baton Holding/Carrying, Baton Exchange in between zone, and Finishing.</p> | 2 | <p>Theory Course code: DSE 1</p> <p>2.3. Somatotype- Concept and method of measurement</p> <p>Course code: GE1</p> <p>2.4. Role of games and sports in National and International integration.</p> <p>Course Code: SEC3</p> <p>4. Game practice with application of Rules and Regulations. B. Rules and their interpretations and duties of the officials.</p> | 2 |
| Dec | <p>Theory:</p> <p>2.3. Sociological Foundation- Meaning and definition of Sociology, Society and</p> | 3 | <p>Theory</p> <p>2.4. Effect of exercise on muscular system.</p> <p>Practical:</p> | 2 | <p>Group discuss & class exam</p> <p>Tests, Measurements and Evaluation in Physical</p> | 4 |

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| | Socialization. 2.4. Role of games and sports in National and International integration. | 2 | Track and Field Course code: SEC 1 2. Field events (any two) 2.1. Long Jump: Approach Run, Take-off, Flight in the air (Hang Style/Hitch Kick) and Landing. 2.2. High jump: Approach Run, Take-off, Bar Clearance (Straddle) and Landing. 2.3. Shot put: Holding the Shot, Placement, Initial Stance, Glide, Delivery Stance and Recovery (Perry O'Brien Technique). 2.4. Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release and Recovery (Rotation in the circle). 2.5. Javelin Throw: Grip, Carry, Release and Recovery (3/5 Impulse stride). | 5 | Education Course code: DSE 1 & Modern Trends and Practices in Physical Education Exercise Sciences (For the students other than Physical Education) Course code: GE1 | 1 |
| | Sem-II (Gen) | | Sem-IV (Gen) | | Sem-VI (Gen) | |
| Jan | CORE PAPER- 2: Management of Physical Education and Sports Corse Code- CC1B Total number of classes – 60 Theory: Unit- I: Introduction 1.1. Concept and definition of Sports Management. 1.2. Important of Sports Management Practical Introduction: FIELD PRACTICAL Lay out knowledge and Officiating ability 1. Track and Field events (any one). 2. Games: Football, Kabaddi, Kho-Kho and Volleyball (any one) | 4 | CORE PAPER- 4: Health Education, Physical Fitness and Wellness Corse Code- CC1D Total number of classes – 60 Theory: Unit- I: Introduction 1.1. Concept, definition and dimension of Health. 1.2. Definition, aim, objectives and principles of Health Education. Practical LAB PRACTICAL 1. First-aid Practical- Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica. | 4 | Psychology in Physical Education and Sports Corse Code- DSE2 Total number of classes – 60 Theory: Unit- I: Introduction. 1.1. Meaning and definition Psychology. 1.2. Importance and scope of Psychology. Health Education and Tests & Measurements in Physical Education (For the students other than Physical Education) Course Code: GE-2 Total number of classes – 60 Unit- I: Introduction. 1.1. Concept, definition and dimension of Health. 1.2. Definition, aim, objectives and principles of Health Education. Practical LAB PRACTICAL 1. Assessment of Personality, Stress and Anxiety. | 4 |
| | | | | 5 | | 4 |
| Feb | Theory: 1.3. Purpose of Sports Management. 1.4. Principles of Sports Management. Practical FIELD PRACTICAL Lay out knowledge and Officiating ability 1. Track Event. | 3 | Theory: 1.3. Health Agencies- World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO). 1.4. School Health Program- Health Service, Health Instruction, Health Supervision, Health appraisal and Health Record. Practical LAB PRACTICAL 2. Practical knowledge on Hydro-therapy and Thermo-therapy | 8 | Theory: 1.3. Meaning and definition Sports Psychology. 1.4. Need for knowledge of Sports Psychology in the field of Physical Education. Course Code: GE-2 1.3. Health Agencies- World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO). Practical LAB PRACTICAL 2. Measurement of Reaction Time, Depth Perception and Mirror Drawing (any one). | 4 |
| | | 3 | | 3 | | 4 |
| Mar | Theory: Unit- III: Facilities and Equipments 3.1 Method of calculation of Standard Athletic Track | 3 | Theory: 2.1. Communicable Diseases- Malaria, Dengue and Chicken Pox. 2.2. Non-communicable Diseases- Obesity, Diabetes and AIDS. Practical | 4 | Theory: Unit- II: Learning 2.1. Meaning and definition of learning. 2.2. Theories of learning and | 4 |
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| | | | | | throwing and deflecting. | |
| June | <p><u>Theory:</u></p> <p>3.4 Time Table: Meaning, importance and factors affecting Time Table.</p> <p><u>Practical</u></p> <p>FIELD PRACTICAL Lay out knowledge and Officiating ability, Kabaddi.</p> | 3 | <p><u>Theory:</u></p> <p>Discuss with students & class exam.</p> <p><u>Practical</u></p> <p>3.3. Supine Position 3.3.1. Setubandhasana 3.3.2. Halasana 3.3.3. Matsyasana</p> <p>4. Pranayama 4.1. Kapalbhathi 4.2. Bhramri 4.3. Anulam Vilom</p> | 1 | <p><u>Theory:</u></p> <p>Discuss about theory part and internal exam.</p> <p>Course Code: GE-2 3.4 Somatotype- Concept and method of Assessment.</p> <p>BALL GAMES Course code: SEC4 FOOTBALL</p> <p>9. Game practice with application of Rules and Regulations. B. Rules and their interpretation and duties of officials.</p> | 1 |
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DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF HEMANTA SUTRADHAR
Geography (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 1. Degradational processes: Weathering, mass wasting and resultant landforms CC-2: Cartographic Techniques and Geological map study 7. Types of rocks and minerals. Characteristics of Granite, Basalt, Dolerite, Pegmatite, Gneiss, Shale, Sandstone, Slate, Marble, Quartzite, Quartz, Feldspar, Mica, Limestone, Calcite, Bauxite, Magnetite, Hematite, Galena | 4 | Theory CC7: GEOGRAPHY OF INDIA Unit 1: Geography of India 1. Geology and physiographic divisions 2. Climate, soil and vegetation: Characteristics and classification | 2 | Theory CC-11. RESEARCH METHODOLOGY AND FIELD WORK Unit 1: Research Methodology 1. Research in Geography: Meaning, types and significance DSE-2 : POPULATION GEOGRAPHY Unit 1: 1. Development of Population Geography; Relation between Population Geography and Demography 2. Determinants of Population Dynamics; Concept of Optimum Population | 5 |
| | | 3 | | 3 | | 2 |
| | Practical CC2 (Practical) Cartographic Techniques and Geological map study 4. Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map. | 3 | | 3 | | |
| Aug | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 2. Models of landscape evolution: Views of Davis, Penck, and Hack CC-2: Cartographic Techniques and Geological map study | 3 | Theory CC7: GEOGRAPHY OF INDIA Unit 1: Geography of India 3. Population: Distribution, growth, structure and policy 4. Distribution of population by race, caste, religion, language, tribes | 2 3 | Theory CC-11. RESEARCH METHODOLOGY AND FIELD WORK Unit 1: Research Methodology 2. Significance of Literature review in research DSE-2 : POPULATION | 5 |

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| | <p>7. Types of rocks and minerals. Characteristics of Granite, Basalt, Dolerite, Pegmatite, Gneiss, Shale, Sandstone, Slate, Marble, Quartzite, Quartz, Feldspar, Mica, Limestone, Calcite, Bauxite, Magnetite, Hematite, Galena</p> <p>Practical CC2 : Cartographic Techniques and Geological map study 4. Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map.</p> | 2 | | | <p>GEOGRAPHY Unit 1: 3. Theories of population growth: Malthusian Theory and Marxian Approach, Demographic Transition Model 4. Distribution, Density and Growth of Population in India since 1951</p> | 3 2 |
| Sept | <p>Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 3. Slope Development: Concept of Wood CC-2: Cartographic Techniques and Geological map study 8. Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip, Throw, Hade, heave</p> | 4 3 | <p>Theory CC7: GEOGRAPHY OF INDIA Unit 1: Geography of India 5. Agricultural regions, Green revolution and its consequences 6. Mineral and power resources distribution and utilisation of iron ore, coal, petroleum</p> | 2 3 | <p>Theory CC-11. RESEARCH METHODOLOGY AND FIELD WORK Unit 1: Research Methodology 3. Defining research problem, objectives and hypothesis. Research materials and methods</p> <p>DSE-2 : POPULATION GEOGRAPHY Unit 2: 1. Population Composition and Characteristics: Age-Sex; Female-Male Ratio 2. Measures of Fertility and Mortality</p> | 4 2 3 |
| Oct | <p>Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology</p> | | <p>Theory CC7: GEOGRAPHY OF INDIA Unit 1: Geography of India</p> | | <p>Theory CC-II. RESEARCH METHODOLOGY AND FIELD WORK Unit 1: Research</p> | |

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| | 3. Slope Development: Concept of Wood CC-2: Cartographic Techniques and Geological map study 8. Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip, Throw, Hade, heave | 4 2 | 7. Industrial development since independence. 8. Regionalisation of India: Views of Spate and Bhatt. | 2 3 | Methodology 4. Techniques of writing scientific reports: Preparing notes, references, bibliography (APA Style), abstract and keywords DSE-2 : POPULATION GEOGRAPHY Unit 2: 3. Population Composition of India: Rural and Urban, Occupational Structure as per Census of India 4. Migration: Theories, Causes and Types | 6 8 |
| Nov | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 4. Development of river network and landforms on uniclinal and folded structures Practice classes | 3 5 | Theory CC7: GEOGRAPHY OF INDIA Unit 2: Geography of West Bengal 1. Physical perspectives: Physiographic divisions, forest and water resources 2. Population: Growth, distribution and human development Practice classes | 2 3 5 | Theory DSE-2 : POPULATION GEOGRAPHY Unit 2: 5. Concept of Human Development Index 6. Population and development: population-resource regions. Practice classes | 2 3 5 |
| Dec | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 4. Development of river network and landforms on uniclinal and folded structures Special class | 2 5 | Theory CC7: GEOGRAPHY OF INDIA Unit 2: Geography of West Bengal 3. Resources: Mining, agriculture and industries 4. Regional Development: Darjeeling Hills and Sundarban Special class | 2 3 5 | Theory DSE-2 : POPULATION GEOGRAPHY Unit 2: 7. Population policies in Selected Countries: Sweden and China 8. Contemporary Issues in Population: Health and Unemployment Special class | 2 3 5 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC3 (Theory) – Human Geography | | Theory CC-10. ENVIRONMENTAL | | Theory CC 14 ; DISASTER | |

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| | <p>Unit 2: Society, Demography and Ekistics 5. Human, population and environment relations with special reference to development-environmentconflict</p> <p>CC4 (Theory) – Cartograms, Survey and Thematic Mapping 5. Concepts of Bearing: magnetic and true, whole-circle and reduced</p> <p>Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 3. Contouring by Dumpy Level and Prismatic Compass</p> | 5 | <p>GEOGRAPHY 1. Geographers' Approach to Environmental Studies 2. Changes in Perception of Environment in different stages of Human Civilization</p> <p>Practical CC-10: ENVIRONMENTAL GEOGRAPHY 1. Preparation of questionnaire for perception survey on environmental problems</p> | 5 5 5 | <p>MANAGEMENT Unit 2: 3. Cyclone: Factors, vulnerability, consequences and management</p> <p>DSE - 3: RESOURCE GEOGRAPHY Unit 1: 1. Resource Geography: Its Importance and relation with other sub-disciplines 2. Resource: Concept and Classification</p> | 3 5 5 |
| Feb | <p>Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 6. Social morphology and rural house types in India CC4 (Theory) – Cartograms, Survey and Thematic Mapping 5. Concepts of Bearing: magnetic and true, whole-circle and reduced</p> <p>Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 3. Contouring by Dumpy Level and Prismatic Compass</p> | 5 3 | <p>Theory CC-10. ENVIRONMENTAL GEOGRAPHY 3. Ecosystem: Concept, Structure and Functions</p> <p>Practical CC-10: ENVIRONMENTAL GEOGRAPHY 2. Environmental Impact Assessment: Leopold Matrix</p> | 5 5 | <p>Theory CC 14 : DISASTER MANAGEMENT Unit 2: 3. Cyclone: Factors, vulnerability, consequences and management</p> <p>DSE - 3 : RESOURCE GEOGRAPHY Unit 1: 3. Functional Theory of Resource 4. Problems of Resource Depletion with Special Reference to Forest, Water and Fossil Fuels</p> | 2 5 5 |
| Mar | <p>Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 7. Types and patterns of</p> | 2 | <p>Theory CC-10. ENVIRONMENTAL GEOGRAPHY 4. Environmental Degradation and Pollution: Water and Air</p> | 5 | <p>Theory CC 14 : DISASTER MANAGEMENT Unit 2: 4. Fire: Factors,</p> | 2 |

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| | <p>rural settlements CC4 (Theory) – Cartograms, Survey and Thematic Mapping 7. Basic concepts of surveying and survey equipments: Prismatic Compass, Dumpy Level, Transit Theodolite</p> <p>Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 4. Determination of Height of objects using Transit Theodolite (Accessible and Inaccessible bases)</p> | 2 | <p>Practical CC-10: ENVIRONMENTAL GEOGRAPHY 3. Quality assessment of soil using field kit: pH and NPK</p> | 5 | <p>vulnerability, consequences and management</p> <p>DSE - 3 : RESOURCE GEOGRAPHY Unit 1: 5. Resource Conservation : Principles and Methods</p> <p>6. Concept of 'Limits to Growth'</p> | 5 |
| Apr | <p>Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 7. Types and patterns of rural settlements</p> <p>CC4 (Theory) – Cartograms, Survey and Thematic Mapping 7. Basic concepts of surveying and survey equipments: Prismatic Compass, Dumpy Level, Transit Theodolite</p> <p>Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 4. Determination of Height of objects using Transit Theodolite (Accessible and Inaccessible bases)</p> | 3 | <p>Theory CC-10. ENVIRONMENTAL GEOGRAPHY 5. Environmental Issues related to Agriculture 6. Urban Environmental issues related to Waste Management</p> <p>Practical CC-10: ENVIRONMENTAL GEOGRAPHY 4. Interpretation of air quality using CPCB / WBPCB data</p> | 5 | <p>Theory CC 14: DISASTER MANAGEMENT Unit 2: 4. Fire: Factors, vulnerability, consequences and management</p> <p>DSE-3: RESOURCE GEOGRAPHY Unit 2: 1. Distribution and Utilisation of Metallic Mineral Resources in Indian Context: Iron ore, Bauxite 2. Distribution and Utilisation of Non-Metallic Mineral Resources in Indian Context: Mica, Limestone</p> | 3 |
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| May | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 8. Functional Classification of urban settlements | | Theory CC-10. ENVIRONMENTAL GEOGRAPHY 7. Concept and Issues related to Bio-diversity | 5 | Theory DSE - 3 : RESOURCE GEOGRAPHY Unit 2: 3. Distribution, Problems and Management of Energy Resources in Indian Context: Conventional (Coal) and Non- Conventional (Solar) | 5 |
| | CC4 (Theory) – Cartograms, Survey and Thematic Mapping | 3 | Practice classes | 7 | 4. Power resources and problems with reference to Petroleum | 5 |
| | 7. Basic concepts of surveying and survey equipments: Prismatic Compass, Dumpy Level, Transit Theodolite | 2 | | | Practice classes | 7 |
| | Practice classes | 5 | | | | |
| June | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 8. Functional Classification of urban settlements | | Theory CC-10. ENVIRONMENTAL GEOGRAPHY 8. Environmental Programs and Policies on Forest and Wetland: National and Global | 5 | Theory DSE-3: RESOURCE GEOGRAPHY Unit 2: 5. Contemporary Energy Crisis and Future Scenario | 5 |
| | CC4 (Theory) – Cartograms, Survey and Thematic Mapping | | Special class | 5 | 6. Sustainable Resource Development | 5 |
| | 7. Basic concepts of surveying and survey equipments: Prismatic Compass, Dumpy Level, Transit Theodolite | 3 | | | Special class | 5 |
| | Special class | 5 | | | | |

Hemanta Sutar

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DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF RANAJIT GHOSH
 Geography (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture | | | | | |
|-------|--|----------------|--|----------------|--|----------------|---|---|---|--|---|
| Jul | CC1 Theory: Geotectonics and Geomorphology Unit 1: 1. Earth's tectonic and structural evolution with reference to geological time scale CC2 (Theory): 1. Maps: Classification and Types, Components of a Map | 5 | CC 6 (Theory): Unit 1 1. Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sources of data CC 6 (Practical): 1. Construction of data matrix with each row representing an aerial unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes. SEC 1 1. Numbering Systems; Binary Arithmetic | 5 | CC 11(Theory): Unit 2 1. Fieldwork in Geographical studies – Role and significance, Selection of study area and objectives. Pre-field preparations. Ethics of fieldwork CC 12(Theory): Unit 1 1. Definition, Concepts and Principles of Remote Sensing (RS); Types of Air Photo, RS satellites, sensors and platforms. Unit 2 1. Definition and Components of Geographical Information System (GIS) and raster and vector data structures | 5 | | | | | |
| | | | | | | | 5 | CC 6 (Theory): Unit 1 2. Collection of data and formation of statistical tables Unit 2 1. Central tendency: Mean, median, mode, partition values SEC 1 1. Numbering Systems; Binary Arithmetic 2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation. | 5 | CC 11(Theory): Unit 2 2. Field techniques and tools: Questionnaires (open, closed, structured, non-structured), Interview with special reference to focused group discussions. CC 12(Theory): Unit 1 2. EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS. Unit 2 2. Principles of preparing attribute tables and overlay analysis | 5 |
| | | | | | | | | | | | |
| Aug | CC1 Theory: Geotectonics and Geomorphology Unit 1: 2. Earth's interior with special reference to seismology. CC2 (Theory): 1. Maps: Classification and Types, Components of a Map | 5 | CC 6 (Theory): Unit 1 2. Collection of data and formation of statistical tables Unit 2 1. Central tendency: Mean, median, mode, partition values SEC 1 1. Numbering Systems; Binary Arithmetic 2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation. | 5 | CC 11(Theory): Unit 2 2. Field techniques and tools: Questionnaires (open, closed, structured, non-structured), Interview with special reference to focused group discussions. CC 12(Theory): Unit 1 2. EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS. Unit 2 2. Principles of preparing attribute tables and overlay analysis | 5 | | | | | |
| Sept | CC1 Theory: Geotectonics and Geomorphology Unit 1:3. Concept of Isostasy: Theories of | 5 | CC 6 (Theory): Unit 2 2. Measures of dispersion range, mean deviation, standard deviation, coefficient of variation | 5 | CC 11 (Practical): Preparation of Field report CC 12(Theory): Unit 1 3. Principles of False | 5 | | | | | |

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| | <p>Airy and Pratt 4. Plate Tectonics: Processes at constructive, conservative, destructive boundaries and hotspots; resulting landforms CC2 (Theory): 2. Concept of Scales: Plain, Comparative, Diagonal and Vernier</p> | <p>2</p> <p>2</p> | <p>CC 6 (Practical): 2. Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted. SEC 1 2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation. 3. Preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram</p> | <p>5</p> <p>6</p> <p>1</p> | <p>Colour Composites (FCC) from IRS LISS-III and Landsat Images (ETM+) data: Image Processing, Pre-processing; Enhancement; Classification. CC 12(Practical): 1. Georeferencing of Scanned Maps</p> | <p>5</p> <p>5</p> |
| Oct | <p>CC1 Theory: Geotectonics and Geomorphology Unit 1: 4. Plate Tectonics: Processes at constructive, conservative, destructive boundaries and hotspots; resulting landforms CC2 (Practical): 1. Construction of Scales: Plain, Comparative, Diagonal and Vernier</p> | <p>3</p> <p>5</p> | <p>CC 6 (Theory): Unit 1 3. Sampling: Need, types, and significance and methods of random sampling CC 6 (Practical): 3. Histograms and frequency curve would be prepared on the dataset. SEC 1 3. Preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram</p> | <p>5</p> <p>5</p> <p>6</p> | <p>CC 11 (Practical): Preparation of Field report CC 12(Theory): Unit 2 3. Principles of GNSS positioning - Uses and Waypoint Collection Methods CC 12(Practical): 2. Preparation of FCC using IRS LISS-III and/or Landsat (ETM+) data</p> | <p>5</p> <p>5</p> <p>5</p> |
| Nov | <p>CC2 (Theory): 2. Concept of Scales: Plain, Comparative, Diagonal and Vernier 3. Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid. Map Projections: Classification, Properties and Uses. Concept and Significance of UTM Projection CC2 (Practical): 2. Construction of Projections: Polar</p> | <p>2</p> <p>5</p> <p>2</p> | <p>CC 6 (Theory): Unit 1 4. Distribution: frequency, cumulative frequency Unit 2 3. Association and correlation: Rank correlation, product moment correlation SEC 1 3. Preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram 4. Internet Surfing: Generation and extraction of information Special class</p> | <p>5</p> <p>5</p> <p>3</p> <p>4</p> <p>5</p> | <p>CC 11 (Practical): Preparation of Field report CC 12(Theory): Unit 1 4. Principles of image interpretation for Forest, Water and Soil CC 12(Practical): 3. Preparation of LULC Map by Supervised Image Classification (Maximum Likelihood) using IRS LISS-III or Landsat (ETM+) data Special class</p> | <p>5</p> <p>5</p> <p>5</p> <p>5</p> |

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| | Zenithal Stereographic, Simple Conic with two Standard Parallels, Bonne's and Mercator's Special class | 5 | | | | |
| Dec | CC2 (Theory): 4. Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement | 5 | CC 6 (Theory): Unit 2 4. Linear Regression and time series analysis | 5 | CC 11 (Practical): Preparation of Field report | 5 |
| | CC2 (Practical): 2. Construction of Projections: Polar Zenithal Stereographic, Simple Conic with two Standard Parallels, Bonne's and Mercator's Practice classes | 2 | CC 6 (Practical): 4. Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a short interpretation. | 5 | CC 12(Theory): Unit 2 4. Applications of Geographical Information System in Flood Management and Urban Sprawl | 5 |
| | | 5 | SEC 1 4. Internet Surfing: Generation and extraction of information Practice classes | 6 | CC 12(Practical): 4. Digitisation of Point, Line and Polygon Features and Preparation of Thematic Map (using bar, pie and choropleth method) Practice classes | 5 |
| | | | | 5 | | 5 |
| Jan | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| | CC3 (Theory): Unit 1 1. Nature, scope and recent trends of Human Geography | 4 | CC8 (Theory): Unit 1 1. Concept and Classification of Regions | 5 | CC14 (Theory): Unit 2 1. Earthquake: Factors, vulnerability, consequences and management | 5 |
| | CC4 (Theory) 1. Concepts of Cartograms and Thematic Maps | 4 | Principles and Techniques of Regional Planning | 5 | DSE – 4 (Theory) Unit: 1 1. Soil: Definition, Factors of Formation | 5 |
| | | | SEC -2 (Practical) 1. Concept of Probability and Normal Distribution and their Geographical Applications, Skewness (Pearson's Method) | 6 | 2. Development and Characteristics of an ideal Soil Profile | 5 |
| Feb | | | 2. Differences between Spatial and non-Spatial data, Nearest Neighbour Analysis | 1 | | |
| | CC3 (Theory): Unit 1 1. Nature, scope and recent trends of Human Geography | 1 | CC8 (Theory): Unit 2 1. Development: Meaning, Growth versus Development | 5 | CC14 (Theory): Unit 2 2. Landslide: Factors, vulnerability, consequences and management | 5 |
| | 2. Evolution of humans, concept of race and ethnicity; Major Racial Groups of the world | 3 | 2. Models for Regional Development: Growth Pole (Perroux) and Core Periphery (Hirschman) | 5 | DSE – 4 (Theory) Unit: 1 3. Physical and Chemical Properties of Soil with special reference to Texture, | 5 |
| | CC4 (Theory) 1. Concepts of | 1 | SEC -2 (Practical) 1. Concept of Probability and Normal Distribution | 4 | | |

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|-----|--|---|--|---|---|---|
| | Cartograms and Thematic Maps 2. Concept and utility of Isopleths and Choropleth, | 3 | and their Geographical Applications, Skewness (Pearson's Method) 2. Differences between Spatial and non-Spatial data, Nearest Neighbour Analysis | 3 | Structure, Organic Carbon and pH 4. Concept of Zonal, Azonal and Intrazonal Soil; Formation and Profile Characteristics of Laterite and Podsol | 5 |
| Mar | CC3 (Theory): Unit 1 2. Evolution of humans, concept of race and ethnicity; Major Racial Groups of the world 3. Space, society and cultural regions (language and religion) | 2 | CC8 (Theory): Unit 1 3. Need for Regional Planning; Multilevel Planning in India 4. Metropolitan Concept: Metropolis, Metropolitan Areas, Metropolitan Region | 5 | CCI4 (Practical): Preparation of Field report | 5 |
| | CC4 (Theory) 2. Concept and utility of Isopleths and Choropleth, 8. Interpretation of Land use and land cover maps | 1 | SEC -2 (Practical) 2. Differences between Spatial and non-Spatial data, Nearest Neighbour Analysis | 5 | DSE - 4 (Theory) Unit: 1 5. Classification of Soil: Russian and Indian (ICAR) | 5 |
| | | 2 | | 6 | 6. Soil Degradation and Management | 5 |
| | | 1 | | | | |
| Apr | CC3 (Theory): Unit 1 3. Space, society and cultural regions (language and religion) | 3 | CC8 (Theory): Unit 2 3. Model for Regional Development in India: Growth Foci (R.P. Misra) | 5 | CCI4 (Practical): Preparation of Field report | 5 |
| | CC4 (Theory) 8. Interpretation of Land use and land cover maps | 3 | 4. Concept of Regional Inequality and Disparity SEC -2 (Practical) 3. Correlation and Regression Analysis, t-test, Spearman's Rank Correlation, Product Moment Correlation; Linear Regression 4. Time Series Analysis; Smoothing time series by Least Square and/or Moving Average Method | 5 | DSE - 4 (Theory) Unit: 2 1. Definition and Scope of Biogeography, Meaning of Biosphere, Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes | 5 |
| May | CC3 (Theory): Unit 1 3. Space, society and cultural regions (language and religion) | 1 | CC8 (Theory): Unit 2 5. Human Development: Significance, Indicators and Measurement | 5 | CCI4 (Practical): Preparation of Field report | 5 |
| | 4. Concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world | 2 | 6. Status of Regional Imbalances in India SEC -2 (Practical) 3. Correlation and Regression Analysis, t-test, Spearman's Rank Correlation, Product Moment Correlation; | 5 | DSE - 4 (Theory) Unit: 2 3. Bio-Geo Chemical Cycle: Carbon, Nitrogen | 5 |
| | CC4 (Theory) | | | 4 | 4. Factors of Plant Growth: Light, Heat, Moisture, Wind, Soil and Topography | 5 |

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| | 8. Interpretation of Land use and land cover maps CC4 (Practical) 2. Representation of data on map by proportional circles, dots and spheres, isolines and Choropleth method. | 1 2 | Linear Regression 4. Time Series Analysis; Smoothing time series by Least Square and/or Moving Average Method | 3 | | |
| June | CC3 (Theory): Unit 1 4. Concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world CC4 (Practical) 2. Representation of data on map by proportional circles, dots and spheres, isolines and Choropleth method. Practice classes | 3 3 6 | CC8 (Theory): Unit 2 7. Strategies for Regional Development in India 8.NITI Aayog and its Functions SEC -2 (Practical) 4. Time Series Analysis; Smoothing time series by Least Square and/or Moving Average Method Practice classes | 5 5 6 5 | CC14 (Practical): Preparation of Field report DSE – 4 (Theory) Unit: 2 5. Biomes – Concept and Classification;Tropical Rainforest and Temperate Grassland 6. Threat to Biodiversity- Causes, Consequences and Conservation Practice classes | 5 5 5 5 |

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DEPARTMENT OF GEOGRAPHY
TEACHING PLAN OF CHAITALI GORAI
Geography (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|--|----------------|---|----------------|---|----------------|
| Jul | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 5. Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rocks with special reference to Granite and Basalt | 4 | Theory CC-5. Climatology Unit 1: Elements of the Atmosphere 1. Nature, composition and layering of the atmosphere, 2. Insolation: controlling factors. Heat budget of the atmosphere. | 2 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 1: Cultural Geography 1. Definition, Scope and Content of Cultural Geography 2. Development of Cultural Geography | 3 |
| | Practical CC2 (Practical) Cartographic Techniques and Geological map study 3. Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite), Preparation of Relative Relief Map, Slope map (Wentworth), and Stream Ordering (Strahler) on a Drainage Basin. | 3 | | 3 | | 2 |
| Aug | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 6. Karst landforms: Surface and sub-surface | 3 | Theory CC-5. Climatology Unit 1: Elements of the Atmosphere 3. Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences. 4. Greenhouse effect and importance of ozone layer | 2 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 1: Cultural Geography 3. Concept of Cultural Hearth, Realm; Cultural Landscape 4. Cultural Innovation and Diffusion; Diffusion of Major World Religions | 3 |
| | Practical CC2 (Practical) Cartographic Techniques and Geological map study 3. Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite), Preparation of Relative Relief Map, Slope map (Wentworth), and | 2 | | 3 | | 2 |

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| | Stream Ordering(Stralder) on a Drainage Basin. | | | | | |
| Sept | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 7. Glacial and fluvio-glacial processes and landforms | 4 | Theory CC-5. Climatology Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification 1. Condensation: Processes and forms. Mechanism of precipitation; Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation. 2. Air mass: Typology, origin, characteristics and modification. | 2 3 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 1: Cultural Geography 5. Cultural Segregation, Cultural Diversity, and Acculturation 6. Major Races of the World: Distribution and Characteristics | 3 2 |
| Oct | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 7. Glacial and fluvio-glacial processes and landforms | 4 | Theory CC-5. Climatology Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification 3. Fronts: warm and cold; frontogenesis and frontolysis. 4. Weather: stability and instability; barotropic and baroclinic conditions. | 2 3 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 2: Settlement 1. Scope and Content of Settlement Geography 2. Definition and Characteristics of Rural Settlement | 3 2 |
| Nov | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 8. Aeolian and fluvio-aeolian processes and landforms. Practice classes | 3 5 | Theory CC-5. Climatology Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification 5. Circulation in the atmosphere: Planetary winds, jet stream and monsoons 6. Tropical and mid-latitude cyclones. Practice classes | 2 3 5 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 2: Settlement GEOGRAPHY 3. Rural Settlements: Site and Situation 4. Urban Settlements: Census Definition, Urban Outgrowth, Urban Agglomeration. Practice classes | 2 3 5 |
| Dec | Theory: CC-1. GEOTECTONICS AND GEOMORPHOLOGY Unit 2: Geomorphology 8. Aeolian and fluvio-aeolian processes and landforms. | 2 | Theory CC-5. Climatology Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification 7. Evidence and causes of climate change 8. Climatic classification after | 2 3 | Theory DSE-1: CULTURAL AND SETTLEMENT GEOGRAPHY Unit 2: Settlement GEOGRAPHY 5. Urban Morphology: | 2 |

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| | Special class | 5 | Köppen, Thornthwaite (1948) Special class | 5 | Classical Models of Burgess, Hoyt, Harris and Ullman 6. Functional Classification of Cities: Harris and Nelson. Special class | 3 5 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 1. Evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies CC4 (Theory) – Cartograms, Survey and Thematic Mapping 3. Concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 1. Diagrammatic representation of data: Star and Age-sex pyramid diagram, pie diagram | 5 2 2 | Theory CC 9: ECONOMIC GEOGRAPHY Unit 1 1. Meaning and Approaches to Economic Geography 2. Concepts in Economic Geography: Goods; Services; Production; Consumption | 3 2 | Theory CC 13 : EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 1: 1. Definition, Scope and Content of Geography; Geography as a Spatial Science 2. Geography in Ancient Period: Greek and Roman CC 14 : DISASTER MANAGEMENT Unit 1 1. Classification of hazards and disasters | 3 2 3 |
| Feb | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 2. Human - environment relations with special reference to Arctic and hot desert regions CC4 (Theory) – Cartograms, Survey and Thematic Mapping 3. Concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph | 5 3 | Theory CC 9: ECONOMIC GEOGRAPHY Unit 1 3. Factors Influencing Location of Economic Activity and Forces of Agglomeration 4. Determining Factors of Transport Cost | 3 2 | Theory CC 13 : EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 1: 3. Development of Geography in Medieval period: Arabian 4. Development of Mapping and Knowledge about the World Regional Geography in the Age of Explorations CC 14 : DISASTER MANAGEMENT | 2 3 |

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| | Practical CC4 (Practical) – Cartograms, Survey and Thematic Mapping 1. Diagrammatic representation of data: Star and Age-sex pyramid diagram, pie diagram | 3 | | | Unit 1 2. Approaches to hazard study: Risk perception and vulnerability assessment, Hazard paradigms | 2 |
| Mar | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 3. Population growth and distribution, population composition; demographic transition model CC4 (Theory) – Cartograms, Survey and Thematic Mapping 4. Preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) | 2 | CC 9: ECONOMIC GEOGRAPHY Unit 2 1. Concept and Classification of Economic Activities 2. Location Theories: Von Thünen and Alfred Weber | 3 | CC 13 ; EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 1: 5. Classical Geography in 19th Century: Humboldt, Ritter 6. Quantitative Revolution and its Critique CC 14 : DISASTER MANAGEMENT Unit 1 3. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building. | 2 |
| | 2 | 3 | | | | |
| Apr | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics 3. Population growth and distribution, population composition; demographic transition model CC4 (Theory) – Cartograms, Survey and Thematic Mapping 4. Preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) | 3 | CC 9: ECONOMIC GEOGRAPHY Unit 2 3. Primary Activities; Subsistence and Commercial Agriculture; Forestry; Fishing 4. Secondary Activities: Manufacturing (Iron and Steel in India and Japan, Petrochemical in India and USA) | 3 | CC 13 ; EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 2: 1. German School of Thought 2. French School of Thought CC 14 : DISASTER MANAGEMENT Unit 1 4. Hazards mapping: Data and techniques. | 3 |
| | | 3 | | 2 | | 2 |

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| May | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics | 3 | CC 9: ECONOMIC GEOGRAPHY Unit 2 5. Tertiary Activities: Types of Trade and Services 6. Agricultural Systems: Tea Plantation in India and Mixed Farming in Europe Practice classes | 3 | CC 13 : EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 2: 3. American School of Thought 4. Indian Contribution to Geography Practice classes | 3 |
| | 4. Population-Resource regions | 2 | | 2 | | 2 |
| | CC4 (Theory) – Cartograms, Survey and Thematic Mapping | 5 | | 5 | | 5 |
| June | Theory CC3 (Theory) – Human Geography Unit 2: Society, Demography and Ekistics | 2 | CC 9: ECONOMIC GEOGRAPHY Unit 2 7. Highways: Roles in Economic Development of India since 1990s 8. International Trade Blocs: WTO and OPEC Practice classes | 3 | CC 13 : EVOLUTION OF GEOGRAPHICAL THOUGHT Unit 2: 5. Concept of Determinism, Possibilism and Neo- Determinism 6. Approaches to the study of Geography: Systematic and Regional Practice classes | 3 |
| | 4. Population-Resource regions | 3 | | 2 | | 2 |
| | CC4 (Theory) – Cartograms, Survey and Thematic Mapping | 5 | | 5 | | 5 |
| | 6. Basic concepts of surveying and survey equipments: Abneys Level, Clinometer Practice classes | | | | | |

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**Teaching Plan of Dr. Tanmoy Mandal for B.Sc. Plant Protection (General Course)
(2019-20) (July 2019 – June 2020)**

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|----------------|--|------------------------------|--|----------------|
| Jul | CC-1A Pests and Vectors Theory: Pest-Comprehensive definition. Categories of pests: Practical: Mounting, preserving and labeling of Insect Pests and Vectors. | 3 2 | CC-1C Bionomics, Plant disease and their management Theory: Bionomics and Management of major insect pests of Rice & Sugarcane. Stored grain Pests Practical: Preparation of desired strength of Pesticides SEC-1 Green Pesticides Theory: Definition of green pesticides | 5 4 2 2 | DSE-1A Integrated Pest Management Theory: Definition and genesis of Integrated Pests Managements Practical: Study of sign and symptoms caused by pest. | 4 2 |
| Aug | CC-1A Pests and Vectors Theory: Pathogenic, Competitive, Regular, Sporadic pest with examples and their corresponding vector. Practical: Identification of Insect Pest and diseases. | 2 2 | CC-1C Bionomics, Plant disease and their management Theory: Bionomics and Management of major insect pests of Mustard, Potato & Cauliflower. Common bird pest Practical: Plant protection equipments; handling of rotary duster, Knapsack sprayer and seed dresser SEC-1 Green Pesticides Theory: Botanical pesticides, Advantage of using botanical insecticides | 5 2 2 4 | DSE-1A Integrated Pest Management Theory: Tools and strategies of IPM- Cultural Control, Physical Control, Mechanical Control, Biological control, Chemical control etc. Practical: Field survey and collection of pest and disease. | 10 2 |
| Sept | CC-1A Pests and Vectors | 8 | CC-1C Bionomics, Plant disease and | 10 | DSE-1A Integrated Pest Management | 6 |

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| | <p>Theory: Characteristics of following pests. Protozoan, Nematodes, Mites, Insects, Molluscs, Birds and Rodents</p> <p>Practical: Permanent slide preparation.</p> | 2 | <p>their management</p> <p>Theory: Bionomics and Management of major insect pests of Brinjal, Jute, Gram, Mango, Tea</p> <p>Practical: Collection of insect pests and their identification, preservation</p> <p>SEC-1 Green Pesticides</p> <p>Theory: preparation of pesticides from neem</p> | 2 4 | <p>Theory: Integrated Pests managements of Rice, &Wheat crops.</p> <p>Practical: Application of pesticides in crop field</p> | 2 |
| Oct | <p>CC-1A Pests and Vectors</p> <p>Theory: Locust Migration of Locust, Phase Theory of locust</p> <p>Practical: Collection of insects and other pests.</p> | 2 2 | <p>CC-1C Bionomics, Plant disease and their management</p> <p>Theory: Termites- Examples, Biology and management</p> <p>Practical: Study of symptoms of attack by insect pests</p> <p>SEC-1 Green Pesticides</p> <p>Theory: preparation of pesticides from tobacco</p> <p>Green pesticides, Method of utilization, mode of action</p> | 2 2 4 4 | <p>DSE-1A Integrated Pest Management</p> <p>Theory: Integrated Pests managements of Potato & Mustard Field.</p> <p>Practical: Application of pesticides in crop field.</p> | 4 2 |
| Nov | <p>CC-1A Pests and Vectors</p> <p>Theory: Origin of New Locust Cycle, nature of damage and management of locust</p> <p>Practical: Field trips for collection of specimens and surveillance.</p> | 3 2 | <p>CC-1C Bionomics, Plant disease and their management</p> <p>Theory: Rodents (<i>Bandicota bengalensis</i>, <i>Rattus rattus</i>) and their management</p> <p>Practical: Field trips for collection of specimens and surveillance</p> <p>SEC-1 Green Pesticides</p> <p>Theory:</p> | 2 2 4 | <p>DSE-1A Integrated Pest Management</p> <p>Theory: Integrated Pests Managements of Sugarcane & pulse crops.</p> <p>Practical: Field trips for collection of specimens and surveillance</p> | 6 2 |

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| | | | preparation of pesticides from Chrysanthemum | | | |
| | | | Green pesticides and chemical pesticides | 8 | | |
| Dec | CC-1A Pests and Vectors Theory and Practical: Special classes + doubt clearing+ discussions | As per student need | CC-1C Bionomics, Plant disease and their management Theory and Practical: Special classes + doubt clearing+ discussions SEC-1 Green Pesticides Special classes + doubt clearing+ discussions | As per student need | DSE-1A Integrated Pest Management Theory and Practical: Special classes + doubt clearing+ discussions | As per student need |
| | Sem-II (G) | No. of Lecture | Sem-IV (G) | No. of Lecture | Sem-VI (G) | No. of Lecture |
| Jan | CC-1B Pest Management Theory: Forecasting : Definition and need Practical: Field trips for collection of specimens and surveillance. | 2 2 | CC-1D Plant Defence Mechanism Theory: Resistance of Host Plant to insects. Practical: Field trips for collection of specimens and surveillance. SEC-2 Formulation and application of pesticides and their precautions Theory: Formulation of pesticides Sprayer and duster | 10 2 4 4 | DSE-1B Biotechnology in Plant Protection Theory: Crop protection and food security, Applications of plant biotechnology in plant protection Practical: Field trips for collection of specimens and surveillance. | 4 2 |
| Feb | CC-1B Pest Management Theory: Forecasting and monitoring of some insects Practical: Permanent slide preparation. | 5 2 | CC-1D Plant Defence Mechanism Theory: Physiological inhibitors and feeding deterrents Practical: Study of structural defences | 2 2 | Theory: Transgenic plants/ GM crops, Use of Beneficial Arthropods and Sterile Insect Release Method Practical: Study through Photograph | 8 2 |

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| | | | in plants- Trichome | | | |
| | | | SEC-2 Formulation and application of pesticides and their precautions Theory: Solid formulation | 4 | | |
| | | | Sprayer -cum- duster, aerosol generator | 4 | | |
| Mar | CC-1B Pest Management Theory: Major signs and damage due to animal pests Practical: Study of Symptoms of attack by type pests | 3 2 | CC-1D Plant Defence Mechanism Theory: Ovipositional stimulants and deterrents, feeding stimulants Practical: Plant protection equipment; parts and handling of Rotary Duster. SEC-2 Formulation and application of pesticides and their precautions Theory: Liquid formulation Soil injector, seed dressing machine | 4 2 4 4 | DSE-1B Biotechnology in Plant Protection Theory: Insect Pathogenic Microorganisms. Pheromones Practical: Study through Photograph | 6 2 |
| Apr | CC-1B Pest Management Theory: Methods of Managements Practical: Identification of common Insect pests of major crops. | 10 2 | CC-1D Plant Defence Mechanism Theory: Host Plant Nutrients and Insects Resistance Practical: Plant protection equipment; parts and handling of knapsack sprayer. SEC-2 Formulation and application of pesticides and their precautions Theory: Gaseous formulation | 10 2 3 | DSE-1B Biotechnology in Plant Protection Theory: Role of biotechnology in plant resistance to insects. successful examples of resistant crop varieties in India and world Practical: Study through Photograph | 6 2 |
| May | CC-1B Pest | 10 | CC-1D Plant | 4 | DSE-1B Biotechnology | 4 |

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| | <p>Management Theory: Integrated Pest Management.</p> <p>Practical: Preservation, Mounting and labeling of specimens</p> | 2 | <p>Defence Mechanism Theory: Allelochemicals decreasing nutrients bioavailability, Plant breeding for insect resistance</p> <p>Practical: Plant protection equipment; parts and handling of hand compression sprayer and seed dresser</p> <p>SEC-2 Formulation and application of pesticides and their precautions</p> <p>Theory: Precaution</p> | 2 3 | <p>in Plant Protection Theory: Genetic engineering in <i>Baculoviruses</i>, <i>Bt</i> and entomopathogenic fungi. Transgenic plants for pest resistance</p> <p>Practical: Study through Photograph</p> | 2 |
| June | <p>CC-1B Pest Management Theory and Practical: Special classes + doubt clearing+ discussions</p> | As per student need | <p>CC-1D Plant Defence Mechanism Theory and Practical: Special classes + doubt clearing+ discussions</p> <p>SEC-2 Formulation and application of pesticides and their precautions Special classes + doubt clearing+ discussions</p> | As per student need | <p>DSE-1B Biotechnology in Plant Protection Theory and Practical: Special classes + doubt clearing+ discussions</p> | As per student need |

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DEPARTMENT OF PLANT PROTECTION

TEACHING PLAN OF DR. PAPIA MANDAL(RAHA)
PLANT PROTECTION (G) (2019-20) (JULY 2019-JUNE 2020)

| MONTH | SEM-I | NO OF LECTURE | SEM-III(GENERAL) | NO OF LECTURE | SEM-V(GENERAL) | NO OF LECTURE |
|--------|--|----------------|--|----------------|---|----------------|
| JULY | <p>Theory Unit-4 Classification Of Plant Disease Brief Account Of Bacteria Fungi algae Practical:- Identification Of Plant Disease</p> | <p>8 2</p> | <p>Theory Unit-1 Predisposition And Epidemiological Factors</p> | 4 | <p>Theory Dse-Ia Integrated Pest Management Unit-2 Tools & Strategies Of Ipm A) Cultural Control B) B)Physical Control C) Practical:- Study Of Sign & Symptoms Caused By Pest</p> | <p>4 2</p> |
| AUGUST | <p>Theory-Disease Triangle, Viroids, Molecules Unit-5 Dissemination Of Plant Pathogens, Soil Borne, Seed Borne, Air Borne, Water Borne Diseases. Practical-Preparation Of Fungal Slide</p> | <p>8 2</p> | <p>Theory-Unit 2 Symptoms, Etiology, Disease Cycle & Management Of Major Plant Disease Of Rice Wheat Sugarcane Potato Tea Practical-Isolation Of Casual Organism</p> | <p>8 2</p> | <p>THEROY-UNIT 2 Mechanical Control Biological Control Practical:- Identification of plant diseases</p> | <p>9 2</p> |

Papia Mandal (Raha)


DEPARTMENT OF PLANT PROTECTION

TEACHING PLAN OF DR. PAPIA MANDAL(RAHA)

PLANT PROTECTION (G) (2019-20) (JULY 2019-JUNE 2020)

| MONTH | SEM-II | NO OF LECTURE | SEM-IV(GENERAL) | NO OF LECTURE | SEM-VI(GENERAL) | NO OF LECTURE |
|----------|---|----------------------|--|----------------|--|--|
| JANUARY | <p>THEORY- UNIT-1 FORECASTING- DEFINITION AND NEED UNIT-4 FORECASTING OF PLANT DISEASE FORECASTING SERVICE METHODS OF FORECASTING</p> | <p>2 4 2</p> | <p>THEORY- UNIT-1 PRE INFECTIONAL DEFENCE MECHANISM</p> | <p>4 4</p> | <p>DSE-1B THEORY : BIOTECHNOLOGY IN PLANT PROTECTION : INTRODUCTION TO PLANT BIOTECHNOLOGY & PLANT PROTECTION CROP PROTECTION & FOOD SECURITY. APPLICATION OF PLANT BIO TECHNOLOGY IN PLANT PROTECTION.</p> | <p>Field visit: Day-1,Day-2, Day- 3,Day-4, Day- 5,Day-6,Day- 7</p> |
| FEBRUARY | <p>THEORY-4 METHODS OF FORECASTING UNIT 5: METHODS OF MANAGEMENT LEGISATION PHYSICAL CONTROL PRACTICALS: IDENTIFICATION OF COMMON FUNGI AND DISEASES OF MAJOR CROPS</p> | <p>4 6</p> | <p>THEORY: UNIT 3: STRUCTURAL DEFENCE: DEVELOPMENT OF CORK LAYER DEPOSITION OF GUMS FORMATION OF PYLOSES, FORMATION OF ABSCISSION LAYER PRACTICAL:</p> | <p>8</p> | <p>UNIT-2 PLANT GENETIC ENGINEERING FOR RESISTANCE TO PLANT PATHOGENS : GENERAL CONCEPT OF GENETIC ENGINEERING & TISSUE CULTURE FOR THE MANAGEMENT & DICEASE RESISTANT CROPS. PRACTICAL : MICROBIAL FLORA IN PLANT CROWN GALL – PROTOCOL & PHOTOGRAPHS</p> | |

| MONTH | SEM-II | NO OF LECTURE | SEM-IV(GENERAL) | NO OF LECTURE | SEM-VI(GENERAL) | NO OF LECTURE |
|-------|---|---------------------|---|---------------|---|---------------|
| MARCH | <p>THEORY- UNIT 5: CULTURAL CONTROL BIOLOGICAL CONTROL PRACTICAL FIELD SURVEY</p> | <p>3 5</p> | <p>THEORY UNIT-3 CELLULAR DEFENCE MECHANISM DEFENCE THROUGH HYPER SENSITIVITY PRACTICAL: ESTIMATE OF TOTAL PHENOL FROM HEALTHY PLANT</p> | 8 | <p>UNIT-3 BIOCONTROL OF PLANT PATHOGENS : GM CROPS, PLANT TRANSFORMATION PROCESS PRACTICAL : MICROBIAL FLORA IN PLANT HAIRY ROOTS -PROTOCOL & PHOTOGRAPHS</p> | 6 |
| APRIL | <p>THEORY UNIT -5 CHEMICAL CONTROL GENETIC RESISTANCE PRACTICAL STUDY TOUR</p> | <p>5 5</p> | <p>THEORY-4 ROLE OF PHYTOLEXINS IN DEFENCE MECHANISM PRACTICAL: 'STUDY OF STRUCTURAL DEFENCE IN PLANTS</p> | 6 | <p>DETECTION TOOLS FOR PLANT INFECTION : APPLICATION OF BIOTECHNOLOGICAL TOOLS FOR DETECTING PLANT INFECTION. ELISA FLOWCYTOMETRY</p> | 8 |

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| MAY | <p>THEORY- UNIT 6: INTEGRATED PESTMANAGEMENT (I-PM) DEFINITION, GENESIS APPROPRIATE I PM METHODS IN RICE WHEAT POTATO FIELDS</p> | <p>5 4</p> | <p>THEORY UNIT 5: BASIC IDEA ABOUT TOXINS OF PATHOGENS PRACTICAL: STUDY OF STRUCTURAL DEFENCE IN PLANTS</p> | <p>4</p> | <p>APPLICATION OF BIOTECHNOLOGICAL TOOLS FOR DETECTING PLANT INFECTION : NEUCLIC ACID ISOLATION PCR BEST TECHNIQUES IN-SITU HYBRIDIZATION</p> | <p>6</p> |
| JUNE | <p>THEORY - UNIT 6: INTEGRATED PEST MANAGEMENT (IPM) APPROPRIATE I PM METHODS IN MUSTARD SUGARCANE AND PULSES PRACTICAL:- REAPT</p> | <p>6</p> | <p>THEORY-ALL Syllabus</p> | <p>6</p> | <p>REVISION</p> | <p>5</p> |



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Suri Vidyasagar College
P.O.-Suri, Dist.-Birbhum
West Bengal-731101

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|------|--|---|--|---|---|--------|
| Sept | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 4: Control of Microorganisms</p> | 1 | <p>Theory</p> <p>CC6: Cell Biology</p> <p>Unit 2: Nucleus (Chromatin- Molecular organization, Nucleolus)</p> | 4 | <p>Theory</p> <p>CC12: Immunology</p> <p>Unit 2: Immune Cells and Organs</p> | 6 |
| | <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Negative Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>Practical</p> <p>CC12: Immunology</p> <p>1. Identification of Human blood groups.</p> | 2 |
| | | | <p>Practical</p> <p>CC7: Molecular Biology</p> <p>5. Estimation of RNA by using UV Spectrophotometer.</p> | 2 | <p>DSE 1: Microbes in Sustainable Agriculture</p> <p>3. Preparation of <i>Rhizobium</i> as soil inoculants and application</p> <p>4. Preparation of <i>Azotobacter</i> as soil inoculants and application</p> | 4 4 |
| Oct | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Positive Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>Theory</p> <p>CC12: Immunology</p> <p>Unit 8: Immunological techniques</p> | 6 |

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|-----|---|---|---|---|---|----|
| Nov | <p>Theory</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups</p> <p>Cyanobacteria</p> | 4 | <p>Theory</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>Unit 6: Nitrogen Metabolism- an overview</p> <p>Practical</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>7. Determination of the Thermal Death Point (TDP) of <i>E. coli</i></p> | 6 | <p>Theory</p> <p>DSE 2: Instrumentation and Biotechniques</p> <p>Unit 3: Electrophoresis</p> <p>Practical</p> <p>DSE 2: Instrumentation and Biotechniques</p> <p>6. Separation of protein mixtures by Polyacrylamide Gel Electrophoresis (PAGE)</p> <p>7. Separation of components of a given mixture using a laboratory scale Centrifugation</p> | 10 |
| Dec | <p>Theory:</p> <p>CC1: Introduction to Microbiology and Microbial Diversity</p> <p>Special classes + doubt clearing+ discussions</p> <p>Practical</p> <p>Practice classes</p> | 4 | <p>Revision class</p> <p>Question Answer Practice</p> | 6 | <p>Theory</p> <p>DSE 1: Microbes in Sustainable Agriculture</p> <p>Unit 4: Biofertilization, Phyto-stimulation</p> <p>Practical</p> <p>CC12: Immunology</p> <p>6. DOT ELISA</p> | 8 |
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| | Sem-II (II) | | Sem-IV (II) | | Sem-VI (II) | |
|-----|---|------------|--|---|---|----------------|
| Jan | Theory CC3: Biochemistry Unit 1: Bioenergetics | 6 | Theory CC 9: Environmental Microbiology Unit 1: Microorganisms and their Habitats Practical CC 9: Environmental Microbiology 7. Isolation of <i>Rhizobium</i> from root nodules | 8 | Theory CC 13: Medical Microbiology Unit 2: Sample collection, Transport and Diagnosis Practical CC 13: Medical Microbiology 3. Perform antibacterial sensitivity by Kirby-Bauer Method | 6 2 |
| Feb | Theory CC3: Biochemistry Unit 3: Lipids Practical CC 3: Biochemistry 2. Qualitative/ Quantitative tests for Carbohydrates (DNS method) | 6 2 | Theory CC 9: Environmental Microbiology Unit 5: Microbial Bioremediation | 8 | Theory CC 13: Medical Microbiology Unit 7: Antimicrobial Agents Practical CC 13: 4. Determination of Minimal Inhibitory Concentration (MIC) of antibiotic | 8 2 |
| Mar | Theory CC4: Virology Unit 4: Viruses and Cancer | 6 | Theory CC10: Food and Dairy Microbiology Unit 3: Principles and methods of food preservation | 8 | Theory CC 14: Recombinant DNA Technology Unit 5: Applications of Recombinant DNA Technology | 8 |

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| | <p>Practical</p> <p>CC4: Virology 4 Isolation of Bacteriophage DNA and study of its HindIII digestion pattern</p> | 4 | <p>Practical</p> <p>CC 10: Food and Dairy Microbiology</p> <p>2. Alkaline phosphatase test to check the efficiency of pasteurization of milk</p> | 2 | <p>Practical</p> <p>CC 14: Recombinant DNA Technology 3 Digestion of DNA using Restriction enzyme and analysis by Agarose Gel Electrophoresis</p> | |
| Apr | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 6: Application of Virology</p> | 6 | <p>Theory</p> <p>CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations</p> | 6 | <p>Theory</p> <p>DSE 3: Advances in Microbiology</p> <p>Unit 2: Metagenomics</p> | 8 |
| | <p>Practical</p> <p>CC3: Biochemistry</p> <p>6. Estimation of Ascorbic acid</p> | 2 | <p>Practical</p> <p>CC 8: Microbial Genetics</p> <p>5. Study of different conformation of plasmid DNA through Agarose gel electrophoresis using DNA ladder.</p> | 4 | <p>Practical</p> <p>DSE 3: Advances in Microbiology</p> <p>1. Extraction of Metagenomic DNA from soil</p> <p>CC 14: Recombinant DNA Technology 4. Determination of molecular size of DNA fragment by Agarose Gel Electrophoresis</p> | 4 2 |
| May | <p>Theory</p> <p>CC3: Biochemistry</p> <p>Unit 1: Bioenergetics (Revision Class)</p> | 1 | <p>Theory</p> <p>CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations</p> | 4 | <p>Theory</p> <p>DSE 4: Bio-safety and Intellectual property Rights</p> <p>Unit 2: Bio-safety Guidelines</p> | 6 |
| | <p>Question – Answer Practice and Discussions</p> | 3 | <p>Practical</p> <p>CC 8: Microbial Genetics</p> <p>8. Demonstration of Ames test through audio visual teaching aids</p> | 2 | <p>Practical</p> <p>DSE 4: Bio-safety and Intellectual property Rights 2. Filing applications for approval from Bio- safety committee</p> | 4 |

DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF AMARNATH CHATTOPADHYAY
Microbiology (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|---|----------------|---|----------------|---|----------------|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 6: Protozoa | 06 | Theory CC5: Microbial Physiology & Metabolism Unit 1: Microbial Growth and Effect of Environment on Microbial Growth | 10 | Theory CC11: Industrial Microbiology Unit 3: Types of fermentation processes, bio-reactors | 08 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity To study the principle and applications of instruments (autoclave, incubator, hot air oven, centrifugation, light microscope, pH meter) used in the microbiology laboratory | 04 | Practical CC5: Microbial Physiology & Metabolism Study of growth curve of <i>E. coli</i> by turbidometric method, standard plate count method, Direct count method by phase contrast microscopy | 06 | Practical CC11: Industrial Microbiology Demonstration of different parts of a typical fermenter | 04 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3: Direct Microscopic Examination and Culture | 03 | | |
| Aug | Theory: CC2: Bacteriology Unit 2: Bacteriological Techniques | 06 | Theory CC6: Cell Biology Unit 1: Unit 1: Structure and organization of Cell | 08 | Theory CC11: Industrial Microbiology Unit 3: Types of fermentation processes, bio-reactors | 02 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Preparation of culture media (Nutrient Broth and Nutrient Agar) for bacterial cultivation | 02 | Practical CC5: Microbial Physiology & Metabolism Calculation of generation time and specific growth rate of bacteria from the graph plotted with the given data | 02 | CC12: Immunology Unit 4: Antibodies | 08 |
| | Sterilization of medium using Autoclave and assessment for sterility | 02 | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3: Direct Microscopic Examination and Culture | 03 | Practical CC12: Immunology Total Leukocyte Count of the given blood sample | 04 |
| Sept | Theory: CC3: Bacteriology Unit 2: Bacteriological Techniques Unit 5: Growth & Reproduction in Bacteria | 02 04 | Theory CC5: Microbial Physiology & Metabolism Unit 4: Chemoheterotrophic Metabolism- Anaerobic respiration and fermentation | 05 | Theory CC12: Immunology Unit 3: Major Histocompatibility Complex | 04 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Isolation and enumeration of bacteria from air, water and soil | 06 | Practical CC6: Cell Biology Study of a representative plant (epidermal cell of <i>Rhus</i> sp.) and animal cell (squamous epithelial cell) by microscopy | 04 | DSE2: Instrumentation and Biotechniques Unit 2 Chromatography | 06 |
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|-----|---|---|--|----------|---|----|
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 6: Testing for Antibiotic Sensitivity in Bacteria | 04 | Practical DSE1: Microbes in Sustainable Agriculture Enumeration of bacterial load of barren and fertile soil | 04 |
| Oct | Theory: CC2: Bacteriology Unit 5: Growth & Reproduction in Bacteria | 02 | Theory CC7: Molecular Biology Unit 2: Replication of DNA (Prokaryotes and Eukaryotes) | 08 | Theory DSE2: Instrumentation and Biotechniques Unit 2 Chromatography | 04 |
| | Practical CC2: Bacteriology Estimation of CFU count by spread plate method/pour plate method | 02 | Practical CC6: Cell Biology Study of different stages of Mitosis from permanent slide | 02 | Practical DSE1: Microbes in Sustainable Agriculture Study soil profile (Water holding capacity, pH, total organic carbon content) | 02 |
| Nov | Theory: CC2: Bacteriology Unit 7: Important Archaeal And Bacterial Groups Archaea Cyanobacteria CC1: Introduction to Microbiology and Microbial Diversity Special class, Doubt clearance | 04 | Theory CC7: Molecular Biology Unit 2. Replication of DNA (Prokaryotes and Eukaryotes) Unit 6: Regulation of gene Expression | 02 06 | Theory DSE1: Microbes in Sustainable Agriculture Unit 3 Microbial control of soil borne plant pathogens | 08 |
| | Practical CC2: Bacteriology Isolation of pure cultures of bacteria by streaking method Preservation of bacterial cultures (slant/stab) | 02 02 | Practical CC7: Molecular Biology Isolation of genomic DNA from <i>E. coli</i> | 03 | Practical DSE1: Microbes in Sustainable Agriculture Study soil profile (Water holding capacity, pH, total organic carbon content) | 04 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 4. Serological and Molecular Methods | 03 | | |
| | | | | | | |
| Dec | Theory: CC2: Bacteriology Special Classes, Doubt clearance | 02 | Theory CC6: Cell Biology Unit 4 Cell Signaling Special classes for doubt clearance | 08 02 | Theory Special class for doubt clearance | 04 |
| | Practical CC2: Bacteriology Motility by hanging drop method, Practice Classes | 02 02 | Practical CC7: Molecular Biology Resolution and visualization of DNA by Agarose Gel Electrophoresis | 03 | Practical Practice Class | 04 |
| | | Theory SEC1: Microbial Diagnosis in Health Clinics Special classes for doubt clearance Question Answer session | 02 | | | |

| | Sem-II (II) | | Sem-IV (II) | | Sem-VI (II) | |
|-----|--|----|--|----------|---|----------|
| Jan | <p>Theory CC4: Virology Unit 3: Viral Transmissions, salient features of Viral Nucleic acids & Reproduction</p> | 04 | <p>Theory CC8: Microbial Genetics Unit 2: Plasmids</p> | 08 | <p>Theory CC13: Medical Microbiology Unit 4: Viral diseases</p> | 08 |
| | <p>Practical CC4: Virology Study of TMV infection on Tomato plant induced by TMV infected tobacco extract</p> | 04 | <p>Practical CC8: Microbial Genetics Preparation of master plates and replica plates Study of the effect of physical (UV) mutagens on bacterial cells</p> | 04 02 | <p>Practical CC13: Medical Microbiology Identify bacteria (<i>E. coli</i>, <i>Staphylococcus</i>, <i>Bacillus</i>) using laboratory strains on the basis of cultural, morphological and biochemical characteristics: IMViC</p> | 04 |
| Feb | <p>Theory CC4: Virology Unit 3: Viral Transmissions, salient features of Viral Nucleic acids & Reproduction</p> | 04 | <p>Theory CC9: Environmental Microbiology Unit 3: Biogeochemical Cycling</p> | 08 | <p>Theory CC13: Medical Microbiology Unit 5: Protozoan diseases CC14: Recombinant DNA Technology Unit 1: Introduction to Genetic Engineering</p> | 06 |
| | <p>Practical CC3: Biochemistry Qualitative/Quantitative assay of amylase</p> | 04 | <p>Practical CC9: Environmental Microbiology Assessment of microbiological quality of water by using bacterial filter disc method</p> | 02 | <p>Practical CC13: Medical Microbiology Identify bacteria (<i>E. coli</i>, <i>Staphylococcus</i>, <i>Bacillus</i>) using laboratory strains on the basis of cultural, morphological and biochemical characteristics: TSI DSE3: Advances in Microbiology Demonstration of PCR amplification of mitochondrial DNA using universal 16S ribosomal gene primers</p> | 02 04 |
| Mar | <p>Theory CC3: Biochemistry Unit 4: Proteins</p> | 06 | <p>Theory CC10: Food and Dairy Microbiology Unit 4: Fermented foods</p> | 10 | <p>Theory Recombinant DNA Technology Unit 1: Introduction to Genetic Engineering DSE4: Bio-safety and Intellectual Property Rights Unit 5: Patent</p> | 02 |
| | <p>Practical CC3: Biochemistry Study the effect of temperature and pH on enzyme activity (amylase)</p> | 04 | <p>Practical CC10: Food and Dairy Microbiology MIST of milk samples</p> | 04 | <p>Practical CC14: Designing of primers for DNA amplification</p> | 06 04 |
| Apr | <p>Theory CC3: Biochemistry Unit 4: Proteins</p> | 04 | <p>Theory CC8: Microbial Genetics Unit 4: Phage Genetics</p> | 06 | <p>Theory DSE4: Bio-safety and Intellectual Property Rights Unit 5: Patent</p> | 02 |

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| | <p>Practical CC4: Virology Report writing: Educational tour to Institute/Industry</p> | 04 | <p>Practical CC9: Environmental Microbiology Analysis of soil - pH, moisture content, water holding capacity</p> <p>Theory SEC2: Food fermentation Techniques Unit 6 Probiotic Foods Unit 5 Fermented Meat and Fish</p> | 04 03 03 | <p>CC14: Recombinant DNA Technology Unit4: DNA Amplification and DNA sequencing DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions</p> <p>Practical CC14: Interpretation of sequencing gel electropherograms</p> | 04 02 04 |
| May | <p>Theory CC3: Biochemistry Unit 6: Vitamins</p> <p>Practical Isolation and enumeration of bacteriophages (PFU) from water/sewage sample using double agar layer technique</p> | 04 04 | <p>Theory CC10: Food and Dairy Microbiology Unit 7. Rapid detection methods of food borne pathogens in foods</p> <p>Practical CC10: Food and Dairy Microbiology Demonstration of cultivation of edible mushroom (<i>Pleurotus</i> sp)</p> <p>Theory SEC2: Food fermentation Techniques Unit 5 Fermented Meat and Fish</p> | 08 02 03 | <p>Theory DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions</p> <p>Practical DSE4: Bio-safety and Intellectual Property Rights Filing primary applications for patents</p> | 08 04 |
| June | <p>Theory CC3: Biochemistry & CC4: Virology Special class and Doubt Clearance</p> <p>Practical Practice Classes</p> | 04 04 | <p>Theory Special class and Doubt Clearance</p> <p>Practical Practice Classes</p> <p>Theory SEC2: Food fermentation Techniques Special classes</p> | 04 02 02 | <p>Theory DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions Doubt clearance, Q&A</p> <p>Practical DSE4: Bio-safety and Intellectual Property Rights Study of steps of a patenting process</p> <p>Practice class</p> | 02 02 04 02 |

Anurag Chatterjee

Signature of the Teacher
Department of Microbiology
Suri Vidyasagar College

DEPARTMENT OF ARABIC

**TEACHING PLAN OF SYED BASIR AL HILAL
ARABIC (Honours) (2019-20) (July 2019 – June 2020)**

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|---|----------------|---|----------------|
| Jul | CC-1: History of Arabic literature (from pre Islamic to Islamic period) gram. & trans. Unit-A.2 Al-Quran, Al-Hadith | 3 | CC-5: POETRY (Pre-Islamic, Islamiv & Umaiya Period) Unit 1: Muallaqa Imrul Qayes | 3 | CC-11: PROSE (Modern Period Unit -1) Awalul Ahd Bi Yasrab | 2 |
| | CC-2: Arabic Prose (Islamic & medieval) Unit- 2 Sura Bani Israil | 3 | CC-6: History of Arabic literature (Spain) gram. & trans. Unit: A(a) Andalusia Period | 3 | CC-12: POETRY (Modern Period Unit -1) Sadal Harb | 2 |
| | GE-1: History of Arabic literature (from pre Islamic to Islamic period) Unit- B: Islamic Period & Umayyad Period. 1) Al-Quran | 2 | GE-3: Prose (Islamic, Medieval & Modern Period) Unit- 3: Salman Al-farsi | 2 | DSE-1(History Of Islam,Rhetoric, Prosody & Philology) Tashbih & Its Division, Majaz Mursal & Aqli | 2 |
| | | | | | DSE-1A (Rhetoric, Prosody) Tashbih & Its Division, Majaz | 2 |
| Aug | CC-1: History of Arabic literature (from pre Islamic to Islamic period) Gram. & trans. Unit-A.2 Al-Khansa, Hasaan Bin Thabit | 3 | CC-5: POETRY (Pre-Islamic, Islamiv & Umaiya Period) Unit 1: Muallaqa Imrul Qayes | 3 | CC-11:PROSE (Modern Period Unit -1) Unit 1: Awalul Ahd Bi Yasrab | 2 |
| | CC-2: Arabic Prose (Islamic & medieval) Unit- 2 Sura Bani Israil | 3 | CC-6: History of Arabic literature (Spain) gram. & trans. Unit: A(a) Andalusia Period | 3 | CC-12: POETRY (Modern Period Unit -1) Al-hamziyatun Nababiyah | 2 |
| | GE-1: History of Arabic literature (from pre Islamic to Islamic period) Unit- B: Islamic Period & Umayyad Period. 2) Al-Hadith | 2 | GE-3: Prose(Islamic, Medieval & Modern Period) Unit- 3: Salman Al-farsi | 2 | DSE-1: (History Of Islam,Rhetoric, Prosody & Philology) Ista'arah & Its Division, Kinayah | 2 |
| | | | | | DSE-1A (Rhetoric, Prosody) Ista'arah & Kinayah | 2 |
| Sept | CC-1: History of Arabic literature (from pre Islamic to Islamic period) Gram. & trans. Unit-A.2 Umar Bin Abi Rabiah, Al-Akhtal | 3 | CC-5: POETRY (Pre-Islamic, Islamiv & Umaiya Period) Unit 1: Muallaqa Labid Bin Rabeya | 3 | CC-11: PROSE (Modern Period Unit -1) Awalul Ahd Bi Yasrab | 2 |
| | | | CC-6: History of Arabic literature (Spain) gram. & trans. | 3 | CC-12: POETRY (Modern Period Unit -1) Al-hamziyatun | 2 |

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| | <p>CC-2: Arabic Prose (Islamic & medieval) Unit- 5 Salman Al-farsi</p> <p>GE-1: History of Arabic literature (from pre Islamic to Islamic period) Unit- B: Islamic Period & Umayyad Period. 3) Al-Khansa</p> | 3 2 | <p>Unit: A(b) Ibne Abde Rabbihi, Ibne Khaldun</p> <p>GE-3: Prose(Islamic, Medieval & Modern Period) Unit- 4: Ashab-e-fil</p> | 2 | <p>Nababiyah</p> <p>DSE-1: (History Of Islam,Rhetoric, Prosody & Philology) Jinas & Tawriyah</p> <p>DSE-1A (Rhetoric, Prosody) Jinas & Tawriyah</p> | 2 2 |
| Oct | <p>CC-1: History of Arabic literature (from pre Islamic to Islamic period) Gram. & trans. Unit-A.2 Al-Farazdaq</p> <p>CC-2: Arabic Prose (Islamic & medieval) Unit- 5 Salman Al-farsi</p> <p>GE-1: History of Arabic literature (from pre Islamic to Islamic period) Unit- B: (Islamic Period & Umayyad Period) 4) Hassan Bin Thabit</p> | 2 2 2 | <p>CC-5: POETRY (Pre-Islamic, Islamiv & Umaiya Period) Unit 1: Muallaqa Labid Bin Rabeya</p> <p>CC-6: (History of Arabic literature (Spain) gram. & trans) Unit: A(b) Ibne Abde Rabbihi, Ibne Khaldun</p> <p>GE-3: Prose(Islamic, Medieval & Modern Period) Unit- 4: Ashab-e-fil</p> | 3 3 2 | <p>CC-11: PROSE (Modern Period Unit -1) Hinan-E-Ab</p> <p>DSE-1: (History Of Islam,Rhetoric, Prosody & Philology) Itnab, Eijaz</p> <p>DSE-1A (Rhetoric, Prosody) Ilme Arouz ,Sabab, Watad, Fasilah</p> | 3 3 2 |
| Nov | <p>CC-1: History of Arabic literature (From Pre Islamic To Islamic Period) Gram. & trans. Unit-A.2 Jarir</p> <p>CC-2: Arabic Prose (Islamic & medieval) Unit- 5 Salman Al-farsi</p> <p>GE-1: History of Arabic literature (From Pre Islamic To Islamic Period) Unit- B: Islamic Period & Umayyad Period. 5) Al- Akhtal</p> | 2 2 2 | <p>CC-5: POETRY (Pre-Islamic, Islamiv & Umaiya Period) Unit 1: Muallaqa Imrul Qayes Special class</p> <p>CC-6: History of Arabic literature (Spain) gram. & trans. Unit: A(b) Ibnul Khatib</p> <p>GE-3: Prose(Islamic, Medieval & Modern Period) Unit- 3: Salman Al-farsi Special class</p> | 3 2 2 | <p>CC-11: PROSE (Modern Period Unit -1) Hinan-E-Ab</p> <p>DSE-1: (History Of Islam,Rhetoric, Prosody & Philology) Ilme Arouz , Maqta'a, Arkaan,Zihaf</p> <p>DSE-1A (Rhetoric, Prosody) Arkan, Bahre Kamil</p> | 2 4 2 |

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| Dec | <p>CC-1: History of Arabic literature (From Pre Islamic To Islamic Period) Gram. & trans. Unit-A.2 Special Class</p> | 2 | <p>CC-5: POETRY (Pre-Islamic, Islamiv & Umayya Period) Unit 1: Muallaqa Labid Bin Rabeya Special class</p> | 3 | <p>CC-11: PROSE (Modern Period Unit -1) Awalul Ahd Bi Yasrab Special class</p> | 1 |
| | <p>CC-2: Arabic Prose (Islamic & medieval) Unit- 5 Salman Al-farsi</p> | 2 | <p>CC-6: History of Arabic literature (Spain) gram. & trans. Unit: A(c) Ibne Zaidun, Ibne Hani</p> | 3 | <p>CC-12: POETRY (Modern Period Unit -1) Special class</p> | 1 |
| | <p>GE-1: History of Arabic literature (From Pre Islamic To Islamic Period) Unit- B: Islamic Period & Umayyad Period. 6) Al-Farazdaq, Jarir</p> | 2 | <p>GE-3: Prose(Islamic, Medieval & Modern Period) Unit- 4: Ashab-e-fil Special class</p> | 2 | <p>DSE-1: (History Of Islam,Rhetoric, Prosody & Philology) Illat, Bahr, Taqtie</p> | 2 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | <p>CC-3: History of Arabic literature (Abbasid period & Indian Arabic lit.) Gram. & trans. Unit- A.c Indian Arabic Scholars Gulam Ali Azad</p> | 2 | <p>CC-8: POETRY (Abbasid & Fatimid) Unit 1: Ibne Rumi</p> | 2 | <p>CC-13: PROSE (Modern Period Unit -2) Ad-Dafin As-Sagir</p> | 2 |
| | <p>CC-4: Arabic Prose (Islamic & medieval) Unit- 1 Khutbatu Umar fil hikam</p> | 3 | <p>CC-9: History of Arabic literature (North & South America/Adabul Mahjar) Gram. And Trans. Unit: 1(a) Rabita Qalamiya, Jibran Khalil Jibran</p> | 3 | <p>CC-14: POETRY (Modern Period Unit -2) Sakran</p> | 2 |
| | <p>GE-2: History of Arabic literature (Abbasid period) gram. & trans. Unit- A(2): Abbasid Period(poetry) 1) Bashshar Bin Burd</p> | 2 | <p>GE-4: Poetry (Islamic, Medieval & Modern Period) Unit-2: Walahu Fil Waz</p> | 2 | <p>DSE-3:(Outline History Of Modern Arab World) Unit-1: Kuwait</p> | 2 |
| Feb | <p>CC-3: History of Arabic Literature (Abbasid period & Indian Arabic lit.) Gram. & trans. Unit-1: Islamic Period & Umayyad Period Shah Waliullah</p> | 2 | <p>CC-8: POETRY (Abbasid & Fatimid) Unit 1: Ibnu Farid</p> | 2 | <p>CC-13: PROSE (Modern Period Unit -2) Ad-Dafin As-Sagir</p> | 2 |
| | | | <p>CC-9: History of Arabic literature (North & South America/Adabul Mahjar) Gram. And Trans. Unit: 1(a) Mikhail Nuaimah & Iliya Abu</p> | 3 | <p>CC-14: POETRY (Modern Period Unit -2) Usfurul Jannat</p> | 2 |
| | | | | | <p>DSE-3:(Outline History Of Modern Arab</p> | |

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| | <p>Arabic literature(Abbasid period) gram. & trans Unit- A(2): Abbasid Period(poetry) 4) Abu Tammam</p> | 2 | | | <p>Undulisiya ,Mishal Ma'louf</p> | |
| May | <p>CC-3: History of Arabic literature (Abbasid period & Indian Arabic lit.) Gram. & trans. Unit- A.c Indian Arabic Scholars Nawab Siddiq Hasan GE-2: History of Arabic literature(Abbasid period) gram. & trans Unit- A(2): Abbasid Period(poetry) 5) Al-Mutanabbi</p> | 3 3 | <p>CC-8: POETRY (Abbasid & Fatimid) Unit 1: Ibnul Farid Special class CC-9: History of Arabic literature (North & South America/Adabul Mahjar) Gram. And Trans. Unit: 1(b) Special class GE-4: Poetry (Islamic, Medieval & Modern Period) Special class</p> | 2 3 | <p>CC-13: PROSE (Modern Period Unit -2) Madaniyatul Islamiyah DSE-3: :(Outline History Of Modern Arab World) Unit 5: Lebanon :(Specialy Literay Feature Of Modern Arabic Literature in Exile) Al-khouri,Ilyas Farhat</p> | 3 2 2 |
| June | <p>CC-3: History of Arabic literature (Abbasid period & Indian Arabic lit.) Gram. & trans. Unit- A.c Indian Arabic Scholars Al-Masumi GE-2: History of Arabic literature(Abbasid period) gram. & trans Unit- A(2): Abbasid Period(poetry) 6) Al-Marri</p> | 3 2 | <p>CC-8: POETRY (Abbasid & Fatimid) Unit 1: Ibnur Rumi Special class CC-9: History of Arabic literature (North & South America/Adabul Mahjar) Gram. And Trans. Unit: 1(a) Special class GE-4: Poetry (Islamic, Medieval & Modern Period) Special class</p> | 2 3 | <p>CC-13: PROSE (Modern Period Unit -2) Madaniyatul Islamiyah DSE-3:(Outline History Of Modern Arab World) Special class SEC-3:(Specialy Literay Feature Of Modern Arabic Literature in Exile) Special class</p> | 2 3 2 |



Department of Arabic,
Suri Vidyasagar College

**SURI VIDYASAGGAR COLLEGE
DEPARTMENT OF POLITICAL SCIENCE**

**TEACHING PLAN OF BIPLAB MANDAL
Political Science (General) (July 2019 – June 2020)**

| | SEMESTER-I | No. of Lecture | SEMESTER-III | No. of Lecture | SEMESTER-V | No. of Lecture |
|--|--|--|---|---------------------------------------|--|-----------------------|
| July-December, 2019 | CC1/GE-1: Western Political Thought | 30 | CC-3/GE-3: Indian Political Thought | 30 | DSE-1A: Select Comparative Political Thought | 30 |
| | Chapter-4:Rousseau: Concept of Sovereignty | 10 | Chapter -5: Gandhi: Satyagraha, Trusteeship. | 10 | Chapter – 3(a) kautilyaon state | 9 |
| | Background and Life | 2 | About Gandhi | 3 | Chapter - 3(b) Tilak and Gandhi on Swaraj | 8 |
| | Concept of state of Nature | 2 | Satyagraha | 3 | Tilak on Swaraj | 3 |
| | Theory of Social Contract. | 2 | Trusteeship | 4 | Gandhi on Swaraj | 3 |
| | Rousseaus Theory of Sovereignty. | 3 | Chapter-6: Tagore;State,Society and Nation. | 11 | Chapter-3(c) Ambedkar on Social Justice: | 5 |
| | Evaluation | 1 | Introduction | 2 | Chapter-3(d) Nehru and Jayaprakash Narayan: Democracy | 8 |
| | Chapter -5: Marx and Engels: Dialectical and Historical Materialism; Revolution; Lenin: Imperialism | 10 | State and Society | 2 | Nehru : The Philosophical Foundations | 4 |
| | Introduction to Marx and Engels | 1 | Concept of Nationalism | 2 | Nehru and Democracy | 2 |
| | About Marxism | 2 | Concept of Internationalism | 4 | Democratic Socialism | 2 |
| | Dialectical Materialism | 1 | Evaluation of Political Ideas of Rabindranath. | 1 | Nehru and Economic Policy | 2 |
| | Historical Materialism | 2 | | 2 | Jayaprakash Narayan: State concept | 4 |
| Revolution | 1 | | | Party Less Democracy | 1 | |
| Lenin: Imperialism | 3 | | | Socialistic Concept | 2 | |
| Chapter-6:J.S Mill:Concept of Liberty | 10 | SEC-1: Electoral Practice and Procedures in India | 15 | Democracy | 2 | |
| | | Chapter-1 Electoral Process in India-Method of Conducting | 2 | Total Revolution | 1 | |
| | | | | GE-1: Indian Political Thought | 30 | |

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|----------------------------|---|---|--|--|--|-----------|
| July-December, 2019 | Introduction, Background, Method of Study | 2 | General (Parliamentary) elections and elections to state assemblies | 3 | Chapter -5: Gandhi: Satyagraha, Trusteeship. | 10 |
| | Mill and Utilitarianism, Liberalism | 4 | Chapter-2 Election Commission in India: Composition, Structure and functions. | 5 | About Gandhi | 1 |
| | Mills Ideas on Liberty | 2 | Introduction | 1 | Satyagraha | 3 |
| | Views on Representative Government | | Composition | 2 | Trusteeship | 4 |
| | | | Independence and Neutrality | 1 | | 2 |
| | | | Functions | 1 | Chapter-6: Tagore; State, Society and Nation. | 10 |
| | | | Chapter-3: Role of Chief Election Commissioner | 5 | Introduction | |
| | | | Introduction | | State and Society | 1 |
| | | | Election Commission | 1 | Concept of Nationalism | 3 |
| | | | Role of Chief Election Commission | 2 | Concept of Internationalism | 3 |
| | | | 2 | Evaluation of Political Ideas of Rabindranath. | 1 | |
| | | | | | 2 | |
| | | | | Chapter-7: Ambedkar: Social Justice | 10 | |
| | | | | About Ambedkar | 5 | |
| | | | | Social and Political Ideas | 5 | |

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| | SEMESTER -II CC2/GE-2: Political Theory Chapter - 4: Liberalism and Neo-Liberalism | No. of Lecture 30 10 | SEMESTER-IV CC-4: Indian Government and Politics Chapter-1:The Constituent Assembly:its Composition and Role. The Preamble and itsSignificance Introduction | No. of Lecture 30 10 1 1 | SEMESTER-VI DSE-1B:Under standing Globalization Chapter-1:Globalization:Meaning and debates Chapter-2:Impact of Globalization on Indian Economy | 2 0 9 1 1 |
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|---------------------------|---|--|---|--|---|----|
| January- June, 2020 | Definition of Liberalism | 1 | Demand for the Establishment of a Constituent Assembly | 1 | The Process of Globalization Started in India | 2 |
| | Evolution of Liberalism | 2 | Composition | 1 | Liberalisation of the Indian Economy | 3 |
| | Different types of Liberalism | 1 | Nature | 1 | Advantages and Disadvantages of Indian Economy | 2 |
| | Features of Liberalism | 3 | Role of the Constituent Assembly in Framing the Constitution | 2 | Evaluation | 4 |
| | Neo-Liberalism | 1 | b. Nature of the Preamble | 2 | Economic Reforms in India Since 1991 | |
| | Globalization: as an expansion of Liberalism | 2 | The Preamble to the Constitution of India | 1 | | |
| | Chapter -5: Theories of State: (a) Idealist (b) Liberal | 10 | Significance of the Preamble | | | |
| | Idealist | 5 | Chapter - 2: (a) Fundamental Right and Duties (b) Directive Principles of State Policy | 8 | SEC-4: Human Right Education | 15 |
| | Origins of the Theory | 1 | Concept of Fundamental Right | 1 | Chapter-1: Meaning and a brief history of human rights (UDHR) | 5 |
| | Nature of the State | 3 | Right to Equality | 2 | | |
| | Criticisms of the Idealist Theory | 1 | Right to Freedom | 1 | Chapter-2: Human rights-Terrorism and Counter-Terrorism | 5 |
| | Liberal | 5 | Right against Exploitation | 1 | | |
| | Original Version | 1 | Right to Freedom of Religion. | 1 | Chapter-3: Indian Constitution and Protection of Human Right | 5 |
| | Revised Version of the Liberal Theory | 1 | Constitutional Remedies. | 1 | | |
| | Critical Evaluation | 2 | Fundamental Duties of the Indian Citizens. | 2 | GE-2 Indian Government and Politics | 30 |
| | Chapter-6: Political parties and Pressure groups: Concept and role | 10 | Chapter - 3: Nature of Indian Federalism: Centre-State relations-Legislative, Administrative and Financial | 5 | Chapter-1: The Constituent Assembly: its Composition and Role. The Preamble and its Significance | 10 |
| | | 1 | Introduction | 1 | Introduction | 1 |
| | | Nature of the Federation | 1 | Demand for the Establishment of a Constituent Assembly | 2 | |
| | | Nature of the Indian Federation | 1 | Composition | 1 | |
| | | The Scheme of Division of Power | 1 | Nature | 1 | |
| | | Power Distributions of Legislative, Administrative, Financial Between Centre and States. | 1 | Role of the Constituent Assembly in Framing the Constitution | 3 | |
| | | Recent Trends. | | b. Nature of the Preamble | 2 | |
| | | | | The Preamble to the Constitution of India | 1 | |
| | | | | Significance of the Preamble | | |
| | | Chapter-4: Law-making Procedure | 7 | | | |
| | | Definition and Classification of Bill | 1 | | | |
| | | Passing of Ordinary Bill | 2 | | | |
| | | Money Bill and Financial Bill . | | | | |

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| January- June, 2020 | Meaning and Nature of Parties | 2 | the Speaker Speaker Power and Functions Position | 1 | | |
| | Meaning and Nature of Pressure Groups | 2 | Procedure of Constitutional Amendment Necessity Procedure Method | 1 | | |
| | Distinction between Pressure Groups and Political Parties. | 2 | | | 8 | |
| | Role of Political Parties and Pressure Groups. | 1 | SEC-2:Environmental Awareness | | | |
| | | | Chapter-1:Environmentalism:Meaning,Key Related Ideas,Significance | 4 | | |
| | | | Chapter-2:Collective action Problems and Envioronmental Challenges in Devolping Countries | 2 | | |
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| | | | | | | Chapter - 2: (a) 8 |
| | | | | | | Fundamental Right and Duties (b)Directive |
| | | | | | | Principles of State Policy |
| | | | | | | Concept of Fundamental Right 1 |
| | | | | | | Right to Equality 2 |
| | | | | | | Right to Freedom 1 |
| | | | | | | Right against Exploitation 1 |
| | | | | | | Right to Freedom of Religion. 1 |
| | | | | | | Constitutional Remedies. 1 |
| | | | | | | Fundamental Duties of the 1 |
| | | | | | | Directive Principles of State 1 |
| | | | | | | Policy Indian Citizens. |
| | | | | | | Chapter - 3:Nature of Indian Federalism: 7 |
| | | | | | | Centre-State relations-Legislative,Administrative and Financial |
| | | | | | | Introduction 1 |
| | | | | | | Nature of the Federation 1 |
| | | | | | | Nature of the Indian Federation 1 |
| | | | | | | The Scheme of Division of 2 |
| | | | | | | Power 2 |
| | | | | | | Power Distributions of 1 |
| | | | | | | Legislative,Administrative,Fin 1 |
| | | | | | | ancial Between Centre and 1 |
| | | | | | | States. 1 |
| | | | | | | Recent Trends. 1 |
| | | | | | | Chapter-4: 5 |
| | | | | | | Law-making Procedure |
| | | | | | | Definition and Classification 1 |
| | | | | | | of Bill 1 |
| | | | | | | Passing of Ordinary Bill 1 |
| | | | | | | Money Bill and Financial Bill 1 |
| | | | | | | . |
| | | | | | | the Speaker 1 |
| | | | | | | Speaker Power and Functions 1 |
| | | | | | | Position 2 |
| | | | | | | Procedure of Constitutional Amendment |
| | | | | | | Necessity |
| | | | | | | Procedure Method |

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SURI VIDYASAGAR COLLEGE
DEPARTMENT OF ARABIC

Teaching plan of Dr. MOHD MOATASIM
B.A. Arabic (Hons. & Genl.) session July 2019– June 2020

| Sem-I (Hons. & Genl) | No. of Lecture | Sem-III (Hons. & Genl) | No. of Lecture | Sem-V (Hons. & Genl) | No. of Lecture |
|---|--|---|--|--|---|
| CC1: Hist. of Arabic Lit.(from Pre-Islamic to Umayyad period), Gram. & Trans | Total Classes=30 | CC5: Poetry (Pre-Islamic, Islamic & Umayyad period) 5: Selected Verses from Poetry of Al-Farazdaq. 6: Selected Verses from Poetry of Jarir | Total Classes=20 10 10 | CC-11: Prose (Modern Period unit 1) (5): Manhaj al-Anblyā' fi al-Islāh wa al-taqhyir (The method of Prophets to reform and change): Syed Abul Hasan Ali Nadwi | Total Classes=10 10 |
| Part B: Grammar & Translation (a) Words; Noun, Verb & Particles (b) Number: Singular, Dual & Plural (c) Definite & Indefinite Noun (d) Gender; Masculine & Feminine (e) Demonstrative Pronoun (f) Relative Pronoun (g) Personal Pronouns and its Kinds (h) Prepositions (i) Interrogative words (j) Kinds of Verb; Past, Present, Imperative and Negative Imperative Verb (k) Simple Verbs (Mujarrad Verbs) (l) Possessive compound (Genitive Construction) (m) Noun and adjective (n) Subject and Predicate (Nominative Sentences) | 2 4 1 1 2 2 2 2 2 2 4 2 2 2 | CC-6: History of Arabic literature (Spain) gram. & trans. Unit: 8 Grammar and Translation of the following topic: 1) Complex Verbs (Mazid Verbs) and its Stem-Forms 2) Features of Stem-Forms: If'āl, Taf'īl, Ihtifāl, Istif'āl, Muftā'ala 3) Semi-Defective Verbs; (AF'āl al-Muqārabā wa al-Rij'ā' wa al-Shuru' (Approximative, Hope and Inchoative verbs) 4) Defective Verbs 5) Plural and its kinds 6) Five objects | Total Classes=30 4 5 6 3 5 7 | CC-12: Poetry (Modern Period unit 1) 4) Jamil wa Burhain: Zahāwī DSE2: Elementary knowledge of Al-Quran & Al-Hadeeth Literature. Al-Qur'an (Holy Qur'an) 1) Detailed History of revelation and compilation of Holy Qur'an (Tārīkh Nuzul al-Qur'an wa Jao'uhu wa al-Ihtifaz bihi Mufassilan) 2) Tathir al-Qur'an al-Karim 'ala al-Lugha al-Arabiyya wa Hayāt al-Arab al-Ijtima'iyyah (The impact of Holy Qur'an on Arabic Language and social life of Arabs) 3) Khulāsa al-Suwar al-Taliya wa al-Fikrah al-Ra'isiyya fiha (Conclusion and Central Ideas of the following Chapters): Al-Mā'ida, Al-Kahf, Al-Hujrāt 4) Ma'lumāt al-Qur'an (Knowledge of the Holy Qur'an): a) Shān al-Nuzul, Surah Makkiyya Madniyya, al-Mufassirun min al-Sahāba (RA) b) Al-Istalahāt: al-Nasikh, al-Mansukh, al-Muhkam, al-Mutashābih, al-Tahrif | Total Classes=10 10 Total Classes=60 (30) 5 5 5 7 8 |
| CC-2: Arabic Prose (Islamic & Medieval) (Part-A) d) Khutba al-Nabi (PBUH) fi Hajja al-Wadī' (The Last Sermon of the Prophet PBUH) | Total Classes=10 10 | SECI: Translation & Composition Unit 1: Translation 1) Kinds of Sentences: Nominal, Verbal, Conditional, Structural, Subject and Predicate, Places where Subject comes first, Places where Predicate comes first 2) Exercises of Letter writing on different topics and Application writing in Arabic | Total Classes=40 30 10 | Al-Hadīth (Hadīth) 1) The Hadīth and its History of compilation and preservation in the following periods: Prophet's period, Umayyad period & Abbasid period 2) Life and work of following Muhaddithin in the field of Hadīth: Imām Bukhārī, Imām Muslim, Imām Abu Da'ūd, Imām Nasa'i, Imām Ibn-I-Māja, Imām Timidhi (RA) 3) History of publishing and teaching of Hadīth in India 4) Life and contribution of Abdul Haq Muhaddith Dehlawi and Shah Waliullah Dehlawi in serving the field of Hadīth | (30) 6 14 5 5 |
| CC-1A: A. Hist. of Arabic Literature (from Pre-Islamic to Umayyad Period 500- 750 A. D.), Gram. & Translation C: Grammar & Translation (a) Words; Noun, Verb & Particles (b) Definite & Indefinite Article (c) Gender; Masculine & Feminine (d) Number: Singular, Dual & Plural (e) Kinds of Verb; Past, Present, Imperative and Negative Imperative Verb (f) Simple Verbs (Mujarrad Verbs) (g) Pronouns and its Kinds (h) Possessive compound (Genitive Construction) (i) Subject and Predicate (Nominative Sentences) | Total Classes=30 3 2 1 4 9 2 4 2 3 | CC-1C: Prose (Islamic, Medieval & Modern Period) 5. Ahmad Amin: Al-dīn al-Sina'ī (Artificial Religion) SECI: Grammar, translation & letter writing a) Nominal Sentences, Verbal Sentences, Conditional Sentences, the particles that resembles verbs, Defective Verbs, Hā and Dhū al-Hā (Adjective of Condition), Adverb of Clarification b) Letter Writing (Official, Educational, Personal and etc. | Total Classes=12 12 Total Classes=40 25 15 | SECI: Specific literary feature of modern Arabic Literature DSE-1A: Rhetoric & Prosody: b) Prosody and its kinds | Total Classes=30 30 |

| Sem-II (Hons. & Genl) | | Sem-IV (Hons. & Genl) | | Sem-VI (Hons. & Genl) | No. of Lecture |
|---|------------------|--|------------------|---|------------------|
| CC-3: History of Arabic Literature (Abbasid Period & Indian Arabic Lit.), Gram. & Translation | Total Classes=30 | CC-8: Poetry (Abbasid & Fatimid) | Total Classes=15 | CC-13: Prose (Modern Period Unit -II) | Total Classes=10 |
| B. Grammar & Translation | | a) Abul Ala Ma'rri: Ala Fi Sabil al-Majd Ma' Ana Fa'il | 15 | 2) An Accident: Naguib Mahfouz | 10 |
| (a) Intransitive and Transitive Verbs | 5 | CC-9: History of Arabic Literature (North & South America/Adabul Mahjar) & Grammar + Translation | Total Classes=30 | CC-14: Poetry (Modern Period Unit -II) | Total Classes=15 |
| (b) The Particles which introduce the verb in jussive case | 2 | 2: Grammar based Translation on the prescribed items. | | 3) Lap of Mother: Rashid Salim al-Khoury | 15 |
| (c) The Particles which introduce the verb in accusative case | 2 | c) Hal and Dhū al-Hā (Adjective of Condition) | 4 | DSE-4: Translation, Essay Writing, Terminology & Vocabulary | Total Classes=60 |
| (d) Infinitive (Gerund) and derivative nouns: Active Participle, Passive Participle, Locative noun, utilitarian noun, comparative and superlative, hyperbolic participle and resembling participle. | 13 | d) Adverb of Clarification | 4 | A) Grammar & Translation: | |
| (e) Case: Nominative, Accusative & Genitive | 1 | e) Declinable and Indeclinable | 4 | 1) Number and countable Noun | 18 |
| (f) The particles that resembles verbs | 3 | f) Diptotes | 8 | 2) Exclusion mustathnā mustathnā minhu | 9 |
| (g) Defective verbs | 4 | g) Conditional particles | 6 | 3) The followers | 8 |
| CC-4: Arabic Prose (Islamic & Medieval) (Part-B) | Total Classes=20 | h) Categorical negative lā | 4 | B) Essay Writing in Arabic (Narrative & Descriptive Types) | 15 |
| d) Baina Qādin Waqur wa Dhūbīn Jasur (Between a dignified judge and daring fly) | 10 | CC-10: Development of Modern Arabic Novel, short-story, Drama & Formation of Literary Groups | Total Classes=12 | C) Terminology & Vocabulary | 10 |
| e) Ash'ab wa al-Bakhil (Ash'ab and the miser) | 10 | C: Essay Writing in Educational, Social, Political & Scientific aspects | 12 | | |
| CC-1B: History of Arabic Literature (Abbasid Period, 750-1258 A.D.), Grammar & Translation | Total Classes=30 | SEC2: Translation & Interpretation (from English into Arabic & vice versa from Newspapers) & Communicative Skill: | Total Classes=40 | | |
| B. Grammar & Translation | | 1) Translation from Arabic and English Newspaper: Scientific, Political, Social and economic | 25 | | |
| (a) The Particles which introduce the verb in jussive case | 3 | 2) Conversation and speech in Arabic language on any scientific topic | 15 | | |
| (b) The Particles which introduce the verb in accusative case | 3 | CC1D: Poetry: (Islamic, medieval, & Modern Period) | Total Classes=20 | | |
| (c) Demonstrative Pronoun | 4 | 1) Hafiz Ibrahim: Condition of Arabic Language | 10 | | |
| (d) Relative Pronoun | 4 | 6: Abul Ala Ma'rri: Ala Fi Sabil al-Majd | 10 | | |
| (e) Active Participle, Passive Participle, Noun and adjective | 6 | SEC-2 (G): Grammar, translation & letter writing | Total Classes=40 | | |
| (f) Case: Nominative, Accusative & Genitive | 2 | a) | | | |
| (g) Prepositions | 2 | 1) Exclusion | 7 | | |
| (h) Interrogative particles | 3 | 2) Categorical negative lā | 5 | | |
| (i) Conditional particles | 3 | 3) Features of Stem-Forms: IF'āl, Taf'īl, Istif'āl, Muft'āla & If'āl | 13 | | |
| | | b) Essay Writing: Visit of the popular city, popular Library, and zoo and article on personality whom you like very much | 15 | | |

M. N. M. M.

Dr. MOHD MOATASIM

DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF GOPINATH CHOUDHURY

Political Science (Honours) (2019-20)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-----------|---|----------------|---|----------------|---|----------------|
| July | CC-2: Liberty and Equality: Meaning and their Inter-relationship | | CC-7: 73rd Amendment Act and its implications for rural local-self Government in India. 74th Amendment Act and its implications for urban local-self Government in India. | | CC-11; Social Movements: Definition; Distinction between "new" and "old" social movements. | |
| August | CC-2: Theory of Justice: Rawls | | CC-7: Rural Administration in West Bengal: Panchayati Raj Institutions; Role of BDO. | | CC-11; Positive discrimination and Dalit movements(Panthers) in India | |
| September | CC-2: Ideology – Meaning and Variants: Anarchism and Liberalism. | | CC-7: Urban Administration in West Bengal: Municipalities and Municipal Corporations. | | CC-11; Trade Union movements in India: an overview of strength and weaknesses. | |
| October | CC-2: Ideology – Meaning and Variants Neo-Liberalism and Fascism; | | CC-7: District Administration: Role of DM, SP & SDO. | | CC-11; Peasant moments in India: Case Study (Telengana and Tebhaga) | |
| November | CC-2: The End of Ideology Debate – Daniel Bell and Francis Fukuyama | | CC-7: State Administration in West Bengal: Chief Secretary; Divisional Commissioner; | | CC-11; Women's movements in India: key issues | |
| December | CC-2: Theories of State: (a) Idealist (b) Liberal (c) Marxist (d) Gandhian | | CC-7: Administrative Reforms in India: Impact of Globalization – RTI, Lokpal and Lokayukta | | CC-11; Environmental Movements in India: Chipko, Narmada Bachao Andolan | |

DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF GOPINATH CHOUDHURY

Political Science (General) (2019-20)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-----------|---|----------------|--|----------------|--|----------------|
| July | GE-1/CC-1A; Marx and Engels: Dialectical and Historical Materialism; Revolution; | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Ancient Indian Political Thought : Features | |
| August | GE-1/CC-1A; Marx and Engels: Dialectical and Historical Materialism; Revolution; | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Kautilya's theory of Saptanga and the concept of 'Dandaniti' | |
| September | GE-1/CC-1A; Marx and Engels: Dialectical and Historical Materialism; Revolution; | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Main features of medieval Muslim Political Thought. | |
| October | GE-1/CC-1A; Marx and Engels: Dialectical and Historical Materialism; Revolution; | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Rammohun Roy : perception of British Colonial Rule and their role as Modernizers. | |
| November | GE-1/CC-1A; Lenin: Imperialism | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Bankim, Vivekananda : Nationalism. | |
| December | GE-1/CC-1A; J.S. Mill: Concept of Liberty | | GE-3/CC-1C; Tagore ; State, Society and Nation. | | GE-1; Gandhi : Satyagraha; trusteeship | |
| January | Sem-II (H) | | Sem-IV (H) | | Sem- Sem-VI (G) | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |

DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF Madhabi Laha

Political Science (Honours) (2019-20)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-----------|---|----------------|--|----------------|--|----------------|
| July | CC-2; The meaning of Politics and Political Theory; | | CC-6: Public Administration: Meaning, dimensions and significance of the; Evolution of Public Administration as a Discipline ; Identity crisis of Public Administration | | CC-12; Meaning and Objective of social science research | |
| August | CC-2; Importance of Political Theory: Decline and Resurgence | | CC-6: Classical Theories: Scientific Management(F.W. Taylor); Administrative Management(Gullick, Urwick); Ideal type bureaucracy(Weber) | | CC-12; Theoretical foundations of research: A brief outline of Positivism, Post-Positivism, and their critiques. | |
| September | CC-2; Different Approaches: (a) Traditional (b) Behavioural | | CC-6: Neo-Classical Theories: Human Relations(Elton Mayo); Decision Making Theory(Herbert Simon); Motivation Theory(Herzberg, Maslow) | | CC-12; Methodology of research: Qualitative and Quantitative | |
| October | CC-2; Different Approaches; (c) Post-Behavioural (d) Marxist | | CC-6: Contemporary Theories: Ecological Approach(Fred Riggs); Innovation and Entrepreneurship(Peter Drucker) | | CC-12; Vocabulary of research: Concept, Variable, Proposition, Hypothesis, Theory | |
| November | CC-2; The Concept of Sovereignty: (a) Monistic (b) Pluralist (c) Popular | | CC-6: Concepts of Administration: Hierarachy, Span of Control, Unity of Command, Line and Staff, Centralization- Decentralization, Devolution, Delegation | | CC-12; Components of Research Design: Problemation, Hypothesis formulation, Data collection, and testing of hypothesis. | |
| December | CC-2; The Concept of Sovereignty: (a) Monistic (b) Pluralist (c) Popular | | CC-6: Major approaches in Public Administration – New Public Administration, New Public Management, New Public Service Approach, Feminist Perspective. | | CC-12; Major methods and techniques of Data Collection: Survey method, Interview, and Case study | |

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF Madhabi Laha

Political Science (General) (2019-20)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-----------|--|----------------|--|----------------|---|----------------|
| July | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; Constitution – fundamental rights, fundamental duties, other constitutional rights | |
| August | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; Laws relating to dowry, sexual harassment and violence against women | |
| September | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; laws relating to consumer rights and cyber crimes | |
| October | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; Anti-terrorist laws: Implication for security and human rights | |
| November | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; System of courts/ tribunals and their jurisdiction in India | |
| December | GE-1/CC-1A; Hobbes, Locke and Rousseau: Concept of Sovereignty | | GE-3;CC-1C; Gandhi : Satyagraha; trusteeship | | SEC-3; Criminal and civil courts, writ jurisdiction, specialized courts such as juvenile courts, Mahila courts and tribunal | |
| January | Sem-II (H) | | Sem-IV (H) | | Sem- Sem-VI (G) | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |

**DEPARTMENT OF BOTANY
SURI VIDYASAGAR COLLEGE**

TEACHING PLAN OF DR. KALYAN KUMAR BHATTACHARYA

(Associate Professor)

Botany (General) (2019-20) (July 2019 - June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|----------------|---|----------------|-----------|----------------|
| Jul | Theory CCIA/GE-1: Biodiversity Unit 2: Algae- General characteristics. Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity | 2 | Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 1. Study of mosses through permanent slides and photographs. | 2 | NIL | NIL |
| | 2. Dissection, mounting, description, drawing, labeling and identification of the following genera: a. Pteridophyte: Lycopodium (stem), Selaginella (stem) | 2 | | | | |
| Aug | Theory CCIA/GE-1: Biodiversity Unit 2: Algae- Ecology and distribution; Range of thallus organization and reproduction Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity | 2 | Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylary elements, Phloem (Permanent slides, photographs) | 2 | NIL | NIL |
| | 2. Dissection, mounting, description, drawing, labeling and identification of the following genus: a. Pteridophytes: Ferns (leaflet). | 1 | | | | |
| Sept | Theory CCIA/GE-1: Biodiversity Unit 2: Algae- Classification of algae Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity | 2 | Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 3. Types of ovules: anatropous, orthotropous, circumscissous, axiparous/ campylotropous - Through Permanent Slides/Photographs | 2 | NIL | NIL |
| | 2. Dissection, mounting, description, drawing, labeling and identification of the following genera: a. Pteridophytes; b. Gymnosperms: Cycas leaflet, Pinus needle. | 2 | | | | |
| Oct | Theory CCIA/GE-1: Biodiversity Unit 2: Algae- | 2 | Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology | | NIL | NIL |

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|-----|--|---|--|---|--|---|---|
| | <p>Ecology and Taxonomy</p> <p>1. Study and identification of the following families: <i>Carex/potamogeton</i>.</p> | 2 | <p>and Metabolism:</p> <p>6. Comparison of the rate of respiration in any two parts of a plant.</p> | 2 | <p>Genetics and Molecular Biology</p> <p>Unit 6: Cell Membrane and Cell Wall The functions of membrane; Models of membrane structure; The fluidity of membranes; Membrane proteins and their functions; Carbohydrates in the membrane; Faces of the membrane; Selective permeability of the membrane; Cell wall.</p> <p>Practical</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>3. To study the structure of plant cell through temporary mounts.</p> | 6 | 1 |
| Mar | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1B/GE-2: Plant Ecology and Taxonomy</p> <p>3. Ecological adaptations of some species: <i>Sponaria aquatica</i> stem,</p> | 2 | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1D/GE-4 Plant Physiology and Metabolism:</p> <p>Revise Practical Class</p> | 1 | <p>Theory</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>Unit 8: Genetic material</p> <p>DNA: Miescher to Watson and Crick- historic perspective, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment, DNA structure, types of DNA, types of genetic material. DNA replication (eukaryotes and eukaryotes: bidirectional replication, semi-conservative, semi discontinuous A priming, theta mode of replication, replication of linear, ds- A, replicating the end of linear chromosome including replication enzymes.</p> <p>Practical</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>4. To study the structure of animal cells by temporary mounts-squamous epithelial cell</p> | 6 | 1 |
| Apr | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1B/GE-2: Plant Ecology and Taxonomy</p> <p>3. Ecological adaptations of some species: <i>Phyllode of Acacia acaciiformis</i></p> | 2 | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1B/GE-4 Plant Physiology and Metabolism:</p> <p>Revise Practical Class</p> | 1 | <p>Theory</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>Unit 9: Transcription (Prokaryotes and Eukaryotes)</p> <p>Types of structures of RNA (mRNA, tRNA, rRNA), RNA polymerase- various types; Translation (Prokaryotes and eukaryotes), genetic code.</p> <p>Practical</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>6. Study of plasmolysis and deplasmolysis on <i>Rhoeo</i> leaf</p> | 6 | 1 |
| May | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1B/GE-2: Plant Ecology and Taxonomy</p> | | <p>Practical (Generic: Zoology Honn.)</p> <p>CC1D/GE-4 Plant Physiology and Metabolism:</p> <p>Revise Practical Class</p> | 1 | <p>Theory</p> <p>DSE-1B: Cell Biology, Genetics and Molecular Biology</p> <p>Unit 10: Regulation of gene</p> | 6 | |

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|------|---|---|---|---|---|---|
| | Review Practical Class | 1 | | | experiment Prokaryotic, Lac operon and Trypsinogen operon, and in Eukaryotes Practical BSE-1B: Cell Biology, Genetics and Molecular Biology ? Measure the cell and nuclear length or breadth/diameter by microscopy. | 1 |
| June | Practical (Genetic Zoology Exam) CCIB-CE-2: Plant Ecology and Taxonomy Review Practical Class | 1 | Practical (Genetic Zoology Exam) CCIB-CE-4/Plant Physiology and Metabolism Review Practical Class | 1 | Theory BSE-1B: Cell Biology, Genetics and Molecular Biology Exam covering also Practical BSE-1B: Cell Biology, Genetics and Molecular Biology Review Practical Class | 1 |

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TEACHING PLAN OF DR. HEMANTA SAHA

(Assistant Professor)

Botany (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|----------------|---|----------------|-----------|----------------|
| Jul | Practical (Generic: Zoology Hons.) CCIA/GE-3: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: a. Algae: <i>Nostoc</i> , <i>Oedogonium</i> , <i>Chara</i> . | 3 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 7: Embryo and endosperm-Endosperm types Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 3. Stem: Monocot: <i>Zea mays</i> ; Dicot: <i>Helianthus</i> ; Secondary: <i>Helianthus</i> (only Permanent slides) | 2 2 | NIL | NIL |
| Aug | Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: b. Fungi: <i>Aspergillus</i> , <i>Penicillium</i> (Infructs and teleomorphs) | 3 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 7: Embryo and endosperm-structure and functions Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 4. Root: Monocot: <i>Zea mays</i> ; Dicot: <i>Helianthus</i> ; Secondary: <i>Helianthus</i> (only Permanent slides) | 2 2 | NIL | NIL |
| Sept | Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: c. Bryophytes: <i>Fernia</i> , <i>Marchantia</i> and <i>Funaria</i> | 3 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 7: Embryo and endosperm-Dicot and monocot embryo Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 5. Leaf: Dicot and Monocot leaf (only Permanent slides) | 2 2 | NIL | NIL |
| Oct | Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity 4. Microbiology: Sterilization techniques; Simple staining of Bacteria with methylene blue/Carbol Fuchsin - Curd | 2 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 7: Embryo and endosperm-Embryo-endosperm relationship. Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 6. Adaptive anatomy: Xerophyte (<i>Neem</i> leaf); Hydrophyte (<i>Hydrilla</i> stem). | 2 2 | NIL | NIL |
| Nov | Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity Revised Practical class | 1 | Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Generic: Zoology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 9. Follination types and seed dispersal mechanisms (including appendages, oil, caruncle) (<i>Physopellis</i> and specimens). | 1 2 | NIL | NIL |
| Dec | Practical(Generic: Zoology Hons.) CCIA/GE-1: Biodiversity Revised Practical | 1 | Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Generic: Zoology | 1 | NIL | NIL |

| | class | | Hons.) CC1C/GE-3: Plant Anatomy and Embryology Revised Practical class | 1 | | |
|-----|---|-------------------|--|---------------------|------------|-------------------|
| | Sem-II (G) | No. of Lecture | Sem-IV (G) | No. of Lecture | Sem-VI (G) | No. of Lecture |
| Jan | Practical (Generic: Zoology Hons.) CC1B/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Papilionaceae, Asteraceae. | 4 | Theory CC1D/GE-4 Plant Physiology and Metabolism: Unit 1: Plant-water relations - Importance of water Practical (Bio General) CC1D/GE-4 Plant Physiology and Metabolism: 5. To study the effect of light intensity and bicarbonate concentration on O ₂ evolution in photosynthesis. Theory SEC2: Medicinal Botany Unit 2: Conservation of endangered and endemic medicinal plants. Definition: endemic and endangered medicinal plants | 2 2 2 | NIL | NIL |
| Feb | Practical (Generic: Zoology Hons.) CC1B/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Labiatae, Solanaceae. | 4 | Theory CC1D/GE-4 Plant Physiology and Metabolism: Unit 1: Plant-water relations - water potential and its components Practical (Bio General) CC1D/GE-4 Plant Physiology and Metabolism: 6. Comparison of the rate of respiration in any two parts of a plant. Theory SEC2: Medicinal Botany Unit 2: Conservation of endangered and endemic medicinal plants. Red list criteria; in-situ conservation: Biosphere reserves, sacred groves | 2 2 2 | NIL | NIL |
| Mar | Practical (Generic: Zoology Hons.) CC1B/GE-2: Plant Ecology and Taxonomy 2. Mounting of a properly dried and pressed specimen of any wild plant with herbarium label (to be submitted in the return book). | 2 | Theory CC1D/GE-4 Plant Physiology and Metabolism: Unit 1: Plant-water relations - Transpiration and its significance; Practical (Bio General) CC1D/GE-4 Plant Physiology and Metabolism; Revised Practical Class Theory SEC2: Medicinal Botany Unit 2: Conservation of endangered and endemic medicinal plants. National Parks; ex-situ conservation: Botanic Gardens, Ethnomedicinal plant Gardens. | 2 1 2 | NIL | NIL |
| Apr | Practical (Generic: Zoology Hons.) CC1B/GE-2: Plant Ecology and Taxonomy 3. Ecological adaptations of some species: <i>Nerium</i> leaf | 2 | Theory CC1D/GE-4 Plant Physiology and Metabolism: Unit 1: Plant-water relations - Root pressure and guttation Practical (Bio General) CC1D/GE-4 Plant Physiology and Metabolism; Revised Practical Class Theory SEC2: Medicinal Botany Unit 2: Conservation of | 2 1 2 | NIL | NIL |

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|------|--|---|--|-------------------------|-----|-----|
| | | | endangered and endemic medicinal plants. Fraygnation of Medicinal Teams. Objectives of the survey, its classification. | | | |
| May | 3 Ecological adaptations of some species. Field visit | 3 | Theory CC110GE-4 Plant Physiology and Metabolism: Unit 8: Plant growth regulators - Discovery and physiological roles of auxins, gibberellins Practical (Bio General) CC110GE-4 Plant Physiology and Metabolism: Revise Practical Class Theory SEC2: Medicinal Botany Doubt clearing class | 3 1 1 | NIL | NIL |
| June | Practical (Generic: Zoology Hons.) CC110GE-2: Plant Ecology and Taxonomy Revised Practical class | 1 | Theory CC110GE-4 Plant Physiology and Metabolism: Unit 8: Plant growth regulators - Discovery and physiological roles of cytokinins, ABA, ethylene. Practical (Bio General) CC110GE-4 Plant Physiology and Metabolism: Revise Practical Class Theory SEC2: Medicinal Botany Doubt clearing class | 3 1 1 | NIL | NIL |

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TEACHING PLAN OF DR. SANDIPAN CHATTERJEE

(Assistant Professor)

Botany (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lectures | Sem-III (G) | No. of Lectures | Sem-V (G) | No. of Lectures |
|-------|--|-------------------|---|----------------------------|-----------|-----------------|
| Jul | <p>Theory CCIA/GE-1: Biodiversity Unit 3: Fungi- Introduction- General characteristics, ecology and significance Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: a. Algae: <i>Noctua</i>, <i>Oedogonium</i>, <i>Chara</i>.</p> | <p>1</p> <p>3</p> | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 3: Secondary Growth- Vascular cambium – structure and function, seasonal activity. Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 1. Study of xylems through permanent slides and photographs. Theory SECI: Biofertilizers Unit 1: General account about the microbes used as biofertilizer – <i>Rhizobium</i> – isolation, identification, mass multiplication, carrier based inoculants, Actinorhizal symbiosis.</p> | <p>4</p> <p>2</p> <p>4</p> | NIL | NIL |
| Aug | <p>Theory CCIA/GE-1: Biodiversity Unit 3: Fungi- range of thallus organization, cell wall composition, nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: b. Fungi; <i>Ascochyta</i>, <i>Puccinia</i> (<i>Uredosorus</i> and <i>teliosorus</i>).</p> | <p>2</p> <p>2</p> | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 3: Secondary Growth- Secondary growth in root and stem, Wood (heartwood and sapwood). Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylem elements, Phloem (Permanent slides, photographs) Theory SECI: Biofertilizers Unit 2: <i>Azospirillum</i>: isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms.</p> | <p>4</p> <p>2</p> <p>4</p> | NIL | NIL |
| Sept | <p>Theory CCIA/GE-1: Biodiversity Unit 3: Fungi- life cycle of <i>Rhizopus</i> (Zygomycota) <i>Ascochyta</i>(Ascomy- ota) Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting,</p> | <p>2</p> <p>3</p> | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 4: Adaptive and protective system-Epidermis, cuticle, stomata; Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 3. Stem: Monocot: Zea mays; Dicot: Helianthus; Secondary: Helianthus (only Permanent slides). Theory SECI: Biofertilizers Unit 2: <i>Azotobacter</i></p> | <p>4</p> <p>2</p> <p>4</p> | NIL | NIL |

| | | | | | | | |
|-----|--|----------------|--|----------------|--|----------------|---|
| | <p>Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity 3 Identification of all above mentioned genera in theoretical syllabus from permanent slides</p> | 1 | <p>Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology 9 Pollination types and seed dispersal mechanisms (including appendages, and, cuticle) (Photographs and specimens).</p> | 2 | <p>Practical DSE-1A: Economic Botany and Biotechnology 4 Basic Conception generation about molecular techniques: PCR, Blotting techniques</p> | 2 | |
| Nov | <p>Theory CCIA/GE-1: Biodiversity necophysiology, anatomy and reproduction of <i>Ficus</i>. Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity Revise Practical Class.</p> | 2 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology Revise Practical Class</p> | 1 | <p>Theory DSE-1A: Economic Botany and Biotechnology Unit 10: Recombinant DNA Technique - DNA Fingerprinting Practical DSE-1A: Economic Botany and Biotechnology 4 Basic Conception generation about molecular techniques: AGE and PAGE-Protocol</p> | 5 | |
| | <p>Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity Revise Practical Class.</p> | 1 | | 1 | <p>Practical DSE-1A: Economic Botany and Biotechnology 4 Basic Conception generation about molecular techniques: AGE and PAGE-Protocol</p> | 2 | |
| Dec | <p>Theory CCIA/GE-1: Biodiversity Unit 7: Gymnosperms- Doubt clearing class Practical (Generic: Physiology & Microbiology Hons.) CCIA/GE-1: Biodiversity Revise Practical Class</p> | 1 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class. Practical (Generic: Physiology & Microbiology Hons.) CCIC/GE-3: Plant Anatomy and Embryology Revise Practical Class</p> | 1 | <p>Theory DSE-1A: Economic Botany and Biotechnology Unit 10: Recombinant DNA Technique - application of Recombinant DNA Technique Practical DSE-1A: Economic Botany and Biotechnology Revise Practical Class</p> | 3 | |
| | <p>Revise Practical Class</p> | 1 | | 1 | <p>Revise Practical Class</p> | 1 | |
| Jan | <p>Sem-II (G)</p> | No. of Lecture | <p>Sem-IV (G)</p> | No. of Lecture | <p>Sem-VI (G)</p> | No. of Lecture | |
| | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 6 Plant taxonomy - Identification, Classification, Nomenclature. Practical(Generic: Physiology & Microbiology Hons.) CCIB/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Papilionaceae, Apocynaceae,</p> | 2 | <p>Theory CCID/GE-4Plant Physiology and Metabolism: Unit 2: Mineral nutrition - Essential elements, macro and micronutrients; Criteria of essentiality of elements; Role of essential elements; Transport of ions across cell membrane, active and passive transport, carriers, channels and pumps Practical (Generic: Physiology & Microbiology Hons.) CCID/GE-4Plant Physiology and Metabolism: 4. Demonstration of Hill reaction.</p> | 4 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 2: Cell as a unit of Life 20 The Cell Theory; Prokaryotic and eukaryotic cells; Cell size and shape; Eukaryotic Cell components. Unit 3: Linkage and Crossing over Linkage: concept & history, complete & incomplete linkage, bridges experiment, coupling & repulsion, recombination frequency, linkage maps based on two and three factor crosses. Crossing over: concept and significance, cytological proof of crossing over. Practical DSE-1B: Cell Biology, Genetics and Molecular Biology 2. Study of the photomicrographs of cell organelles</p> | 2 | 4 |
| | <p>2</p> | 2 | 2 | 2 | 2 | | |
| Feb | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 7 Identification - Functions of Herbarium, important herbaria and botanical gardens of the world and India, Documentation, Flora, Keys: single access and</p> | 4 | <p>Theory CCID/GE-4Plant Physiology and Metabolism: Unit 2: Mineral nutrition - Essential elements, macro and micronutrients; Criteria of essentiality of elements; Role of essential elements; Transport of ions across cell membrane, active and passive transport, carriers,</p> | 4 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 5: Cell Organelles Mitochondria: Structure, marker enzymes, composition; Semi-autonomous nature Practical</p> | 4 | 4 |

| | | | | | | |
|-----|---|------------|---|------------|--|------------|
| | <p>multi-access Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-2: Plant Ecology and Taxonomy 1 Study and identification of the following families: Labiate, Solanaceae.</p> | 1 | <p>channels and pumps Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-4Plant Physiology and Metabolism: 5 To study the effect of light intensity and bicarbonate concentration on O₂ evolution in photosynthesis.</p> | 1 | <p>DSE-1B: Cell Biology, Genetics and Molecular Biology 5. Study of mitosis and meiosis (Temporary mounts and permanent slides).</p> | 1 |
| Mar | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 8 Taxonomic evidences - Taxonomic evidences from palynology, cytology, phytochemistry and molecular data. Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-2: Plant Ecology and Taxonomy 2. Mounting of a properly dried and pressed specimen of any wild plant with herbarium label (to be submitted in the record book.)</p> | 3 2 | <p>Theory CCIB/GE-4Plant Physiology and Metabolism: Unit 4 Photosynthesis - Photosynthetic Pigments (Chl a, b, xanthophylls, carotene), Photosystem I and II, reaction center, antenna molecules; Electron transport and mechanism of ATP synthesis, C₃, C₄ and CAM pathways of carbon fixation; Photorespiration. Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-4Plant Physiology and Metabolism: 6. Comparison of the rate of respiration in any two parts of a plant.</p> | 6 2 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 5: Cell Organelles Symbiont hypothesis; Proteins synthesized within mitochondria, mitochondrial DNA. Practical DSE-1B: Cell Biology, Genetics and Molecular Biology 8. Study the structure of nuclear pore complex by photograph (from Gerald Keep) Study of special chromosomes (polytene & lampbrush) either by slides or photographs.</p> | 4 2 |
| Apr | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 8 Taxonomic evidences - Taxonomic evidences from palynology, cytology, phytochemistry and molecular data. Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-2: Plant Ecology and Taxonomy 3. Ecological adaptations of some species: Nerium leaf.</p> | 3 1 | <p>Theory CCIB/GE-4Plant Physiology and Metabolism: Unit 4: Photosynthesis - Photosynthetic Pigments (Chl a, b, xanthophylls, carotene); Photosystem I and II, reaction center, antenna molecules; Electron transport and mechanism of ATP synthesis; C₃, C₄ and CAM pathways of carbon fixation; Photorespiration. Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-4Plant Physiology and Metabolism: Revise Practical class</p> | 6 1 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 5: Cell Organelles Chloroplast Structure, marker enzymes, composition; semiautonomous nature, chloroplast DNA, ER, Golgi body & Lysosomes: Structures and roles. Peroxisomes and Glyoxisomes: Structures, composition, functions in animals and plants and biogenesis. Practical DSE-1B: Cell Biology, Genetics and Molecular Biology 9. Study DNA packaging by micrographs.</p> | 4 2 |
| May | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 9 Taxonomic hierarchy -Ranks, categories and taxonomic groups Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-2: Plant Ecology and Taxonomy 3. Ecological adaptations of some species: Ficus root.</p> | 2 1 | <p>Theory CCIB/GE-4Plant Physiology and Metabolism: Unit 9: Plant response to light and temperature - Photoperiodism (SDP, LDP, Day neutral plants); Phytochrome (discovery and structure), red and far red light responses on photomorphogenesis; Vernalization. Practical (Generic: Physiology & Microbiology Hons.) CCIB/GE-4Plant Physiology and Metabolism: Revise Practical class</p> | 3 1 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 5: Cell Organelles Nucleus: Nuclear Envelope structure of nuclear pore complex; chromatin; molecular organization, DNA packaging in eukaryotes, euchromatin and heterochromatin, nucleolus and ribosome structure (brief). Practical DSE-1B: Cell Biology, Genetics and Molecular Biology 10. Preparation of the karyotype and ideogram from given photograph of somatic metaphase chromosome.</p> | 4 2 |

TEACHING PLAN OF SHAMIM ALAM
(Assistant Professor)
Botany (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture | |
|-------|--|----------------|---|----------------|--|----------------|---|
| Jul | Theory CCIA/GE-1: Biodiversity Unit 1: Microbes- Viruses – Discovery, general structure, replication (general account), DNA virus (T-phage) Practical(Bio General) CCIA/GE-1: Biodiversity 2. Dissection, mounting, description, drawing, labeling and identification of the following genera: a. Fungi/algae: Lycopodium (stem), Selaginella (stem) and Ferns (leaflet) | 3 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 5: Structural organization of flower Structure of anther and pollen Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 6. Adaptive anatomy: Xerophyte (Nerium leaf); Hydrophyte (Hydrilla stem). 7. Types of ovules: anatropous, orthotropous, circumscissous, amphitropous/ campylotropous – Through Permanent Slides/Photographs 8. Female gametophyte: Polygonum (monosporic) type of Embryo sac Development (Permanent slides/photographs). 9. Pollination types and seed dispersal mechanisms (including appendages, air, canucle) (Photographs and specimens). Theory SECI: Biofertilizers Unit 4: Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants. | 2 | Theory DSE-IA: Economic Botany and Biotechnology Unit 1: Origin of Cultivated Plants-Concept of centres of origin, their importance with reference to Vavilov's work Unit 2: Cereals-Wheat - Origin, morphology, uses Practical DSE-IA: Economic Botany and Biotechnology 1. Study of economically important plants: Wheat through specimens and sections | 4 | 2 |
| | | | 3 | | 4 | 1 | |
| Aug | Theory CCIA/GE-1: Biodiversity Unit 1: Lytic and lysogenic cycle, RNA virus (TMV); Practical(Bio General) CCIA/GE-1: Biodiversity 2. Dissection, mounting, description, drawing, labeling and identification of the following genera: b. Gymnosperms: Cycas leaflet, Pinus needle. | 3 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 5: Structure and types of ovules Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 6. Adaptive anatomy: Xerophyte (Nerium leaf); Hydrophyte (Hydrilla stem). Theory SECI: Biofertilizers Unit 4: Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants. | 2 | Theory DSE-IA: Economic Botany and Biotechnology Unit 3: Legumes - General account with special reference to Gram and soybean Practical DSE-IA: Economic Botany and Biotechnology 1. Study of economically important plants: Gram through specimens and sections | 4 | |
| | | 2 | | 2 | 1 | | |
| Sept | Theory CCIA/GE-1: Biodiversity Unit 1: Economic importance; Bacteria – Discovery, General characteristics and cell structure Practical(Bio | 2 | Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 5: Types of embryo sacs Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 7. Types of ovules: anatropous, orthotropous, circumscissous, | 2 | Theory DSE-IA: Economic Botany and Biotechnology Unit 4: Spices - General account with special reference to clove and black pepper (Botanical name, family, part used, morphology and uses) | 6 | |
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| | <p>General) CCIA/GE-1: Biodiversity 3. Identification of all above mentioned genera in theoretical syllabus from permanent slides</p> | 2 | <p>amphitropous/ campylotropous – Through Permanent Slides/Photographs Theory SECI: Biofertilizers Unit 5: Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and industrial wastes – biocompost making methods, types and method of vermicomposting – field Application.</p> | 3 | <p>Practical DSE-1A: Economic Botany and Biotechnology 1. Study of economically important plants: Black pepper through specimens and sections</p> | 1 |
| Oct | <p>Theory CCIA/GE-1: Biodiversity Unit 1: Microbes- Viruses – Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance Practical(Bio General) CCIA/GE-1: Biodiversity Revise practical class</p> | 2 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 5: Organization and ultrastructure of mature embryo sac. Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 8. Female gametophyte: Polygonum (microscopic) type of Embryo sac Development (Permanent slides/photographs). Theory SECI: Biofertilizers Unit 5: Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and industrial wastes – biocompost making methods, types and method of vermicomposting – field Application.</p> | 2 | <p>Theory DSE-1A: Economic Botany and Biotechnology Unit 6: Oils and Fats - General description with special reference to groundnut Practical DSE-1A: Economic Botany and Biotechnology 1. Study of economically important plants, Clove through specimens and sections</p> | 4 |
| | | 1 | | 2 | 1 | |
| Nov | <p>Theory CCIA/GE-1: Biodiversity Unit 6: Pteridophytes- General characteristics, classification, Early land plants (Rhynia). Classification (upto family), morphology, anatomy and reproduction of Lycopodium, Practical(Bio General) CCIA/GE-1: Biodiversity Revise practical class</p> | 4 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 9. Pollination types and seed dispersal mechanisms (including appendages, oil, caruncle) (Photographs and specimens). Theory SECI: Biofertilizers Doubt clearing class</p> | 1 | <p>Theory DSE-1A: Economic Botany and Biotechnology Unit 7: Fibre Yielding Plants- General description with special reference to Cotton (Botanical name, family, part used, morphology and uses) Practical DSE-1A: Economic Botany and Biotechnology 1. Study of economically important plants; Groundnut through specimens and sections</p> | 4 |
| | | 1 | | 2 | 1 | |
| Dec | <p>Theory CCIA/GE-1: Biodiversity Unit 6: Pteridophytes- morphology, anatomy and reproduction of Selaginella, Equisetum and Ferns. (Developmental details not to be included) Heterospory, stellar evolution, economic importance of Pteridophytes. Practical (Bio General)</p> | 4 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology Revise practical class Theory SECI: Biofertilizers Doubt clearing class</p> | 1 | <p>Theory DSE-1A: Economic Botany and Biotechnology Doubt clearing class Practical DSE-1A: Economic Botany and Biotechnology Revise practical class</p> | 1 |
| | | 1 | | 1 | 1 | |

| | CCIB/GE-1: Biodiversity Revised practical class | 1 | | | | |
|-----|---|----------------|---|----------------|--|----------------|
| | Sem-II (G) | No. of Lecture | Sem-IV (G) | No. of Lecture | Sem-VI (G) | No. of Lecture |
| Jan | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 5: Phytogeography - Principle biogeographical zones, Endemism</p> <p>Practical (Bio General) CCIB/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Fabaceae.</p> | 4 | <p>Theory SEC2: Medicinal Botany Unit 1: History, Scope and Importance of Medicinal Plants, Indigenous Medicinal Sciences, Definition and Scope-Ayurveda, History, origin, panchamahabhutas, ashtadhatu and tridosh concepts</p> | 5 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 1: Techniques in Biology Principles of microscopy; Light Microscopy; Phase contrast microscopy</p> | 1 |
| Feb | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 10 Botanical nomenclature - Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations.</p> <p>Practical (Bio General) CCIB/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Apocynaceae.</p> | 6 | <p>Theory SEC2: Medicinal Botany Unit 2: Rasayana, plants used in ayurvedic treatments, Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine Unit: History, concept: Unmoor- talaya, tumors treatments/ therapy, polyherbal formulations.</p> | 5 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 1: Fluorescence microscopy, Confocal microscopy; Sample Preparation for light microscopy</p> | 1 |
| Mar | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 11 Classification - Types of classification-artificial, natural and phylogenetic. Classification Bentham and Hooker (up to series), Tachyae.</p> <p>Practical (Bio General) CCIB/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Labiaceae</p> | 6 | <p>Theory SEC2: Medicinal Botany Unit 3: Ethnobotany and Folk medicines. Definition; Ethnobotany in India; Methods to study ethnobotany; Applications of Ethnobotany.</p> | 5 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 1: Electron microscopy (EM)- Scanning EM and Scanning Transmission EM (STEM)</p> | 1 |
| Apr | <p>Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 12 Biometrics,</p> | 4 | <p>Theory SEC2: Medicinal Botany Unit 3: National interests, folk medicines of ethnobotany, ethnomedicine, ethnae</p> | 5 | <p>Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Unit 1: Sample Preparation</p> | 1 |

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| | numerical taxonomy and cladistics. Characters, variations, OTUs, character weighting and coding; cluster analysis; phenograms, cladograms Practical (Bio General) CCIBAGE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Solanaceae. | 1 | communities of India. Application of natural products to certain diseases: malaria, cancer, infertility, diabetes, blood pressure and skin diseases. | | for electron microscopy; X-ray diffraction analysis | |
| May | Theory CCIBAGE-2: Plant Ecology and Taxonomy Doubt clearing class Practical (Bio General) CCIBAGE-2: Plant Ecology and Taxonomy 2. Mounting of a properly dried and pressed specimen of any wild plant with herbarium label (to be submitted in the record book) | 2 | Theory SEC2: Medicinal Botany Doubt clearing class | 1 | Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Doubt clearing class | 1 |
| | Theory CCIBAGE-2: Plant Ecology and Taxonomy Doubt clearing class Practical (Bio General) CCIBAGE-2: Plant Ecology and Taxonomy 3. Ecological adaptations of some species: Nerium leaf and Ficus root | 2 | Theory SEC2: Medicinal Botany Doubt clearing class | 1 | Theory DSE-1B: Cell Biology, Genetics and Molecular Biology Doubt clearing class | 1 |
| June | | | | | | |



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TEACHING PLAN OF MS. MOUSUMI MUKHERJEE

(Part-Time Teacher)

Botany (General) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (G) | No. of Lectures | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-------|--|--------------------------------|---|--------------------------------|-----------|----------------|
| Jul | <p>Theory CCIA/GE-1: Biodiversity Unit 4: Introduction to Archegoniate- Unifying features of archegoniate. Transition to land habit, Alternation of generations.</p> <p>Practical(Bio General) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: a. Algae: <i>Nostoc</i>, <i>Volvox</i>, <i>Chara</i>.</p> | 2 3 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 1: Meristematic and permanent tissues Root and shoot apical meristems; Simple and complex tissues. Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 1. Study of meristems through permanent slides and photographs.</p> | 4 2 | NIL | NIL |
| Aug | <p>Theory CCIA/GE-1: Biodiversity Unit 5: Bryophytes-General characteristics, adaptations to land habit. Practical(Bio General) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: b. Fungi: <i>Aspergillus</i>, <i>Puccinia</i> (<i>Uredosorus</i> and <i>teliospores</i>).</p> | 2 3 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 1: Meristematic and permanent tissues Root and shoot apical meristems; Simple and complex tissues. Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylem elements, Phloem (Permanent slides, photographs)</p> | 4 2 | NIL | NIL |
| Sept | <p>Theory CCIA/GE-1: Biodiversity Unit 5: Bryophytes-Classification, range of thallus organization. Practical(Bio General) CCIA/GE-1: Biodiversity 1. Dissection (where necessary), mounting, description, drawing and identification of the following genera: c. Bryophytes: <i>Riccia</i>, <i>Marsilea</i> and <i>Fernaria</i>.</p> | 2 3 | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology Unit 2: Organs (4 Lectures) Structure of dicot and monocot root stem and leaf Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 3. Stem: Monocot: <i>Zea mays</i>; Dicot: <i>Helianthus</i>; Secondary: <i>Helianthus</i> (only Permanent slides).</p> | 4 2 | NIL | NIL |
| Oct | <p>Theory CCIA/GE-1: Biodiversity</p> | | <p>Theory CCIC/GE-3: Plant Anatomy and Embryology</p> | | NIL | NIL |

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| | Unit 5 Bryophytes- Classification (up to family), morphology, anatomy and reproduction of <i>Mosses</i> Practical (Bio General) CCIA/GE-1: Biodiversity 4 Microbiology: Sterilization techniques, Simple staining of Bacteria with methylene blue/Catalase Factor -Oxid. | 2 2 | Doubt clearing class Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 4. Root Monocot Zea mays; Dicot: <i>Helianthus</i> . Secondary; <i>Helianthus</i> (only Permanent slides). | 2 2 | | |
| Nov | Theory CCIA/GE-1: Biodiversity Unit 5: Bryophytes- morphology, anatomy and reproduction of <i>Furaria</i> . Practical (Bio General) CCIA/GE-1: Biodiversity Revise Practical Class | 2 1 | Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology 5. Leaf: Dicot and Monocot leaf (only Permanent slides) | 2 2 | NIL | NIL |
| Dec | Theory CCIA/GE-1: Biodiversity Unit 5: Bryophytes- Ecology and economic importance of bryophytes with special mention of <i>Sphagnum</i> . Practical (Bio General) CCIA/GE-1: Biodiversity Revise Practical Class | 2 1 | Theory CCIC/GE-3: Plant Anatomy and Embryology Doubt clearing class Practical (Bio General) CCIC/GE-3: Plant Anatomy and Embryology Revise Practical Class | 2 1 | NIL | NIL |
| | Sem-II (G) | No. of Lecture | Sem-IV (G) | No. of Lecture | Sem-VI (G) | No. of Lecture |
| Jan | Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 1: Introduction - Plant Ecology and Taxonomy Practical (Bio General) CCIB/GE-2: Plant Ecology and Taxonomy 1. Study and identification of the following families: Malvaceae | 2 2 | Theory CCID/GE-4 Plant Physiology and Metabolism; Unit 5: Respiration - Glycolysis, anaerobic respiration Practical (Generic- Zoology Huns. & Bio General) CCID/GE-4 Plant Physiology and Metabolism: 1. Determination of osmotic potential of plant cell sap by plasmolytic method. | 2 2 | NIL | NIL |
| Feb | Theory CCIB/GE-2: Plant Ecology and Taxonomy Unit 2: Ecological factors -Soil: Origin, formation, | 5 | Theory CCID/GE-4 Plant Physiology and Metabolism; Unit 5: Respiration - TCA cycle; Oxidative phosphorylation Practical (Generic- Zoology Huns. & Bio General) | 2 | NIL | NIL |

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| | <p>convection, soil profile Water Stress of water in the environment. (Bio General)</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>1. Study and identification of the following families: Rubiaceae</p> | 2 | <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>2. To study the effect of two environmental factors (light and wind) on transpiration by excised twig</p> | 2 | | |
| Mar | <p>Theory</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>Unit 2 Ecological factors - precipitation types, Light and temperature. Variation Optimal and limiting factors. Adaptation of hydrophytes, halophytes and xerophytes</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>1. Study and identification of the following families: Cuscutaceae</p> | 5 | <p>Theory</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Unit 5: Respiration - Glyoxylate pathway</p> <p>Practical (Generic- Zoology Hon.& Bio General)</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>3. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.</p> | 2 | | |
| | <p>Theory</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>Unit 3: Plant communities</p> <p>Character; Ecotone and edge effect; Succession; Processes and types. cycling; Cycling of carbon, nitrogen and Phosphorous</p> <p>Practical (Bio General)</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>3. Ecological adaptations of some species: <i>Juncus caeruleus</i> stem</p> | 4 | <p>Theory</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Doubt clearing class</p> <p>Practical (Generic- Zoology Hon.& Bio General)</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>4. Demonstration of Hill reaction.</p> | 2 | | |
| Apr | <p>Theory</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>Unit 4 Ecosystem - Structure, energy flow trophic organization; Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycling; Cycling of carbon, nitrogen and Phosphorous</p> <p>Practical (Bio General)</p> <p>CCIB/GE-2: Plant</p> | 2 | <p>Theory</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Doubt clearing class</p> <p>Practical (Generic- Zoology Hon.& Bio General)</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Review practical class</p> | 2 | NIL | NIL |
| May | <p>Theory</p> <p>CCIB/GE-2: Plant Ecology and Taxonomy</p> <p>Unit 4 Ecosystem - Structure, energy flow trophic organization; Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycling; Cycling of carbon, nitrogen and Phosphorous</p> <p>Practical (Bio General)</p> <p>CCIB/GE-2: Plant</p> | 4 | <p>Theory</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Doubt clearing class</p> <p>Practical (Generic- Zoology Hon.& Bio General)</p> <p>CCIB/GE-4Plant Physiology and Metabolism:</p> <p>Review practical class</p> | 1 | | |
| | | | | 1 | NIL | NIL |

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| | Ecology and Taxonomy 3. Ecological adaptations of some species: Phyllode of <i>Acacia auriculiformis</i> | 2 | | | |
| June | Theory CCIBAGE-2: Plant Ecology and Taxonomy. Unit 4: Ecosystem - Structure, energy flow, trophic organisation, Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycling: Cycling of carbon, nitrogen and Phosphorus Practical (Bio General) CCIBAGE-2: Plant Ecology and Taxonomy Revise practical class | 4 | Theory CCID/GE-4Plant Physiology and Metabolism: Doubt clearing class Practical (General Zoology Hon.& Bio General) CCID/GE-4Plant Physiology and Metabolism: Revise practical class | 1 | 1 |
| | | | | | NIL |
| | | | | | NIL |

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**DEPARTMENT OF BOTANY
SURI VIDYASAGAR COLLEGE**

TEACHING PLAN OF DR. KALYAN KUMAR BHATTACHARYYA

(Associate Professor)

Botany (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture | |
|-------|---|----------------|--|----------------|---|------------------|---|
| Jul | Theory CC1: Microbiology & Physiology Unit 6: Chlorophyta and Charophyta Practical CC2: Archegoniate Ovas | 3 | Theory CC7: Economic Botany Unit 7: Sources of oils and fats Practical | 8 | Theory CC11: Plant Physiology Unit 1: Plant-water relations Unit 2: Mineral nutrition Practical CC11: Plant Physiology Unit 1: Determination of osmotic potential of plant cell sap by plasmolytic method. | 10 8 2 | |
| | | | Theory SECI: Agricultural Botany Unit: 1 Plant physiology a) Plant water relation, stomatal regulation, mineral nutrition, N ₂ cycle. | | | | 2 |
| Aug | Theory CC1: Microbiology & Physiology Unit 6: Chlorophyta and Charophyta Practical CC2: Archegoniate Ovas | 3 | Practical CC6: Plant systematics 2. Field visit | 1 | Theory CC11: Plant Physiology Unit 3: Nutrient Uptake Unit 4: Translocation in the phloem Practical CC11: Plant Physiology Unit 2: Determination of water potential of given tissue (potato tuber) by weight method Unit 3: Study of the effect of Humidity and light on the rate of transpiration in excised twig/leaf. | 8 8 2 2 | |
| | | | Theory CC7: Economic Botany Unit 7: Sources of oils and fats Practical | | | | 5 |
| | | | CC7: Economic Botany 2. Legumes: Soybean, Groundnut, (habit, fruit, seed structure, micro-chemical tests). | | | | |
| | | | Theory SECI: Agricultural Botany Unit: 1 Plant physiology a) Plant water relation, stomatal regulation, mineral nutrition, N ₂ cycle. | 2 | | | |
| Sept | Theory CC1: Microbiology & Physiology Unit 6: Chlorophyta and Charophyta Practical CC2: Archegoniate Ovas | 4 | Theory CC7: Economic Botany Unit 8: Natural Rubber Practical | 3 | Theory CC11: Plant Physiology Unit 5: Plant growth regulators Practical CC11: Plant Physiology Unit 4: Calculation of stomatal index and stomatal frequency from the two surfaces of leaves of a mesophyte and xerophyte. | 14 2 | |
| | | | CC7: Economic Botany 3. Sources of sugars and starches: Sugarcane (habit sketch, cane juice-micro-chemical tests), Potato (habit sketch, tuber morphology, T.S. tuber to show localization of starch grains, w.m. starch grains, micro-chemical tests). | | | | 2 |
| | | | 4. Spices: Black pepper, Fennel and Clove (Macromorphology). | | | | |
| | | | Theory SECI: Agricultural Botany Unit: 1 Plant physiology b) CO ₂ fixation mechanism in C ₂ , C ₃ , C ₄ and CAM plants. Transport of water and photosynthate. | | | | 2 |
| Oct | Theory CC1: Microbiology & Physiology Unit 7: Phaeophyta and Rhodophyta Practical CC2: Archegoniate Ovas | 4 | Theory CC7: Economic Botany Unit 9: Drug-yielding plants Practical | 4 | Theory CC12: Plant Metabolism Unit 1: Concept of metabolism Unit 2: Carbon assimilation Practical CC12: Plant Metabolism Unit 1: Chemical separation of photosynthetic pigments. | 6 4 | |
| | | | CC7: Economic Botany 5. Beverages: Tea (plant specimen, tea leaves), Coffee (plant specimen, beans) | | | | 2 |
| | | | Theory SECI: Agricultural Botany Unit: 1 Plant physiology b) CO ₂ fixation mechanism in | 2 | | 2 | |

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|-----|---|-----------------------|--|-----------------------|---|-----------------------|
| | | | C2,C3,C4 and CAM plants Transport of water and photosynthate. | | | |
| Nov | Theory CC1: Microbiology & Physiology Unit 7: Phaeophyta and Rhodophyta Practical CC2: Archegoniate Green | 4 2 | Theory CC7: Economic Botany Unit 9: Drug-yielding plants Practical CC7: Economic Botany 6. Sources of oils and fats: Coconut-T.S. nut (photograph), Mustard-plant specimen, seeds, tests for fats included seeds. Theory SEC1: Agricultural Botany Unit: 1 Plant physiology a) Plant development Phytohormones: IAA, GA, Cytokinin, ABA, Ethylene; their role and regulation in plant system d) Physiology of flowering and seed development. | 4 2 2 | Theory CC12: Plant Metabolism Unit 2: Carbon assimilation Unit 3: Carbohydrate metabolism Practical CC12: Plant Metabolism Unit 2: To study the effect of light intensity on the rate of photosynthesis. Unit 3: Effect of carbon dioxide on the rate of photosynthesis. | 8 2 2 2 |
| Dec | Theory CC1: Microbiology & Physiology Doubt clearing class Practical CC2: Archegoniate Green | 2 2 | Theory CC7: Economic Botany Unit 11: Fibers Practical CC7: Economic Botany 7. Essential oil-yielding plants: Habit sketch of Rosaceae/Eucalyptus-specimen/photographs. Theory SEC1: Agricultural Botany Unit: 1 Plant physiology c) Plant development Phytohormones: IAA, GA, Cytokinin, ABA, Ethylene; their role and regulation in plant system d) Physiology of flowering and seed development. | 4 2 1 | Theory CC12: Plant Metabolism Unit 4: Carbon Oxidation Practical CC12: Plant Metabolism Unit 4: To compare the rate of respiration in different parts of a plant. | 10 2 |
| Jan | Sem-II (H) | No. of Lecture | Sem-IV (H) | No. of Lecture | Sem-VI (H) | No. of Lecture |
| | Theory CC3: Mycology and Phytopathology Unit 5: Allied Fungi Practical CC3: Mycology and Phytopathology 2 Identification | 3 2 | Theory CC9: Biomolecules and Cell Biology Unit 1: Biomolecules Practical CC9: Biomolecules and Cell Biology Unit 1: Qualitative tests for carbohydrates, reducing sugars, non-reducing sugars, lipids and proteins. | 6 2 | Theory DSE4: Industrial and Environmental Microbiology Unit 1: Scope of microbes in industry and environment Practical DSE4: Industrial and Environmental Microbiology Unit 4: Assessment of microbiological quality of water-protocol | 3 2 |
| Feb | Theory CC3: Mycology and Phytopathology Unit 6: Oomycota | 4 | Theory CC9: Biomolecules and Cell Biology Unit 1: Biomolecules Practical CC9: Biomolecules and Cell Biology Unit 2: Study of plant cell structure with the help of epidermal peel/stain of Onion/Rhizo/Cinnam. | 6 2 | Theory DSE4: Industrial and Environmental Microbiology Unit 1: Scope of microbes in industry and environment Practical DSE4: Industrial and Environmental Microbiology Unit 4: Assessment of microbiological quality of water-protocol | 3 2 |
| Mar | Theory CC3: Mycology and Phytopathology Unit 7: Symbiotic associations | 4 | Theory CC9: Biomolecules and Cell Biology Unit 1: Biomolecules Practical CC9: Biomolecules and Cell | 6 | Theory DSE4: Industrial and Environmental Microbiology Unit 7: Microbes in agriculture and remediation | 3 |

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| | | | Biology Unit 3: Demonstration of the phenomenon of protoplasmic streaming in <i>Hydrilla</i> leaf | 2 | of contaminated soils | |
| Apr | Theory CC3: Mycology and Phytopathology Unit 8: Applied Mycology | 5 | Theory CC9: Biomolecules and Cell Biology Unit 1: Biomolecules Unit 2: Bioenergetics Practical CC9: Biomolecules and Cell Biology Unit 4: Measurement of cell size by the technique of micrometry | 2 4 2 | Theory DSE4: Industrial and Environmental Microbiology Unit 7: Microbes in agriculture and remediation of contaminated soils Practical DSE4: Industrial and Environmental Microbiology Unit 5: A visit to any educational institute/industry to see an industrial fermenter, and other downstream processing operations. | 3 1 |
| May | Theory CC3: Mycology and Phytopathology Unit 8: Applied Mycology Practical CC3: Mycology and Phytopathology 2 Identification | 5 1 | Theory CC9: Biomolecules and Cell Biology Unit 3: Enzymes Practical CC9: Biomolecules and Cell Biology Unit 6: Study the phenomenon of plasmolysis and deplasmolysis. | 6 2 | Theory DSE4: Industrial and Environmental Microbiology Unit 7: Microbes in agriculture and remediation of contaminated soils | 2 |
| June | Theory CC3: Mycology and Phytopathology Doubt clearing class Practical CC3: Mycology and Phytopathology 2 Identification | 2 1 | Theory CC9: Biomolecules and Cell Biology Doubt clearing class Practical CC9: Biomolecules and Cell Biology Unit 7: Study the effect of organic solvent and temperature on membrane permeability. | 2 2 | Theory DSE4: Industrial and Environmental Microbiology Practical Doubt clearing class DSE4: Industrial and Environmental Microbiology Doubt clearing class | 1 1 |

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TEACHING PLAN OF DR. HEMANTA SAHA

(Assistant Professor)

Botany (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|---|---------------------|---|----------------|
| Jul | Theory CC2: Archegoniate Unit 4: Pteridophytes- General characteristics, Classification, Early land plant | 6 | Practical CC5: Plant Ecology and Phytogeography 1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometers, anemometer, psychrometer/hygrometer, rain gauge and lux meter. 2. Determination of pH of various soil and water samples (pH meter, universal indicator and pH paper) Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms | 2 2 2 | Theory DSE1: Reproductive Biology of Angiosperms Unit 4: Pollination and fertilization Practical DSE1: Reproductive Biology of Angiosperms Unit 1: Anther | 6 2 |
| Aug | Theory CC2: Archegoniate Unit 5: Type Studies- Pteridophytes- <i>Lycopodium</i> , <i>Selaginella</i> | 4 | Practical CC5: Plant Ecology and Phytogeography 3. Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency from two soil samples by rapid field tests. 4. Determination of organic matter of different soil samples by Walkley & Black rapid titration method. Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms | 2 2 2 | Theory DSE1: Reproductive Biology of Angiosperms Unit 5: Self incompatibility Practical DSE1: Reproductive Biology of Angiosperms Unit 1: Anther | 5 2 |
| Sept | Theory CC2: Archegoniate Unit 5: Type Studies- Pteridophytes- <i>Equisetum</i> , <i>Pteris</i> | 4 | Practical CC5: Plant Ecology and Phytogeography 5. Determination of dissolved oxygen of water samples from polluted and unpolluted sources. Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Malvaceae | 2 2 2 | Theory DSE1: Reproductive Biology of Angiosperms Unit 5: Self incompatibility Practical DSE1: Reproductive Biology of Angiosperms Unit 2: Pollen grains | 5 2 |
| Oct | Theory CC2: Archegoniate Unit 5: Type Studies- Pteridophytes- <i>Marsilea</i> , <i>Apogony</i> , <i>Apogony</i> | 4 | Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Fabaceae Euphorbiaceae | 2 4 | Theory DSE1: Reproductive Biology of Angiosperms Unit 6: Embryo, Endosperm and Seed Practical DSE1: Reproductive Biology of Angiosperms Unit 2: Pollen grains | 5 2 |
| Nov | Theory CC2: Archegoniate Unit 5: Type Studies- Pteridophytes- Heterospory, seed habit, Telome theory | 4 | Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Apocynaceae, Asclepiadaceae | 2 4 | Theory DSE1: Reproductive Biology of Angiosperms Unit 6: Embryo, Endosperm and Seed Practical DSE1: Reproductive Biology of Angiosperms Unit 3: Oviduc | 5 2 |
| Dec | Theory CC2: Archegoniate Unit 5: Type | 4 | Theory CC6: Plant systematics Unit 6: Phylogeny of Angiosperms | 2 | Theory DSE1: Reproductive Biology of Angiosperms | |

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| | Studies- Pteridophytes- Stele evolution, Ecological & Economic importance | | Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families. Dicotyledons: Solanaceae 2. Field visit | 2 | Units 7: Polyembryony and apomixis Practical DSE1: Reproductive Biology of Angiosperms Unit 3: Ovule | 6 |
| Jan | Sem-II (II) | No. of Lecture | Sem-IV (II) | No. of Lecture | Sem-VI (II) | No. of Lecture |
| | Theory CC4: Morphology & Anatomy of Angiosperms Unit 1: Introduction and scope of Plant Anatomy Unit 2: Structure and Development of Plant Body CC4: Morphology & Anatomy of Angiosperms 1. Study of macroscopic details through permanent slides/temporary stain mounts/ macerations/museum specimens with the help of suitable examples | 1 3 2 | Theory CC8: Palaeobotany & Palynology Unit 1: Introduction, importance of Palaeobotany. Practical CC8: Palaeobotany & Palynology Unit 2: Pollen morphological studies of Impatiens and Hibiscus pollens from prepared slides | 5 2 | Theory CC13: Genetics & Plant Breeding Unit 9: Methods of crop improvement | 2 |
| Feb | Theory CC4: Morphology & Anatomy of Angiosperms Unit 3: Tissues Practical CC4: Morphology & Anatomy of Angiosperms 1. Study of anatomical details through permanent slides/temporary stain mounts/ macerations/museum specimens with the help of suitable examples. | 5 2 | Theory CC8: Palaeobotany & Palynology Unit 2: Definition of fossil, process of fossilization, types of fossils on the basis of their preservation; concept of Form Genus Practical CC8: Palaeobotany & Palynology Unit 2: Pollen morphological studies of Impatiens and Hibiscus pollens from prepared slides | 15 2 | Theory CC13: Genetics & Plant Breeding Unit 9: Methods of crop improvement | 2 |
| Mar | Theory CC4: Morphology & Anatomy of Angiosperms Unit 3: Tissues Practical CC4: Morphology & Anatomy of Angiosperms 2. Study of the secondary structures of stem of the following genera: Bignonia, Dacrydium (Coryline), Boerhaavia and Sesuvium. | 5 2 | Theory CC8: Palaeobotany & Palynology Unit 5: Microsporogenesis; Sporopollen morphology with reference to polarity, size, shape, symmetry, aperture and sculpture | 15 | Theory CC13: Genetics & Plant Breeding Unit 10: Inbreeding depression and heterosis | 3 |
| Apr | Theory CC4: Morphology & Anatomy of Angiosperms Unit 4: Apical meristems Practical CC4: Morphology | 5 | Theory CC8: Palaeobotany & Palynology Unit 6: Organization of antheripous ovule, types of ovules; megasporogenesis. | 10 | Theory CC13: Genetics & Plant Breeding Unit 10: Inbreeding depression and heterosis | 2 |

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| | <p>4 Anatomy of Angiosperms 2. Study of the secondary structures of stem of the following genera: <i>Rhus</i>, <i>Dioscorea</i> (Coryline), <i>Rose</i> and <i>Strychnos</i></p> | 2 | | | | |
| May | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 4 Apical meristems Practical CC4: Morphology & Anatomy of Angiosperms 3. Xylem: Tracheary elements-tracheids, vessel elements, thickenings, perforation plates, xylem fibres. (from permanent slides)</p> | 5 | <p>Theory CC8: Palaeobotany & Palynology Unit 7. Pollination Types and contrivances.</p> | 10 | <p>Theory CC13: Genetics & Plant Breeding Unit 11: Crop improvement and breeding</p> | 2 |
| June | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 4: Apical meristems Practical CC4: Morphology & Anatomy of Angiosperms 3. Xylem: Tracheary elements-tracheids, vessel elements, thickenings, perforation plates; xylem fibres. (from permanent slides)</p> | 4 | <p>Theory CC8: Palaeobotany & Palynology Doubt clearing class Practical CC8: Palaeobotany & Palynology Revise Practical Class</p> | 2 | <p>Theory CC13: Genetics & Plant Breeding Doubt clearing class</p> | 1 |




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TEACHING PLAN OF DR. SANDIPAN CHATTERJEE

(Assistant Professor)

Botany (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|---|-----------------|--|-----------------|
| Jul | Theory: CC1: Microbiology & Physiology Unit 1: Introduction to microbial world Practical CC1: Microbiology & Physiology Aseptic method | 8 2 | Theory CC5: Plant Ecology and Phytogeography Unit 5: Ecosystem Practical CC6: Plant systematics Monocotyledons: Liliaceae Theory SEC1: Agricultural Botany Unit 2 Organic farming a) Microbes used as bio fertilizer | 8 2 2 | Theory CC11: Plant Physiology Unit 6: Physiology of flowering Practical CC11: Plant Physiology Unit 5: To study the phenomenon of seed dormancy (TTZ). | 6 2 |
| | Theory: CC1: Microbiology & Physiology Unit 2: Viruses Practical CC1: Microbiology & Physiology Temporary preparation of <i>Nostoc</i> , <i>Synonema</i> , | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 6: Population ecology Practical CC6: Plant systematics Monocotyledons: Poaceae. Theory SEC1: Agricultural Botany Unit 2 Organic farming b) Cyanobacteria isolation and mass multiplication | 4 1 2 | Theory CC11: Plant Physiology Unit 7: Phytochrome, cryptochromes and phototropins Practical CC11: Plant Physiology Unit 6: Demonstration on the effect of different concentrations of IAA on Plant (Locally Available) coleoptile elongation (IAA Bioassay). Unit 7: To study the induction of amylase activity in germinating grains. | 6 4 |
| Sept | Theory: CC1: Microbiology & Physiology Unit 2: Viruses Practical CC1: Microbiology & Physiology Aseptic method Temporary preparation of <i>Zygnema</i> , <i>Oedogonium</i> | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 7: Plant communities Practical CC6: Plant systematics Monocotyledons: Liliaceae, Theory SEC1: Agricultural Botany Unit 2 Organic farming c) Mycorrhizal association in Agriculture | 8 2 2 | Theory CC12: Plant Metabolism Unit 5: ATP-Synthesis Practical CC12: Plant Metabolism Unit 5: To demonstrate activity of Nitrate reductase in germinating leaves of different plant sources. Unit 6: To study the activity of lipases in germinating oil-seeds and demonstrate mobilization of lipids during germination. | 8 2 2 |
| | Theory: CC1: Microbiology & Physiology Unit 3: Bacteria Practical CC1: Microbiology & Physiology Aseptic method Temporary preparation of <i>Chara</i> and <i>Volvox</i> | 7 2 | Theory CC5: Plant Ecology and Phytogeography Unit 8: Functional aspects of ecosystem Practical CC6: Plant systematics Monocotyledons: Liliaceae Theory SEC1: Agricultural Botany Unit 2 Organic farming Special class | 8 2 2 | Theory CC12: Plant Metabolism Unit 6: Lipid metabolism Practical CC12: Plant Metabolism Unit 7: Demonstration of absorption spectrum of photosynthetic pigments. | 8 2 |
| Nov | Theory: CC1: Microbiology & Physiology Unit 3: Bacteria Practical CC1: Microbiology & Physiology Practice classes | 7 2 | Theory CC6: Plant systematics Unit 3: Botanical nomenclature Practical CC6: Plant systematics Monocotyledons: Poaceae. Theory SEC1: Agricultural Botany Unit 2 Organic farming Doubt clearing session | 7 2 2 | Practical CC11: Plant Physiology Practice Classes Theory CC12: Plant Metabolism Unit 7: Nitrogen metabolism | 2 8 |
| | Theory: CC1: Microbiology & Physiology Special classes + doubt clearing+ discussions Practical | 4 | Theory CC6: Plant systematics Unit 3. Botanical nomenclature Practical CC6: Plant systematics 2. Field visit | 3 1 | Theory CC12: Plant Metabolism Unit 8: Mechanisms of signal transduction Practical CC12: Plant Metabolism | 4 |

| | CC1: Microbiology & Physiology Practical classes | 2 | Theory SEC1: Agricultural Botany Unit 2 Organic farming Question Answer session | 1 | Special Classes | 1 |
|-----|--|-------------------|--|-------------------|---|------------------------|
| | Sem-II (II) | No. of Lecture | Sem-IV (II) | No. of Lecture | Sem-VI (II) | No. of Lecture |
| Jan | Theory CC3: Mycology and Phytopathology Unit 1: Introduction to true fungi Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Rhizopus</i> | 6 1 | Theory CC10: Molecular Biology Unit 1: Nucleic acids: Carriers of genetic information Unit 2: The Structures of DNA and RNA / Genetic Material Practical CC10: Molecular Biology Unit 1: Preparation of LB medium and mating E. coli. Theory SEC2: Biofertilizers Unit 1: General account about the microbes used as biofertilizer - <i>Rhizobium</i> -isolation, Identification, mass multiplication, carrier-based inoculants, Actinorhizal symbiosis. | 4 5 2 2 | Theory CC13: Genetics & Plant Breeding Unit 5: Gene mutation Practical CC14: Plant Biotechnology Unit 4: Study of methods of gene transfer through photographs: Agrobacterium- mediated, direct gene transfer by electroporation, microinjection, microprojectile bombardment. Theory DSE4: Industrial and Environmental Microbiology Unit 2: Bioreactors/Fermenters and fermentation processes Practical DSE4: Industrial and Environmental Microbiology Unit 1: Principles and functioning of instruments in microbiology laboratory | 5 12 2 |
| Feb | Theory CC3: Mycology and Phytopathology Unit 2: Chytridiomycota and Zygomycota Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Talaromyces</i> | 5 2 | Theory CC10: Molecular Biology Unit 2: The Structures of DNA and RNA / Genetic Material Unit 3: The replication of DNA Practical CC10: Molecular Biology Unit 2: Study of genomic DNA from <i>E. coli</i> , through photographs Theory SEC2: Biofertilizers Unit 1: General account about the microbes used as biofertilizer - <i>Rhizobium</i> -isolation, Identification, mass multiplication, carrier based inoculants, Actinorhizal symbiosis. | 5 5 2 2 | Theory CC13: Genetics & Plant Breeding Unit 6: Fine structure of gene Unit 7: Population and Evolutionary Genetics Practical CC14: Plant Biotechnology Unit 4: Study of methods of gene transfer through photographs: Agrobacterium- mediated, direct gene transfer by electroporation, microinjection, microprojectile bombardment. Theory DSE4: Industrial and Environmental Microbiology Unit 3: Microbial production of industrial products Practical DSE4: Industrial and Environmental Microbiology Unit 1: Principles and functioning of instruments in microbiology laboratory | 2 4 2 12 2 |
| MAR | Theory CC3: Mycology and Phytopathology Unit 3: Ascomycota Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Alternaria</i> | 4 2 | Theory CC10: Molecular Biology Unit 3: The replication of DNA Unit 6: Processing and modification of rRNA Practical CC10: Molecular Biology Unit 3: Study of DNA replication mechanisms through photographs (Rolling circle, Theta replication and semi-discontinuous replication). Theory SEC2: Biofertilizers Unit 2: <i>Azospirillum</i> -isolation and | 5 4 2 4 | Theory CC14: Plant Biotechnology Unit 2: Recombinant DNA technology Practical CC14: Plant Biotechnology Unit 5: Study of steps of genetic engineering for production of Bt cotton, Golden rice, through photographs. Theory DSE4: Industrial and Environmental | 12 2 8 |

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| | | | mass multiplication -carrier based inoculant, associative effect of different microorganisms. <i>Azotobacter</i> classification, characteristics - crop response to <i>Azotobacter</i> inoculum, maintenance and mass multiplication | | Microbiology Unit 4: Microbial enzymes of industrial interest and enzyme immobilization Practical DSE4: Industrial and Environmental Microbiology Unit 2: Study different parts of fermenter as demonstration by photograph | 2 |
| Apr | Theory CC3: Mycology and Phytopathology Unit 3: Ascomycota Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Ascochyta</i> | 4 | Theory CC10: Molecular Biology Unit 6: Processing and modification of RNA Unit 7: Translation Practical CC10: Molecular Biology Unit 4: Study of structures of prokaryotic RNA polymerase and eukaryotic RNA polymerase II through photographs. | 4 | Theory CC14: Plant Biotechnology Unit 3: Gene Cloning Practical CC14: Plant Biotechnology Unit 5: Study of steps of genetic engineering for production of Bt cotton, Golden rice, through photographs. | 10 |
| | | 2 | Theory SEC2: Biofertilizers Unit 2: Azotobacter inoculation and mass multiplication -carrier based inoculant, associative effect of different microorganisms. <i>Azotobacter</i> classification, characteristics - crop response to <i>Azotobacter</i> inoculum, maintenance and mass multiplication | 2 | Theory DSE4: Industrial and Environmental Microbiology Unit 5: Microbes and quality of environment Practical DSE4: Industrial and Environmental Microbiology Unit 2: Study different parts of fermenter as demonstration by photograph | 6 |
| May | Theory CC3: Mycology and Phytopathology Unit 4: Basidiomycota Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Agaricus</i> | 6 | Theory CC10: Molecular Biology Unit 7: Translation Practical CC10: Molecular Biology Repeat practical Class Theory SEC2: Biofertilizers Unit 5: Organic farming | 4 | Theory CC14: Plant Biotechnology Unit 4: Methods of gene transfer Unit 5: Applications of Biotechnology Practical CC14: Plant Biotechnology Unit 6: Isolation of plasmid DNA - Protocol | 8 |
| | | 2 | | 3 | Theory DSE4: Industrial and Environmental Microbiology Unit 6: Microbial flora of water Practical DSE4: Industrial and Environmental Microbiology Unit 3: Hands on sterilization techniques and preparation of culture media. | 6 |
| June | Theory CC3: Mycology and Phytopathology Unit 4: Basidiomycota Practical CC3: Mycology and Phytopathology 1 Study of the following genera and their identification: <i>Pyrenopeziza</i> | 2 | Theory CC10: Molecular Biology Several class Practical CC10: Molecular Biology Repeat practical Class Theory SEC2: Biofertilizers Unit 5: Organic farming | 2 | Theory CC14: Plant Biotechnology Unit 5: Applications of Biotechnology Practical CC14: Plant Biotechnology Repeat practical Class | 6 |
| | | 2 | | 3 | Theory DSE4: Industrial and Environmental Microbiology Unit 6: Microbial flora of water Practical DSE4: Industrial and Environmental Microbiology Unit 3: Hands on sterilization techniques and preparation of culture media. | 4 |
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TEACHING PLAN OF DR. ANIRBAN PAUL
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Botany (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|---|----------------|--|---------------------|---|----------------|
| Jul | Theory CC1: Microbiology & Physiology Unit 4: Algae- General characters, range of thallus structure, cellular organization CC2: Archegoniate Unit6 Gymnosperms- General characteristics | 2 2 | Theory CC6: Plant systematics Unit 1: Significance of Plant systematics Practical CC6: Plant systematics 2. Field visit 3. Herbarium Preparation Theory SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology a) Mass selection and pure line selection, heterosis breeding | 6 2 3 | Theory DSE1: Natural Resource Management Unit 1: Natural resources Practical DSE1: Natural Resource Management Unit 1: Study of solid waste generated by a domestic system (biodegradable and non-biodegradable) and its impact on land degradation | 2 2 |
| Aug | Theory CC1: Microbiology & Physiology Unit 4: Algae- Endosymbiotic theory, Fritsch' classification (1935) CC2: Archegoniate Unit6 Gymnosperms- Classifications of Stewart & Rothwell (1993) | 1 2 | Theory CC6: Plant systematics Unit 1: Significance of Plant systematics Practical CC6: Plant systematics 2. Field visit 3. Herbarium Preparation Theory SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology b) Marker assisted breeding for agronomic crops | 6 2 2 | Theory DSE1: Natural Resource Management Unit 2: Sustainable utilization Practical DSE1: Natural Resource Management Unit 2: Collection of data on forest cover of specific area. | 8 2 |
| Sept | Theory CC1: Microbiology & Physiology Unit 4: Algae- Evolutionary classification of Lee (2008) CC2: Archegoniate Unit6 Gymnosperms- Cycad sp. | 1 4 | Theory CC6: Plant systematics Unit 2: Taxonomic hierarchy Practical CC6: Plant systematics 2. Field visit 3. Herbarium Preparation Theory SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology c) Meri propagation techniques, different organ culture | 6 2 2 | Theory DSE1: Natural Resource Management Unit 7: Energy Renewable and non-renewable sources of energy Practical DSE1: Natural Resource Management Unit 3: Measurement of dominance of woody species by DBH (diameter at breast height) method. | 6 2 |
| Oct | Theory CC1: Microbiology & Physiology Unit 6: Algae- Contributions of Phycologist CC2: Archegoniate Unit6 Gymnosperms- <i>Pinus</i> sp. | 1 4 | Practical CC6: Plant systematics 2. Field visit 3. Herbarium Preparation Theory CC7: Economic Botany Unit 1: Origin of Cultivated Plants Theory SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology d) Agrobacterium mediated transformation, vector mediated transformation, Biolistics | 1 3 2 | Theory DSE1: Natural Resource Management Unit 8: Contemporary practices in resource management FIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting, Waste management. Practical DSE1: Natural Resource Management Revision Practical classes | 8 2 |
| Nov | Theory CC1: Microbiology & Physiology Unit 4: Algae- Role of algae in environment, agriculture, biotechnology & industry CC2: Archegoniate Unit6 Gymnosperms- | 1 4 | Practical CC6: Plant systematics 2 Field visit 3. Herbarium Preparation Theory CC7: Economic Botany Unit 1: Origin of Cultivated Plants Theory | 2 3 | Theory DSE1: Natural Resource Management Unit 9: National and international efforts in resource management and conservation Practical DSE1: Natural Resource | 4 |

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| | Govtump | | SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology e)GMO, transgenic plant, parent | 1 | Management Revise Practical classes | 1 |
| Dec | Theory CC2: Archegoniate Unit: Gymnosperms- Ecological and economic importance | 2 | Theory CC6: Plant systematics Doubt clearing session Theory CC7: Economic Botany Unit 10: Timber plants Theory SECI: Agricultural Botany Unit:3 Plant breeding, Tissue culture and Biotechnology f) Molecular markers used in Agriculture | 1 3 2 | Theory DSEI: Natural Resource Management Doubt clearing class Practical DSEI: Natural Resource Management Revise Practical classes | 1 2 |
| Jan | Sem-II (II) | No. of Lecture | Sem-IV (II) | No. of Lecture | Sem-VI (II) | No. of Lecture |
| | Theory Core Course III: Mycology and Phytopathology Unit 9: Phytopathology Phytopathology terms + Koch's postulate Practical Core Course III: Mycology and Phytopathology Plant disease Identification + Study Tour | 1 2 | Theory CC9: Biomolecules and Cell Biology Unit 4: The cell Practical CC9: Biomolecules and Cell Biology Unit 5: Cytological staining of DNA- Feulgen and cell wall in the epidermal peel of onion using Periodic Schiff's (PAS) staining technique | 4 2 | Theory CC13: Genetics & Plant Breeding Unit 1: Mendelian genetics and its extension Practical CC13: Genetics & Plant Breeding Unit 1: Meiosis through temporary squash preparation, <i>Allium cepa</i> . Mendel's laws through seed Unit 2: ratios, Laboratory exercises in probability and chi-square | 5 2 2 |
| Feb | Theory Core Course III: Mycology and Phytopathology Unit 9: Phytopathology:Symptom, distribution & types of disease Practical Core Course III: Mycology and Phytopathology Study of the following diseases: White rust, Rust of <i>Azadirachta</i> & loose smut of wheat | 2 3 | Theory CC9: Biomolecules and Cell Biology Unit 5: Cell wall & plasma membrane Unit 6: Cell organelles Nucleus+ Chromosome Practical CC9: Biomolecules and Cell Biology Unit 8: Study different stages of mitosis of <i>Allium cepa</i> | 4 4 2 | Theory CC13: Genetics & Plant Breeding Unit 1: Mendelian genetics and its extension Practical CC13: Genetics & Plant Breeding Unit 3: Chromosome mapping using point test cross data. Unit 4: Pedigree analysis for dominant and recessive autosomal and sex linked traits, | 5 2 2 |
| Mar | Theory Core Course III: Mycology and Phytopathology Unit 9: Phytopathology Host defense mechanism+ Prevention- control Practical Core Course III: Mycology and Phytopathology Curtis Canker+ Angular leaf spot of coconut- TMV+Vern clearing (From Herbarium) | 2 3 | Theory CC9: Biomolecules and Cell Biology Unit 6: Cell organelles Practical CC9: Biomolecules and Cell Biology Unit 8: Study different stages of mitosis of <i>Allium cepa</i> . | 6 2 | Theory CC13: Genetics & Plant Breeding Unit 2: Extrachromosomal Inheritance Unit 3: Linkage, crossing over and chromosome mapping Practical CC13: Genetics & Plant Breeding Unit 5: Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4). Unit 6: Photographs / Permanent Slides showing Translocation Ring, Laggard and Inversion Bridge. Unit 7: Testing of goodness of fit with Mendelian mono and dihybrid ratios | 2 5 4 1 2 |

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| Apr | Theory Core Course III: Mycology and Phytopathology Unit 2: Phytopathology Citrus canker+ bacterial blight of rice+TMV+ Late blight of potato (Disease cycle & control) Practical Core Course III: Mycology and Phytopathology Early & Late blight of potato+Black stem rust of wheat+White rust of crucifers (From Herbarium) | 3 | Theory CC9: Biomolecules and Cell Biology Unit 6: Cell organelles Practical CC9: Biomolecules and Cell Biology Unit 8: Study different stages of meiosis of <i>Allium cepa</i> . | 6 | Theory CC13: Genetics & Plant Breeding Unit 4: Variation in chromosome number and structure Unit 8: Plant Breeding Practical CC14: Plant Biotechnology Unit 1: (a) Preparation of MS medium. (b) Demonstration of <i>in vitro</i> sterilization and inoculation methods using leaf and nodal explants of tobacco, <i>Datura</i> , <i>Brassica</i> etc. | 5 | 4 | 2 |
| | May | Theory Core Course III: Mycology and Phytopathology Unit 2: Phytopathology Ergot of rye+Black stem rust of wheat+Loose and covered smut of wheat+White rust of crucifers (Disease cycle & control) Practical Core Course III: Mycology and Phytopathology mycorrhizae (photographs) | 4 | Theory CC9: Biomolecules and Cell Biology Unit 7: Cell division & cell cycle Practical CC9: Biomolecules and Cell Biology Unit 8: Study different stages of meiosis of <i>Allium cepa</i> . | 6 | Theory CC14: Plant Biotechnology Unit 1: Plant Tissue Culture Practical CC14: Plant Biotechnology Unit 2: Study of anther, embryo and endosperm culture, micropropagation, somatic embryogenesis & artificial seeds through photographs. | 8 | 2 |
| June | Theory and Practical Theory Core Course III: Mycology and Phytopathology Unit 9: Phytopathology Special classes + doubt clearing + discussions | 1 | Theory and Practical: Special classes + doubt clearing + discussions | 2 | Theory CC14: Plant Biotechnology Unit 1: Plant Tissue Culture Practical CC14: Plant Biotechnology Unit 3: Isolation of protoplasts-Protocol | 8 | 1 | |

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TEACHING PLAN OF SHAMIM ALAM
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| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------|---|----------------|---|----------------|
| Jul | CC1: Microbiology & Phycology Unit 5: Cyanophyta and Xanthophyta Practical CC1: Microbiology & Phycology Staining & Bacteria from curd & root nodules | 2 | Theory CC5: Plant Ecology and Phytogeography Unit 9: Phytogeography Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Scrophulariaceae, Lamnaceae | 12 | Theory DSE1: Reproductive Biology of Angiosperms Unit 1: Introduction | 4 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Unit 4: Female gametophyte through permanent slides / photographs | 2 |
| Aug | CC1: Microbiology & Phycology Unit 5: Cyanophyta and Xanthophyta Practical CC1: Microbiology & Phycology Identification of Algae | 2 | Theory CC6: Plant systematics Unit 4: Systems of classification CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Verbenaceae, Acanthaceae | 12 | Theory DSE1: Reproductive Biology of Angiosperms Unit 2: Reproductive development | 6 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Unit 5: Embryogenesis | 2 |
| Sept | Theory CC1: Microbiology & Phycology Unit 5: Cyanophyta and Xanthophyta Practical CC2: Archegoniate <i>Marchantia</i> | 2 | Theory CC6: Plant systematics Unit 5: Biometrics, numerical taxonomy and cladistics Practical CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Rubiaceae, Asteraceae | 10 | Theory DSE1: Reproductive Biology of Angiosperms Unit 3: Anther and pollen biology | 5 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Unit 5: Embryogenesis | 2 |
| Oct | Theory CC1: Microbiology & Phycology Doubt clearing class Practical CC2: Archegoniate <i>Anthracos</i> | 2 | Theory CC7: Economic Botany Unit 2: Cereals Unit 3: Legumes Practical CC7: Economic Botany 8. Rubber: specimen, photograph/model of tapping, samples of rubber products. | 6 | Theory DSE1: Reproductive Biology of Angiosperms Unit 3: Anther and pollen biology | 5 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Doubt clearing class | 2 |
| Nov | Theory CC1: Microbiology & Phycology Doubt clearing class Practical CC2: Archegoniate <i>Pellia</i> | 2 | Theory CC7: Economic Botany Unit 4: Sources of sugars and starches Unit 5: Spices Practical CC7: Economic Botany 9. Drug-yielding plants: Organoleptic study of specimens of <i>Andropogon</i> and <i>Citrus</i> 10. Woods: Teak, Pine. Specimen, Section of young stem | 4 | Theory DSE1: Reproductive Biology of Angiosperms Unit 4: Ovule | 5 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Doubt clearing class | 1 |
| Dec | Theory CC1: Microbiology & Phycology Doubt clearing class Practical CC2: Archegoniate <i>Fanaria</i> | 2 | Theory CC7: Economic Botany Unit 6: Beverages Practical CC7: Economic Botany 11. Fiber-yielding plants: Jute | 4 | Theory DSE1: Reproductive Biology of Angiosperms Unit 4: Ovule | 5 |
| | | 2 | | 2 | Practical DSE1: Reproductive Biology of Angiosperms Doubt clearing class | 1 |

| Jan | Sem-II (II) | No. of Lecture | Sem-IV (II) | No. of Lecture | Sem-VI (II) | No. of Lecture |
|-----|--|---------------------|--|---------------------|---|----------------|
| | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 5: Vascular Cambium and Wood Practical CC4: Morphology & Anatomy of Angiosperms 4. Phloem: Sieve tubes-sieve plates; companion cells; phloem fibres, (from permanent slides)</p> | 4 2 | <p>Theory CC8: Palaeobotany & Palynology Unit 3: Stratigraphy</p> <p>Practical CC8: Palaeobotany & Palynology Unit 1: Study (including mode of preservation) of the following: <i>Lepidodendron</i>, (stem in T. S.)</p> <p>Theory SEC2: Biofertilizers Unit 3: Cyanobacteria</p> | 5 1 2 | <p>Theory DSE3: Plant Evolution and Biodiversity Unit 1: Earliest forms of plant life</p> <p>Practical DSE3: Plant Evolution and Biodiversity Unit 1: Study of vegetative and reproductive structure of aquatic plants (<i>Najas</i>, <i>Chlamydomonas</i>, <i>Oedogonium</i>).</p> | 6 3 |
| Feb | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 5: Vascular Cambium and Wood Practical CC4: Morphology & Anatomy of Angiosperms 4. Phloem: Sieve tubes-sieve plates; companion cells; phloem fibres, (from permanent slides)</p> | 4 2 | <p>Theory CC8: Palaeobotany & Palynology Unit 3: Stratigraphy</p> <p>Practical CC8: Palaeobotany & Palynology Unit 1: Study (including mode of preservation) of the following: <i>Calamita</i> (stem in T. S.)</p> <p>Theory SEC2: Biofertilizers Unit 3: Cyanobacteria</p> | 5 2 2 | <p>Theory DSE3: Plant Evolution and Biodiversity Unit 1: Earliest forms of plant life</p> <p>Practical DSE3: Plant Evolution and Biodiversity Unit 1: Study of vegetative and reproductive structure of aquatic plants <i>Fucales</i>, <i>Polysiphonia</i>).</p> | 6 2 |
| Mar | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 5: Vascular Cambium and Wood Practical CC4: Morphology & Anatomy of Angiosperms 5. Epidermal system: cell types, stomata types; trichomes: non-glandular and glandular, lenticels.</p> | 4 2 | <p>Theory CC8: Palaeobotany & Palynology Unit 3: Stratigraphy</p> <p>Practical CC8: Palaeobotany & Palynology <i>Barklands</i> (stem, specimen)</p> <p>Theory SEC2: Biofertilizers Unit 4: Mycorrhizal association</p> | 5 2 2 | <p>Theory DSE3: Plant Evolution and Biodiversity Unit 2: Evolutionary trends</p> <p>Practical DSE3: Plant Evolution and Biodiversity Unit 2: Study of vegetative and reproductive structure of plants of moist shady habitats (<i>Marchantia</i>, <i>Funaria</i>).</p> | 6 2 |
| Apr | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 5: Vascular Cambium and Wood Unit 6: Adaptive and Protective Systems Practical CC4: Morphology & Anatomy of Angiosperms 5. Epidermal system: cell types, stomata types; trichomes: non-glandular and glandular, lenticels.</p> | 2 2 2 | <p>Theory CC8: Palaeobotany & Palynology Unit 4: Geologic Time Scale</p> <p>Practical CC8: Palaeobotany & Palynology Unit 1: Study (including mode of preservation) of the following: <i>Glossopitys</i> (leaf, specimen)</p> <p>Theory SEC2: Biofertilizers Unit 4: Mycorrhizal association</p> | 5 2 2 | <p>Theory DSE3: Plant Evolution and Biodiversity Unit 2: Evolutionary trends</p> <p>Practical DSE3: Plant Evolution and Biodiversity Unit 2: Study of vegetative and reproductive structure of plants of moist shady habitats (<i>Pteris</i>).</p> | 6 2 |
| May | <p>Theory CC4: Morphology & Anatomy of Angiosperms Unit 6: Adaptive and Protective Systems Practical CC4: Morphology</p> | 3 | <p>Theory CC8: Palaeobotany & Palynology Unit 4: Geologic Time Scale</p> <p>Practical CC8: Palaeobotany & Palynology Unit 1: Study (including mode of preservation) of the following:</p> | 5 2 | <p>Theory DSE3: Plant Evolution and Biodiversity Unit 3: Phylogeny of plants</p> <p>Practical DSE3: Plant Evolution and Biodiversity</p> | 6 |

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| | 4 Anatomy of Angiosperms 6. Root: monocot, dicot, secondary growth (from permanent slides). | 2 | <i>Lyginopteris</i> (stem in T. S.) Theory SEC2: Biofertilizers Unit 4: Mycorrhizal association | 2 | Unit 3: Leaf anatomy of <i>Suaeda, Avicennia</i> (Halophytes)- Photographs | 2 |
| June | Theory CC4: Morphology & Anatomy of Angiosperms Unit 6: Adaptive and Protective Systems Practical CC4: Morphology & Anatomy of Angiosperms 6. Root: monocot, dicot, secondary growth (from permanent slides). | 3 | Theory CC8: Palaeobotany & Palynology Doubt clearing class Practical CC8: Palaeobotany & Palynology Unit 1: Study (including mode of preservation) of the following: <i>Ferretvaria</i> (root, specimen) | 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 3: Phylogeny of plants | 6 |
| | | 2 | Theory SEC2: Biofertilizers Unit 4: Mycorrhizal association | 1 | Practical DSE3: Plant Evolution and Biodiversity Unit 3: Leaf anatomy of <i>Herniera</i> (Halophytes)- Photographs | 1 |

[Handwritten Signature]

Head of the Department,
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TEACHING PLAN OF MS. MOUSUMI MUKHERJEE

(Part-Time Teacher)

Botany (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|---|----------------------------|--|-----------------|---|----------------|
| Jul | Theory CC2: Archegoniate Unit 1: Introduction-archegoniate; Transition and adaptation to land habit; Alteration of generations Practical CC2: Archegoniate <i>Lycopodium</i> | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 1: Introduction Practical CC5: Plant Ecology and Phytogeography 6. Ecological adaptations of some species: <i>Sponoxyst aquatica</i> stem, Phyllode of <i>Acacia senaria</i> iformis | 4 2 | Theory DSE1: Natural Resource Management Unit 3: Land Practical DSE1: Natural Resource Management Unit 4: Calculation and analysis of ecological footprint. | 8 2 |
| Aug | Theory CC2: Archegoniate Unit 2: Bryophytes-General characteristics & Classification [up to order] of Schuster (1965); Adaptations to land habit; Range of thallus organization Practical CC2: Archegoniate <i>Selaginella</i> | 6 2 | Theory CC5: Plant Ecology and Phytogeography Unit 1: Introduction Unit 2: Soil Practical CC5: Plant Ecology and Phytogeography 6. Ecological adaptations of some species: <i>Nerium</i> leaf and <i>Vanda</i> root | 2 2 2 | Theory DSE1: Natural Resource Management Unit 4: Water Practical DSE1: Natural Resource Management Unit 4: Calculation and analysis of ecological footprint. | 8 2 |
| Sept | Theory CC2: Archegoniate Unit 3: Type Studies-Bryophytes- <i>Riccia</i> , <i>Marchantia</i> Practical CC2: Archegoniate <i>Equisetum</i> | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 2: Soil Practical CC5: Plant Ecology and Phytogeography 7. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus, by species area curve method (species to be listed). | 4 2 | Theory DSE1: Natural Resource Management Unit 5: Biological Resources Practical DSE1: Natural Resource Management Unit 5: Ecological modeling | 6 2 |
| Oct | Theory CC2: Archegoniate Unit 3: Type Studies-Bryophytes- <i>Falkia</i> , <i>Anthoceros</i> Practical CC2: Archegoniate <i>Fucus</i> | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 3: Water Practical CC5: Plant Ecology and Phytogeography 8. Field visit to familiarize students with ecology of different sites. | 4 2 | Theory DSE1: Natural Resource Management Unit 5: Biological Resources Practical DSE1: Natural Resource Management Unit 5: Ecological modeling | 6 2 |
| Nov | Theory CC2: Archegoniate Unit 3: Type Studies-Bryophytes- <i>Sphagnum</i> , <i>Fusaria</i> Practical CC2: Archegoniate Revise Practical Class | 4 2 | Theory CC5: Plant Ecology and Phytogeography Unit 4: Light, temperature, wind and fire Practical CC5: Plant Ecology and Phytogeography 8. Field visit to familiarize students with ecology of different sites. | 4 1 | Theory DSE1: Natural Resource Management Unit 6: Forests Practical DSE1: Natural Resource Management Revise Practical Class | 6 1 |
| Dec | Theory CC2: Archegoniate Doubt clearing class Practical CC2: Archegoniate Revise Practical Class | 2 1 | Theory CC5: Plant Ecology and Phytogeography Doubt clearing class Practical CC5: Plant Ecology and Phytogeography Revise Practical Class | 1 1 | Theory DSE1: Natural Resource Management Doubt clearing class Practical DSE1: Natural Resource Management Revise Practical Class | 2 1 |

| Jan | Sem-II (II) | No. of Lecture | Sem-IV (II) | No. of Lecture | Sem-VI (II) | No. of Lecture |
|-----|---|----------------|---|----------------|--|----------------|
| | Theory CC4: Morphology & Anatomy of Angiosperms Unit 7: Leaves and Inflorescence Practical CC4: Morphology & Anatomy of Angiosperms 7. Stem: monocot, dicot - primary and secondary growth; periderm (from permanent slides) | 2 2 | Theory CC10: Molecular Biology Unit 4: Central dogma and genetic code Unit 5: Transcription Practical CC10: Molecular Biology Unit 5: Photographs establishing nucleic acid as genetic material (Messelson and Stahl's, Avery et al, Griffith's, Hershey & Chase's and Fraenkel & Conrat's experiments) | 2 2 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 4: Evolutionary theories Practical DSE3: Plant Evolution and Biodiversity Unit 4: Morphological and anatomical study of <i>Hydrilla</i> and <i>Volvox</i> | 4 3 |
| Feb | Theory CC4: Morphology & Anatomy of Angiosperms Unit 7: Leaves and Inflorescence Practical CC4: Morphology & Anatomy of Angiosperms 7. Stem: monocot, dicot - primary and secondary growth; periderm (from permanent slides) | 2 2 | Theory CC10: Molecular Biology Unit 5: Transcription Practical CC10: Molecular Biology Unit 5: Photographs establishing nucleic acid as genetic material (Messelson and Stahl's, Avery et al, Griffith's, Hershey & Chase's and Fraenkel & Conrat's experiments) | 4 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 4: Evolutionary theories Practical DSE3: Plant Evolution and Biodiversity Unit 4: Morphological and anatomical study of <i>Arum</i> . | 4 2 |
| Mar | Theory CC4: Morphology & Anatomy of Angiosperms Unit 8: Flower, Fruit and Seed Practical CC4: Morphology & Anatomy of Angiosperms 8. Leaf: Different variations; C4 leaves (Kranz anatomy). | 2 2 | Theory CC10: Molecular Biology Unit 5: Transcription Practical CC10: Molecular Biology Unit 6: Study of the following through photographs: Assembly of Spliceosome machinery; Splicing mechanism in group I & group II introns; Ribozyme and Alternative splicing. | 4 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 4: Evolutionary theories Practical DSE3: Plant Evolution and Biodiversity Unit 5: Morphological and anatomical study of plants of arid habitat (<i>Neeraj</i>). | 4 2 |
| Apr | Theory CC4: Morphology & Anatomy of Angiosperms Unit 8: Flower, Fruit and Seed Practical CC4: Morphology & Anatomy of Angiosperms 9. Cystolith, lenticels and Raphide. | 2 2 | Theory CC10: Molecular Biology Unit 5: Transcription Practical CC10: Molecular Biology Unit 6: Study of the following through photographs: Assembly of Spliceosome machinery; Splicing mechanism in group I & group II introns; Ribozyme and Alternative splicing. | 4 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 5: Plant diversity around the world Practical DSE3: Plant Evolution and Biodiversity Unit 5: Morphological and anatomical study of plants of acid habitat (<i>Pina</i>). | 4 2 |
| May | Theory CC4: Morphology & Anatomy of Angiosperms Unit 8: Flower, Fruit and Seed Practical CC4: Morphology & Anatomy of Angiosperms 10. Types of inflorescences, placentation and fruits. | 2 2 | Theory CC10: Molecular Biology Unit 5: Transcription Practical CC10: Molecular Biology Revise Practical Class | 4 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 5: Plant diversity around the world Practical DSE3: Plant Evolution and Biodiversity Unit 6: Field visit and report preparation | 4 2 |

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|------|---|---|--|---|--|---|
| June | Theory CC4: Morphology & Anatomy of Angiosperms Doubt clearing class Practical | 2 | Theory CC10: Molecular Biology Doubt clearing class Practical | 2 | Theory DSE3: Plant Evolution and Biodiversity Unit 5: Plant diversity around the world | 4 |
| | CC4: Morphology & Anatomy of Angiosperms Revise Practical Class | | CC10: Molecular Biology Revise Practical Class | | Practical DSE3: Plant Evolution and Biodiversity Revise Practical Class | |

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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF RAMKRISHNA ROY
Microbiology (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|--|----------------|---|----------------|--|--|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 2: Diversity of Microbial World: Systems of Classification | 4 | Theory CC5: Microbial Physiology and Metabolism Unit 5: Chemolithotrophic and Phototrophic Metabolism | 8 | Theory CC12: Immunology Unit 3: Antigen | align="center">8 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity 8. Study of <i>Rhizopus</i> , <i>Penicillium</i> and <i>Aspergillus</i> from permanent slides. | 2 | Practical CC5: Microbial Physiology and Metabolism 4. Effect of pH on growth of <i>E. coli</i> | 2 | | |
| Aug | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 2: Diversity of Microbial World: General characteristics and representative members of different groups (Cellular Microorganisms & Acellular Entity) | 4 | Theory CC6: Cell Biology Unit 5: Cell Cycle and Cancer (Eukaryotic Cell Cycle and its Regulation, Mitosis and Meiosis) | 4 | Theory CC12: Immunology Unit 6: Complement System | 6 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity 9. Study of <i>Spirogyra</i> and <i>Chlamydomonas</i> from permanent slides - | 2 | Practical CC6: Cell Biology Study of different stages of Meiosis from Permanent slide | 2 | | Practical CC12: Immunology 4. Separation of serum from the blood sample |
| | 10. Study of <i>Paramecium</i> and <i>Plasmodium</i> from permanent slides - | 2 | | | | |
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|------|---|---|--|---|---|---|
| Sept | Theory: CC2: Bacteriology Unit 3: Nutrition | 6 | Theory CC6: Cell Biology Unit 3: Cell Cycle and Cancer (Development of Cancer, causes of Cancer) | 4 | Theory CC11: Industrial Microbiology | |
| | Practical CC2: Bacteriology 4. Gram's Staining | 2 | Theory CC7: Molecular Biology Unit 3: Transcription in Prokaryotes and Eukaryotes. (Transcription: Definition, Promoter, RNA Polymerase, Transcription unit) | 6 | Unit 4: Down - stream processing | 9 |
| | 3. Negative Staining | 2 | Practical CC7: Molecular Biology 4. Estimation of DNA and its purity check and 7. Estimation of Protein by using UV Spectrophotometer. | 2 | Practical CC11: Industrial Microbiology | |
| | 5 Acid fast Staining- permanent slide | 2 | | 2 | 2. Microbial fermentation for the production and estimation of, b. Amino acid: Glutamic acid | 4 |
| Oct | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 5: Mycology General Characteristics of Fungi | 4 | Theory CC7: Molecular Biology Unit 3: Transcription in Prokaryotes and Eukaryotes, Transcription in Eukaryotes. | 2 | Theory DSE 1: Microbes in Sustainable Agriculture | |
| | | | CC7: Molecular Biology Unit 4: Post- Transcriptional Processing | 4 | Unit 2: Microbial Activity in Soil and Green House Gases | 6 |
| | | | Practical CC6: Cell Biology 4. Study of Polyploidy in Onion Root tip by Colchicine Treatment. | 4 | | |
| Nov | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 5: Mycology Reproduction in Fungi, Heterokaryosis, Heterothallism and Parasexual Mechanism | 4 | Theory CC7: Molecular Biology Unit 4: Post- Transcriptional Processing. RNA interference: si RNA and mi RNA. | 2 | Theory DSE 1: Microbes in Sustainable Agriculture Unit 6: GM Crops | 6 |
| | Economic Importance of Fungi | 1 | | | Practical DSE 1: Microbes in Sustainable Agriculture | |
| | Practical CC 2: Bacteriology 6. Endospore Staining | 2 | Practical CC5: Microbial Physiology and Metabolism. 5. Effect of different concentration of glucose on growth of <i>E. coli</i> | 2 | 6. Isolation of cellulase degrading organisms using CMC as substrate | 2 |

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|-----|--|---|---|---|--|---|
| Dec | Theory: CC1: Introduction to Microbiology and Microbial Diversity Special classes + doubt clearing+ discussions Practical Practice classes | 4 2 | Theory CC5: Microbial Physiology and Metabolism Unit 5: Chemolithotrophic and Photorophic Metabolism (Revision class) Question Answer Practice | 4 | Theory DSE 2: Instrumentation and Biotechniques Unit 4: Spectrophotometry Practical 4. Demonstration of Column packing in gel filtration chromatography 5. Separation of protein mixtures by gel filtration | 8 2 2 |
| | Sem-II (II) | | Sem-IV (II) | | Sem-VI (II) | |
| Jan | Theory CC3: Biochemistry Unit 2: Carbohydrates Practical CC 3: Biochemistry Qualitative/Quantitative tests for Carbohydrates (DNS method) | 4 2 | Theory CC 9: Environmental Microbiology Unit 4: Waste Management Practical CC 9: Environmental Microbiology 2. Isolation of Cellulose degrading microbes by enrichment culture technique | 8 2 | Theory CC 14: Recombinant DNA Technology Unit 2: Molecular Cloning-Tools and Strategies | 5 |
| | Feb | Theory CC3: Biochemistry Unit 1. Carbohydrates (Sugar Derivatives and Polysaccharides) Practical CC3: Biochemistry 3. Qualitative/Quantitative tests for Proteins (Lowry method) | 4 2 | Theory CC10: Food and Dairy Microbiology Unit 4. Fermented Food Practical CC10: Food and Dairy Microbiology 2. Study of Microorganisms from Dahi | 4 2 | Theory CC14: Recombinant DNA Technology Unit 2: Molecular Cloning-Tools and Strategies Practical CC14: Recombinant DNA Technology 7. Demonstration of Southern Blotting. |

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| Mar | <p>Theory</p> <p>CC4: Virology Unit 5: Prevention and Control of Viral Diseases (Antiviral Compounds and their mode of action) Practical</p> <p>CC3: Biochemistry</p> <p>1. Qualitative/Quantitative tests for AminoAcids(Nitrolydrazo)</p> <p>1. Qualitative/Quantitative tests for DNA (Diphenyl amine)</p> | 4 2 2 | <p>Theory</p> <p>CC10: Food and Dairy Microbiology</p> <p>Unit 4: Fermented Food</p> <p>Practical</p> <p>CC 9: Environmental Microbiology</p> <p>3. Isolation of Microbes from Rhizosphere and Rhizoplane.</p> | 4 2 | <p>Theory</p> <p>CC 13: Medical Microbiology</p> <p>Unit 6: Fungal Diseases</p> <p>Practical</p> <p>CC13: Medical Microbiology</p> <p>1. Identify bacteria(<i>E. coli</i>, <i>Staphylococcus</i>, <i>Bacillus</i>) using laboratory strains on the basis of culture, morphological and biochemical characteristics.</p> <p>Nitrate reduction Urease production Catalase test</p> | 5 1 1 1 |
| Apr | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 5: Prevention and Control of Viral Diseases (Interferon & General Principles of Viral Vaccination)</p> <p>Practical</p> <p>CC4: Virology Report Writing Educational Tour to Institute/ Industry.</p> | 4 4 | <p>Theory</p> <p>CC 8: Microbial Genetics</p> <p>Unit 3: Transposable Elements</p> | 8 | <p>Theory</p> <p>DSF 3: Advances in Microbiology</p> <p>Unit 1: Evolution of Microbial Genomes</p> <p>Practical</p> <p>DSF 3: Advances in Microbiology</p> <p>2. Quantification and purity checking of Extracted metagenomic DNA.</p> | 8 4 |

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|------|---|---|---|---|---|---|
| May | Theory CC3: Biochemistry Unit 2: Carbohydrates (Revision Class) | 4 | Theory CC 10: Food and Dairy Microbiology Unit 1: Food as a Substrate for Microorganisms | 6 | Theory DSE4: Bio-safety and Intellectual property Rights Unit 1: Bio-Safety | 6 |
| | Question - Answer Practice and Discussions | 3 | Practical CC 8: Microbial Genetics 3. Study of Survival curve of Bacteria after exposure to Ultra Violet (UV) light. | 2 | Practical DSE4: Bio-safety and Intellectual property Rights 1 Study of components and design of a BSL-III Laboratory using audio-visual aids | 2 |
| June | Special classes for theory And Practical practice classes. | | Theory CC10: Food and Dairy Microbiology Special class | 2 | Theory DSE4: Bio-safety and Intellectual property Rights | 4 |
| | | | Practical CC10: Food and Dairy Microbiology and CC 9: Environmental Microbiology [Repeat practical Class] | 2 | 3 AERB/ RSI/MS/IES guidelines for using radiotopes in laboratories and precautions | |

Ramkrishna Roy

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Department of Microbiology
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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF RAMKRISHNA ROY
Microbiology (Honours) (2018-19) (July 2018 – June 2019)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Part III (II) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 2: Diversity of Microbial World Systems of Classification | 4 | Theory CC5: Microbial Physiology and Metabolism Unit 5: Chemolithotrophic and Phototrophic Metabolism Practical CC5: Microbial Physiology and Metabolism 4. Effect of pH on growth of <i>E. coli</i> | 8 | Theory Paper- VIII: Ecology & Application of Microorganisms. Group A: Environmental Microbiology 5. Microbial Leaching | 4 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity 8. Study of <i>Rhizopus</i> , <i>Penicillium</i> and <i>Aspergillus</i> from permanent slides | 2 | | 2 | Paper VII: Genetics of Microorganisms & Medical Microbiology Group A: Microbial Genetics & Gene Manipulation 4. Concept of Central Dogma, DNA replication | 4 |
| Aug | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 2: Diversity of Microbial World: General characteristics and representative members of different groups (Cellular Microorganisms & Acellular Entity) | 4 | Theory CC6: Cell Biology Unit 5: Cell Cycle and Cancer (Eukaryotic Cell Cycle and its Regulation, Mitosis and Meiosis) Practical CC6: Cell Biology Study of different stages of Meiosis from Permanent slide | 4 | Theory Paper -VIII: Ecology & Application of Microorganisms Group A: Environmental Microbiology. 4. Biological waste water treatment | 8 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity 9. Study of <i>Spirogyra</i> and <i>Chlamydomonas</i> from permanent slides.- | 2 | | | | |
| | 10. Study of <i>Paramecium</i> and <i>Planocidium</i> from permanent slides.- | 2 | | | | |

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|------|--|---|---|---|--|---|
| Sept | Theory: CC2: Bacteriology Unit 3: Nutrition | 6 | Theory CC6: Cell Biology Unit 3: Cell Cycle and Cancer (Development of Cancer, causes of Cancer) | 4 | Theory Paper -VIII: Ecology & Application of Microorganisms Group B: Food & Industrial Microbiology. | 9 |
| | Practical CC2: Bacteriology 4. Gram's Staining | 2 | Theory CC7: Molecular Biology Unit 1: Transcription in Prokaryotes and Eukaryotes. (Transcription: Definition, Promoter, RNA Polymerase, Transcription unit) | 6 | 1. Food production by Microorganism. Fermented dairy products (Cheese, Yogurt), Fermented Food (Sauerkrauts, Ensilage, Single Cell Protein), | |
| | 3. Negative Staining | 2 | Practical CC7: Molecular Biology 4. Estimation of DNA and its purity check and 7. Distinction of Protein by using UV Spectrophotometer. | 2 | | |
| | 5. Acid fast Staining- permanent slide | 2 | | 2 | Practical Paper IX (Practical) 6. Microbiological examination of water (drinking water, supply water & pond water). | |
| Oct | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 5: Mycology General Characteristics of Fungi | 4 | Theory CC7: Molecular Biology Unit 3: Transcription in Prokaryotes and Eukaryotes, Transcription in Eukaryotes. | 7 | Theory Paper - VII: Genetics of Microorganisms & Medical Microbiology. Group A: Microbial Genetics & Gene Manipulation. | 5 |
| | | | CC7: Molecular Biology Unit 4: Post- Transcriptional Processing | 4 | 7. Genetic Engineering: Principles, Vectors (Plasmid based- pUC & pBR 322, YAC, BAC, λ phage, cosmid), 7) | |
| Nov | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 5: Mycology Reproduction in Fungi, Heterokaryosis, Heterothallism and Parasexual Mechanism | 4 | Theory CC7: Molecular Biology Unit 4: Post- Transcriptional Processing RNA interference: si RNA and mi RNA. | 2 | Theory Paper - VII: Genetics of Microorganisms & Medical Microbiology. Group A: Microbial Genetics & Gene Manipulation. | 5 |
| | Ecological Importance of Fungi | 1 | Practical CC5: Microbial Physiology and Metabolism. | | 7. Genetic Engineering: Enzymes, Gene transfer, Methods of Screening (blue-white). Application in Agriculture, Health & Industry. | |
| | Practical CC 2: Bacteriology 6. Endospore Staining | 2 | 5. Effect of different concentration of glucose on growth of <i>E. coli</i> | 2 | | |

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| | | | | | Paper- VII Group B: Microbial Pathogenicity & Immunity. 4. Immunity: (f) Antigen - Types & characteristics Practical Paper -X (Practical) 8. Determination of Thermal Death Point (TDP) of a bacteria | 2 2 |
| Dec | Theory: CC1: Introduction to Microbiology and Microbial Diversity Special classes + doubt clearing+ discussions Practical Practice classes | 4 2 | Theory CC5: Microbial Physiology and Metabolism Unit 5: Chemolithotrophic and Photothetic Metabolism (Revision class) Question Answer Practice | 4 4 2 | Theory Paper – VII: Genetics of Microorganisms & Medical Microbiology. Group B: Microbial Pathogenicity & Immunity. 4. Immunity (g)Haptens: Characteristics& Function. (i) Complement fixation pathway. Practical Paper -X (Practical) 9. Widal Test (Determination Ab titers using tit) | 6 2 3 2 |
| | Sem-II (II) | | Sem-IV (II) | | | |
| Jan | Theory CC3: Biochemistry Unit 2: Carbohydrates Practical CC 3: Biochemistry Qualitative/ Quantitative tests for Carbohydrates (DNS method) | 4 2 | Theory CC 9: Environmental Microbiology Unit 4: Waste Management Practical CC 9: Environmental Microbiology 2.Isolation of Cellulose degrading microbes by enrichment culture technique. | 8 2 | Theory Paper – VII: Genetics of Microorganisms & Medical Microbiology. Group B: Microbial Pathogenicity & Immunity 3. Common Microbial Diseases: (ii) Fungal- Candidiasis (iv) Protozoal- Malaria Practical Paper -X (Practical) 11. Dot ELISA | 2 2 2 |

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| Feb | <p>Theory</p> <p>CC3: Biochemistry</p> <p>Unit 1: Carbohydrates (Sugar Derivatives and Polysaccharides)</p> <p>Practical</p> <p>CC3: Biochemistry</p> <p>1 Qualitative/Quantitative tests for Proteins (Lowry method)</p> | 4 | <p>Theory</p> <p>CC10: Food and Dairy Microbiology</p> <p>Unit 4: Fermented Food</p> <p>Practical</p> <p>CC10: Food and Dairy Microbiology</p> <p>2. Study of Microorganisms from Dairy.</p> | 4 | |
| Mar | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 5: Prevention and Control of Viral Diseases (Antiviral Compounds and their mode of action)</p> <p>Practical</p> <p>CC3: Biochemistry</p> <p>2 Qualitative/Quantitative tests for Amino Acids (Ninhydrin)</p> <p>3 Quantitative/Qualitative tests for DNA (Diphenylamine)</p> | 4 | <p>Theory</p> <p>CC10: Food and Dairy Microbiology</p> <p>Unit 4: Fermented Food</p> <p>Practical</p> <p>CC 9: Environmental Microbiology</p> <p>3 Isolation of Microbes from Rhizosphere and Rhizoplane.</p> | 4 | |
| Apr | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 5: Prevention and Control of Viral Diseases (Interferon & General Principles of Viral Vaccination)</p> <p>Practical</p> <p>CC4: Virology</p> <p>Report Writing: Educational Tour to Institute/ Industry.</p> | 4 | <p>Theory</p> <p>CC 8: Microbial Genetics</p> <p>Unit 5: Transposable Elements</p> | 8 | |

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|--------------------|---|-------------------|--|-------------------|--|--|
| <p>May</p> | <p>Theory CC3: Biochemistry Unit 2: Carbohydrates (Revision Class)</p> <p>Question - Answer Practice and Discussions</p> | <p>4</p> <p>3</p> | <p>Theory</p> <p>CC 10: Food and Dairy Microbiology</p> <p>Unit 1: Food as a Substrate for Microorganisms</p> <p>Practical</p> <p>CC 8: Microbial Genetics</p> <p>3. Study of Survival curve of Bacteria after exposure to Ultra Violet (UV) light.</p> | <p>6</p> <p>2</p> | | |
| <p>June</p> | <p>Special classes for theory And Practical practice classes.</p> | | <p>Theory</p> <p>CC10: Food and Dairy Microbiology Special class</p> <p>Practical</p> <p>CC10 : Food and Dairy Microbiology and CC 9 : Environmental Microbiology</p> <p>[Repeat practical Class]</p> | <p>2</p> <p>2</p> | | |

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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF AMRITA CHATTERJEE Microbiology (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-------|--|----------------|--|----------------|--|----------------|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 3: Microscopy | 6 | Theory Unit 3: Chemoheterotrophic Metabolism - Aerobic Respiration | 6 | Theory CC11: Industrial Microbiology Unit 3: Microbial production of industrial products (microorganisms involved, media, fermentation conditions, downstream processing and uses) | 8 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Microbiology Labours: Microgrowth and Bio-safety | 2 | Practical CC3: Microbial Physiology & Metabolism Effect of salt on growth of <i>E. coli</i> | 2 | Practical CC11: Industrial Microbiology Microbial fermentation for the production and estimation (qualitative and quantitative) of Alcohol Ethanol | 4 |
| Aug | Theory: CC2: Bacteriology Unit 1: Cell Organization | 6 | Theory Unit 3: Chemoheterotrophic Metabolism - Aerobic Respiration CC7: Molecular Biology Unit 1: Structures of DNA and RNA | 2 4 | Theory CC12: Immunology Unit 1: Introduction CC12: Immunology Unit 2: Generation of Immune Response | 4 4 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Sterilization of glassware using Hot Air Oven | 2 | Practical CC6: Cell Biology Identification and study of cancer cells by photomicrographs | 2 | Practical CC12: Immunology Immunodiffusion by Ouchterlony method | 2 |
| Sept | Theory: CC2: Bacteriology Unit 1: Cell Organization | 2 | Theory CC6: Cell Biology Unit 2: Protein Sorting and Transport | 6 | Theory CC12: Immunology Unit 2: Generation of Immune Response DSE2: Instrumentation and Biotechniques Unit 1: Microbiology | 4 4 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Unit 4: Physiology | 6 | Practical CC7: Molecular Biology Study of different types of DNA and RNA using micrographs and model | 2 | Practical DSE2: Instrumentation and Biotechniques Ray diagram of phase contrast microscopy | 2 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Sterilization of heat sensitive material by filtration | 6 | Theory SEC1: Microbial Diagnosis in Health Clinics. Unit 2: Collection of Clinical Samples | 2 | | |
| Oct | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 4: Physiology | 2 | Theory CC6: Cell Biology Unit 3: Protein Sorting and Transport | 2 | Theory DSE2: Instrumentation and Biotechniques Unit 1: Microscopy | 2 |
| | Practical CC2: Bacteriology Simple staining | 2 | CC5: Microbial Physiology & Metabolism Unit 6: Nitrogen Metabolism - an overview | 2 | DSE1: Microbes in Sustainable Agriculture Unit 5: Secondary Agriculture Biotechnology Practical Design and functioning of a biogas plant - model study | 4 2 |

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| | | | Demonstration of alcoholic fermentation | 2 | | |
| Nov | Theory: CC2: Bacteriology Unit 4 Control of Microorganisms | 6 | Theory CC5: Microbial Physiology & Metabolism Unit 6 Nitrogen Metabolism - an overview | 4 | Theory DSE1: Microbes in Sustainable Agriculture Unit 5 Secondary Agriculture Biotechnology DSE2: Instrumentation and Biotechniques Unit 4 Centrifugation | 4 |
| | Practical CC2: Bacteriology Negative staining | 2 | Practical CC7: Molecular Biology Study of semi-conservative replication of DNA through micrographs | 2 | Practical DSE2: Instrumentation and Biotechniques Determination of λ max for an unknown sample and calculation of extinction coefficient | 2 |
| Dec | Theory: CC1 & CC2: Special Classes, Doubt clearance | 4 | Theory Special Classes | 2 | Theory DSE2: Instrumentation and Biotechniques Unit 4 Centrifugation | 2 |
| | Practical Practice Classes | 2 | Practical Practice Class | 2 | Practical DSE2: Instrumentation and Biotechniques Demonstration of density gradient centrifugation | 2 |
| | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| Jan | Theory CC3: Biochemistry Unit 7: Nucleic Acids | 5 | Theory CC8: Microbial Genetics Unit 2: Plasmids | 8 | Theory CC13: Medical Microbiology Unit 1: Normal microflora of the human body and host pathogen interaction | 6 |
| | Practical CC3: Biochemistry Concept of pH and buffers, preparation of buffers - phosphate and acetate buffer | 2 | Practical CC8: Microbial Genetics Demonstration of bacterial conjugation through audiovisual teaching aids | 2 | DSE3: Advances in Microbiology Unit 4 System and Synthetic Biology | 2 |
| Feb | Theory CC4: Virology Unit 1: Nature & Properties of Viruses | 6 | Theory CC9: Environmental Microbiology Unit 1: Water quality | 6 | Theory DSE3: Advances in Microbiology Unit 4 System and Synthetic Biology | 8 |
| | Practical CC4: Virology Study of one step phage growth curve using isolated bacteriophages | 2 | Practical CC9: Environmental Microbiology Assessment of microbiological quality of water by MPN test | 2 | Practical DSE3: Demonstration of networking of metabolic pathways in bacteria using audio visual aids | 4 |
| | | | Theory SEC2: Food Fermentation Techniques Unit 2: Milk Based Fermented Foods | 3 | | |
| Mar | Theory CC4: Virology Unit 2: Bacteriophages | 6 | Theory CC10: Food and Dairy Microbiology Unit 3: Microbial spoilage of various foods | 8 | Theory DSE3: Advances in Microbiology Unit 4 System and Synthetic Biology | 2 |
| | Practical CC4: Virology Study of one step phage | 2 | | | CC14: Recombinant | |

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| | growth curve using isolated bacteriophages | | Practical CC10: Food and Dairy Microbiology Isolation of spoilage microorganisms from spoiled carrot Theory SEC2: Food Fermentation Techniques Unit 3: Grain Based Fermented Foods | 2 5 | DNA Technology Unit 3: Methods in Molecular Cloning Practical CC14: Recombinant DNA Technology Demonstration of preparation of competent cells for transformation | 6 2 |
| Apr | Theory CC3: Biochemistry Unit 5: Enzymes Practical CC3: Biochemistry Qualitative tests for RNA (Orcinol) | 6 2 | Theory CC8: Microbial Genetics Unit 4: Plague Genetics CC9: Environmental Microbiology Unit 2: Microbial Interactions Practical CC9: Environmental Microbiology Study the presence of microbial activity by detecting enzymes (amylase) in soil Theory SEC2: Food Fermentation Techniques Unit 4: Vegetable Based Fermented Foods | 6 4 2 5 | Theory CC14: Recombinant DNA Technology Unit 3: Methods in Molecular Cloning DSE4: Bio-safety and Intellectual Property Rights Unit 4: Introduction to Intellectual Property Practical CC13: Medical Microbiology Demonstration of Bacterial Transformation and calculation of transformation efficiency | 4 4 2 |
| | Theory CC3: Biochemistry Unit 5: Enzymes Practical Quantitative tests for RNA (Orcinol) | 4 2 | Theory CC9: Environmental Microbiology Unit 2: Microbial Interactions CC10: Food and Dairy Microbiology Unit 5: Food borne diseases (causative agents, foods involved, symptoms and preventive measures) Practical CC10: Microbial Genetics Demonstration of bacterial transformation and transduction through audiovisual teaching aids | 4 4 2 | Theory DSE4: Bio-safety and Intellectual Property Rights Unit 4: Introduction to Intellectual Property CC13: Medical Microbiology Unit 3: Bacterial diseases Practical DSE4: Bio-safety and Intellectual Property Rights A case study | 4 4 4 |
| June | Theory CC3 & CC4: Special Classes Question answer session | 2 2 | Theory CC10: Food and Dairy Microbiology Unit 5: Food borne diseases (causative agents, foods involved, symptoms and preventive measures) Practical Practice Classes | 4 2 | Theory CC13: Medical Microbiology Unit 3: Bacterial diseases Special classes, Question answer session, Doubt Clearance Practical Study using permanent mounts stages of malarial parasite in RBCs | 4 2 2 |

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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF AMRITA CHATTERJEE
Microbiology (Honours) (2018-19) (July 2018 – June 2019)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture | | | |
|-------|--|----------------|--|----------------|---|----------------|---|--|---|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 3: Microscopy | 6 | Theory Unit 3: Chemoheterotrophic Metabolism - Aerobic Respiration | 6 | Paper VII: Genetics of Microorganisms & Medical Microbiology Group A: Microbial Genetics & Gene Manipulation 3: Genetic recombination in bacteria | 7 | | | |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Microbiology Laboratory Management and Bio-safety | | Practical CC5: Microbial Physiology & Metabolism Effect of salt on growth of <i>E. coli</i> | | | | 2 | Practical 7: Cultivation of edible mushroom | 3 |
| Aug | Theory: CC2: Bacteriology Unit 1: Cell Organization | 6 | Theory Unit 3: Chemoheterotrophic Metabolism - Aerobic Respiration CC7: Molecular Biology Unit 1: Structures of DNA and RNA | 2 | Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group A: Microbial Genetics & Gene Manipulation 5: Replication of plant and animal viruses | 8 | | | |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Sterilization of glassware using Hot Air Oven | | Practical CC6: Cell Biology Identification and study of cancer cells by photomicrographs | | | | 2 | Practical 7: Cultivation of edible mushroom | 3 |
| Sept | Theory: CC2: Bacteriology Unit 1: Cell Organization | 2 | Theory CC6: Cell Biology Unit 3: Protein Sorting and Transport | 6 | Theory Paper- VIII (Ecology & Application of Microorganisms) Group A: Environmental Microbiology 2: Waste as Resources 8: Rhizosphere, Phytoplankton | 5 | | | |
| | CC1: Introduction to Microbiology and Microbial Diversity Unit 4: Physiology | | Practical CC7: Molecular Biology Study of different types of DNA and RNA using micrographs and model | | | | 2 | Practical Paper X 1: Isolation of mutants of bacteria by UV exposure | 3 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Sterilization of heat sensitive material by filtration | | Theory SEC1: Microbial Diagnosis in Health Clinics. Unit 2: Collection of Clinical Samples | | | | 2 | | |
| Oct | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 4: Physiology | 2 | Theory CC6: Cell Biology Unit 3: Protein Sorting and Transport | 2 | Theory Paper- VIII (Ecology & Application of Microorganisms) Group A: Environmental Microbiology 8: Rhizosphere, Phytoplankton | 3 | | | |
| | Practical CC2: Bacteriology Simple staining | | CC5: Microbial Physiology & Metabolism Unit 6: Nitrogen Metabolism - an overview | | | | 2 | | |
| | | | Practical CC5: Microbial Physiology & Metabolism Demonstration of alcoholic fermentation | | | | 2 | Practical 10: Production of alcohol by Yeast and estimation of alcohol | 3 |

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|-----|--|---|---|---|---|---|
| Nov | Theory: CC2: Bacteriology Unit 4 Control of Microorganisms Practical CC2: Bacteriology Negative staining | 6 | Theory CC5: Microbial Physiology & Metabolism Unit 6 Nitrogen Metabolism - an overview Practical CC7: Molecular Biology Study of semi-conservative replication of DNA through micrographs Theory SEC1: Microbial Diagnosis in Health Clinics Unit 5: Kits for Rapid Detection of Pathogen | 4 | Theory (Paper VII (Genetics of Microorganisms & Medical Microbiology) Group B: Microbial Pathogenicity & Immunity 1. Predominant Normal Microbial Flora of Human Body Practical 10. Production of alcohol by Yeast and estimation of alcohol | 5 |
| | Theory: CC1 & CC2: Special Classes, Doubt clearance Practical Practice Classes | 4 | Theory Special Classes Practical Practice Class | 2 | Theory Paper- VIII (Ecology & Application of Microorganisms) Group B: Food & Industrial Microbiology 2. Role of Microorganisms in spoilage of Food Practical Paper IX 4. Isolation & characterization of Bacteria & fungi from rotten food- bread & carrot | 6 |
| | Sem-II (II) Theory CC3: Biochemistry Unit 7. Nucleic Acids Practical CC3: Biochemistry Concept of pH and buffers, preparation of buffers - phosphate and acetate buffer | 5 | Sem-IV (II) Theory CC8: Microbial Genetics Unit 2. Plasmids Practical CC8: Microbial Genetics Demonstration of bacterial conjugation through microvisual teaching aids Theory SI:CC2: Food Fermentation Techniques Unit 2. Milk Based Fermented Foods | 8 | Theory Paper- VIII (Ecology & Application of Microorganisms) Group B: Food & Industrial Microbiology 3. General principle of food preservation Practical Paper IX 4. Isolation & characterization of Bacteria & fungi from rotten food- bread & carrot | 6 |
| Feb | Theory CC4: Virology Unit 1. Nature & Properties of Viruses Practical CC4: Virology Study of one step phage growth curve using isolated bacteriophages | 6 | Theory CC9: Environmental Microbiology Unit 1. Water potability Practical CC9: Environmental Microbiology Assessment of microbiological quality of water by MPN test Theory SEC2: Food Fermentation Techniques Unit 2. Milk Based Fermented Foods | 6 | Theory Paper VII (Genetics of Microorganisms & Medical Microbiology) Group B: Microbial Pathogenicity & Immunity 4. Immunity: a) Fundamental concepts of Immune System c) Types of Immunization Practical Paper IX 7. Methylene blue reduction test for milk | 4 |
| | Theory CC4: Virology Unit 2. Bacteriophages Practical CC4: Virology Study of one step phage growth curve using | 4 | Theory CC10: Food and Dairy Microbiology Unit 3. Microbial spoilage of various foods Practical | 8 | Theory Paper VII (Genetics of Microorganisms & Medical Microbiology) Group B: Microbial Pathogenicity & Immunity 4. Immunity | 3 |
| | Theory CC4: Virology Unit 2. Bacteriophages Practical CC4: Virology Study of one step phage growth curve using | 2 | Practical | | | |
| Mar | Theory CC4: Virology Unit 2. Bacteriophages Practical CC4: Virology Study of one step phage growth curve using | 4 | Theory CC4: Virology Unit 2. Bacteriophages Practical CC4: Virology Study of one step phage growth curve using | 4 | Theory CC4: Virology Unit 2. Bacteriophages Practical CC4: Virology Study of one step phage growth curve using | 4 |

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| | isolated bacteriophages | | CC10: Food and Dairy Microbiology Isolation of spoilage microorganisms from spoiled carrot Theory SEC2: Food Fermentation Techniques Unit 3 Grain Based Fermented Foods | 2 | d) Types of Immunity | 2 |
| | | | | | Practical Practice class | 3 |
| Apr | Theory CC3: Biochemistry Unit 5: Enzymes Practical CC3: Biochemistry Qualitative tests for RNA (Orcinol) | 6 | Theory CC8: Microbial Genetics Unit 4 Phage Genetics CC9: Environmental Microbiology Unit 2: Microbial Interactions Practical CC9: Environmental Microbiology Study the presence of microbial activity by detecting enzymes (amylase) in soil Theory SEC2: Food Fermentation Techniques Unit 4 Vegetable Based Fermented Foods | 6 | | |
| | | 2 | | 4 | | |
| May | Theory CC3: Biochemistry Unit 5: Enzymes Practical Quantitative tests for RNA (Orcinol) | 4 | Theory CC9: Environmental Microbiology Unit 2: Microbial Interactions CC10: Food and Dairy Microbiology Unit 5: Food borne diseases (causative agents, foods involved, symptoms and preventive measures) | 4 | | |
| | | 2 | Practical CC10: Microbial Genetics Demonstration of bacterial transformation and transduction through audiovisual teaching aids | 4 | | |
| June | Theory CC3 & CC4: Special Classes Question answer session | 2 | Theory CC10: Food and Dairy Microbiology Unit 5. Food borne diseases (causative agents, foods involved, symptoms and preventive measures) | 2 | | |
| | Practical Practice Classes | 2 | Practical Practice Classes | 4 | | |
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|------|--|---|--|---|---|--------|
| Sept | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 4: Control of Microorganisms</p> | 1 | <p>Theory</p> <p>CC6: Cell Biology</p> <p>Unit 2: Nucleus (Chromatin- Molecular organization, Nucleolus)</p> | 4 | <p>Theory</p> <p>CC12: Immunology</p> <p>Unit 2: Immune Cells and Organs</p> | 6 |
| | <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Negative Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>Practical</p> <p>CC12: Immunology</p> <p>1. Identification of Human blood groups.</p> | 2 |
| | | | <p>Practical</p> <p>CC7: Molecular Biology</p> <p>5. Estimation of RNA by using UV Spectrophotometer.</p> | 2 | <p>DSE 1: Microbes in Sustainable Agriculture</p> <p>3. Preparation of <i>Rhizobium</i> as soil inoculants and application</p> <p>4. Preparation of <i>Azotobacter</i> as soil inoculants and application</p> | 4 4 |
| Oct | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Positive Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>Theory</p> <p>CC12: Immunology</p> <p>Unit 8: Immunological techniques</p> | 6 |

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|-----|---|---|---|---|---|----|
| Nov | <p>Theory</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups</p> <p>Cyanobacteria</p> | 4 | <p>Theory</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>Unit 6: Nitrogen Metabolism- an overview</p> <p>Practical</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>7. Determination of the Thermal Death Point (TDP) of <i>E. coli</i></p> | 6 | <p>Theory</p> <p>DSE 2: Instrumentation and Biotechniques</p> <p>Unit 3: Electrophoresis</p> <p>Practical</p> <p>DSE 2: Instrumentation and Biotechniques</p> <p>6. Separation of protein mixtures by Polyacrylamide Gel Electrophoresis (PAGE)</p> <p>7. Separation of components of a given mixture using a laboratory scale Centrifugation</p> | 10 |
| Dec | <p>Theory:</p> <p>CC1: Introduction to Microbiology and Microbial Diversity</p> <p>Special classes + doubt clearing+ discussions</p> <p>Practical</p> <p>Practice classes</p> | 4 | <p>Revision class</p> <p>Question Answer Practice</p> | 6 | <p>Theory</p> <p>DSE 1: Microbes in Sustainable Agriculture</p> <p>Unit 4: Biofertilization, Phyto-stimulation</p> <p>Practical</p> <p>CC12: Immunology</p> <p>6. DOT ELISA</p> | 8 |
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| | Sem-II (II) | | Sem-IV (II) | | Sem-VI (II) | |
|-----|---|------------|--|---|---|----------------|
| Jan | Theory CC3: Biochemistry Unit 1: Bioenergetics | 6 | Theory CC 9: Environmental Microbiology Unit 1: Microorganisms and their Habitats Practical CC 9: Environmental Microbiology 7. Isolation of <i>Rhizobium</i> from root nodules | 8 | Theory CC 13: Medical Microbiology Unit 2: Sample collection, Transport and Diagnosis Practical CC 13: Medical Microbiology 3. Perform antibacterial sensitivity by Kirby-Bauer Method | 6 2 |
| Feb | Theory CC3: Biochemistry Unit 3: Lipids Practical CC 3: Biochemistry 2. Qualitative/ Quantitative tests for Carbohydrates (DNS method) | 6 2 | Theory CC 9: Environmental Microbiology Unit 5: Microbial Bioremediation | 8 | Theory CC 13: Medical Microbiology Unit 7: Antimicrobial Agents Practical CC 13: 4. Determination of Minimal Inhibitory Concentration (MIC) of antibiotic | 8 2 |
| Mar | Theory CC4: Virology Unit 4: Viruses and Cancer | 6 | Theory CC10: Food and Dairy Microbiology Unit 3: Principles and methods of food preservation | 8 | Theory CC 14: Recombinant DNA Technology Unit 5: Applications of Recombinant DNA Technology | 8 |

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| | <p>Practical</p> <p>CC4: Virology 4 Isolation of Bacteriophage DNA and study of its HindIII digestion pattern</p> | 4 | <p>Practical</p> <p>CC 10: Food and Dairy Microbiology</p> <p>2. Alkaline phosphatase test to check the efficiency of pasteurization of milk</p> | 2 | <p>Practical</p> <p>CC 14: Recombinant DNA Technology 3 Digestion of DNA using Restriction enzyme and analysis by Agarose Gel Electrophoresis</p> | |
| Apr | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 6: Application of Virology</p> | 6 | <p>Theory</p> <p>CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations</p> | 6 | <p>Theory</p> <p>DSE 3: Advances in Microbiology</p> <p>Unit 2: Metagenomics</p> | 8 |
| | <p>Practical</p> <p>CC3: Biochemistry</p> <p>6. Estimation of Ascorbic acid</p> | 2 | <p>Practical</p> <p>CC 8: Microbial Genetics</p> <p>5. Study of different conformation of plasmid DNA through Agarose gel electrophoresis using DNA ladder.</p> | 4 | <p>Practical</p> <p>DSE 3: Advances in Microbiology</p> <p>1. Extraction of Metagenomic DNA from soil</p> <p>CC 14: Recombinant DNA Technology 4. Determination of molecular size of DNA fragment by Agarose Gel Electrophoresis</p> | 4 2 |
| May | <p>Theory</p> <p>CC3: Biochemistry</p> <p>Unit 1: Bioenergetics (Revision Class)</p> | 1 | <p>Theory</p> <p>CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations</p> | 4 | <p>Theory</p> <p>DSE 4: Bio-safety and Intellectual property Rights</p> <p>Unit 2: Bio-safety Guidelines</p> | 6 |
| | <p>Question – Answer Practice and Discussions</p> | 3 | <p>Practical</p> <p>CC 8: Microbial Genetics</p> <p>8. Demonstration of Ames test through audio visual teaching aids</p> | 2 | <p>Practical</p> <p>DSE 4: Bio-safety and Intellectual property Rights 2. Filing applications for approval from Bio- safety committee</p> | 4 |

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| June | Special classes for theory And Practical practice classes. | | Theory CC10: Food and Dairy Microbiology Special class Practical CC10 : Food and Dairy Microbiology and CC 9 : Environmental Microbiology [Repeat practical Class] | 2 2 | Theory DSI: 4: Bio-safety and Intellectual property Rights Unit 6: Agreements and Treaties | 8 |
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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF ASUTOSI MUKHERJEE
Microbiology (Honours) (2018-19) (July 2018 – June 2019)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Part III (II) | No. of Lecture |
|-------|--|----------------|---|----------------|---|----------------|
| Jul | <p>Theory:</p> <p>CC1: Introduction to Microbiology and Microbial Diversity</p> <p>Unit 1: History and Development of Microbiology</p> | 4 | <p>Theory</p> <p>CC5: Microbial Physiology and Metabolism</p> <p>Unit 2: Nutrient uptake and Transport</p> <p>Practical</p> <p>CC5: Microbial Physiology and Metabolism</p> <p>3. Effect of temperature on growth of <i>E. coli</i></p> | 6 | <p>Theory</p> <p>Paper-VII: Genetics of Microorganisms & Medical Microbiology</p> <p>Group A: Microbial Genetics & Gene Manipulation:</p> <p>1. Bacterial Mutation.</p> | 6 |
| Aug | <p>Theory:</p> <p>CC1: Introduction to Microbiology and Microbial Diversity</p> <p>Unit 1: History and Development of Microbiology</p> <p>CC2: Bacteriology</p> <p>Unit 4: Control of Microorganisms</p> | 2 | <p>Theory</p> <p>CC6: Cell Biology</p> <p>Unit 2: Nucleus (Nuclear envelope and nuclear pore complex)</p> <p>Practical</p> <p>CC6: Cell Biology</p> <p>2. Study of the structure of cell organelles through electron micrographs</p> | 4 | <p>Theory</p> <p>Paper-VII: Genetics of Microorganisms & Medical Microbiology</p> <p>Group A: Microbial Genetics & Gene Manipulation:</p> <p>6. Gene Regulation</p> <p>Group B: Microbial Pathogenicity & Immunity</p> <p>3. Common Microbial Diseases:</p> <p>(i) Bacterial- Typhoid, Staphylococcal Food Poisoning</p> <p>ii) Viral- AIDS</p> <p>Practical</p> <p>Paper IX (Practical)</p> <p>2. Determination of MIC of antibiotic (penicillin/ streptomycin).</p> | 6 |
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| Sept | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 4: Control of Microorganisms</p> | 4 | <p>Theory</p> <p>CC6: Cell Biology</p> <p>Unit 2: Nucleus (Chromatin- Molecular organization, Nucleolus)</p> | 4 | <p>Theory</p> <p>Paper-VII: Genetics of Microorganisms & Medical Microbiology</p> <p>Group B: Microbial Pathogenicity & Immunity</p> <p>4. Immunity:</p> | | |
| | <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Negative Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>(h) Ag-Ab reaction - agglutination, precipitation, opsonisation, lysis, neutralization.</p> <p>(j) Immunological techniques- ELISA</p> | 3 | |
| | | | <p>Practical</p> <p>CC7: Molecular Biology</p> <p>5. Estimation of RNA by using UV Spectrophotometer.</p> | 2 | <p>Practical</p> <p>Paper X (Practical)</p> <p>2. Isolation of amino acid auxotrophic mutant by replica plating technique (Penicillin enrichment technique)</p> | 2 | 4 |
| Oct | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups (Bacteria: General characteristics and economic importance; Gram Positive Groups)</p> | 4 | <p>Theory</p> <p>CC7: Molecular Biology</p> <p>Unit 5: Translation</p> | 4 | <p>Theory</p> <p>Paper-VIII: Ecology & Application of Microorganisms</p> <p>Group A: Environmental Microbiology:</p> <p>3. Potability of water: Microbial assessment of water quality, water purification, Coliform test.</p> | | 5 |

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|-----|--|---|---|---|--|---|
| Nov | <p>Theory:</p> <p>CC2: Bacteriology</p> <p>Unit 7: Important Archaeal and Bacterial Groups</p> <p>Cyanobacteria</p> | 4 | <p>Theory</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>Unit 6: Nitrogen Metabolism- an overview</p> | 6 | <p>Theory</p> <p>Paper -VIII: Ecology & Application of Microorganisms</p> <p>Group A: Environmental Microbiology:</p> <p>7 Biofertilizers: Types (Rhizobium, Phosphate solubilizer, BGA & VAM), Production & application of Biofertilizers. Importance of Biofertilizers in Agriculture</p> | 8 |
| | | | <p>Practical</p> <p>CC5: Microbial Physiology and Metabolism.</p> <p>7 Determination of the Thermal Death Point (TDP) of <i>E. coli</i></p> | 2 | <p>Practical</p> <p>Paper X (Practical)</p> <p>3. Isolation of Ampicillin resistant mutants by selection by gradient plate method.</p> | 4 |

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|-----|---|---|---|---|--|---|
| Dec | <p>Theory:</p> <p>CC1: Introduction to Microbiology and Microbial Diversity</p> <p>Special classes + doubt clearing+ discussions</p> | 4 | <p>Revision class</p> | 6 | <p>Theory</p> <p>Paper -VIII: Ecology & Application of Microorganisms</p> <p>Group B: Food & Industrial Microbiology:</p> <p>6. Industrial Microbiological products Alcohol and alcoholic beverages (beer), organic acids (lactic acid), antibiotics (penicillin), amino acid (lysine), vaccine (Hep-B) & Vit B12 production.</p> | 9 |
| | <p>Practical</p> <p>Practice classes</p> | 2 | <p>Question Answer Practice</p> | | <p>Practical</p> <p>Paper X (Practical)</p> <p>4. Blood grouping</p> | 2 |
| Jan | <p>Sem-II (H)</p> <p>Theory</p> <p>CC3: Biochemistry</p> <p>Unit 1: Bioenergetics</p> | 6 | <p>Sem-IV (H)</p> <p>Theory</p> <p>CC 9: Environmental Microbiology</p> <p>Unit 1: Microorganisms and their Habitats</p> | 8 | <p>Theory</p> <p>Paper-VII: Genetics of Microorganisms & Medical Microbiology</p> <p>Group A: Microbial Genetics & Gene Manipulation.</p> <p>1. Bacterial Mutation:</p> <p>[REVISION CLASS]</p> | 4 |
| | <p>Practical</p> <p>CC 9: Environmental Microbiology</p> <p>7. Isolation of <i>Rhizobium</i> from root nodules</p> | | <p>Practical</p> <p>Paper -IX (Practical)</p> <p>3. Examination of urine by culture & isolation of Human pathogen (bacteria) & determination</p> | | 2 | |

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|------------|---|---|--|---|--|--|
| Feb | <p>Theory</p> <p>CC3: Biochemistry</p> <p>Unit 3: Lipids</p> | 6 | <p>Theory</p> <p>CC 9: Environmental Microbiology</p> <p>Unit 5: Microbial Bioremediation</p> | 8 | | |
| | <p>Practical</p> <p>CC 3: Biochemistry</p> <p>2. Qualitative/ Quantitative tests for Carbohydrates (DNS method)</p> | 2 | | | | |
| Mar | <p>Theory</p> <p>CC4: Virology</p> <p>Unit 4: Viruses and Cancer</p> | 6 | <p>Theory</p> <p>CC10: Food and Dairy Microbiology</p> <p>Unit 3: Principles and methods of food preservation</p> | 8 | | |
| | <p>Practical</p> <p>CC4: Virology</p> <p>4. Isolation of Bacteriophage DNA and study of its HindIII digestion pattern</p> | 4 | <p>Practical</p> <p>CC 10: Food and Dairy Microbiology</p> <p>2. Alkaline phosphatase test to check the efficiency of pasteurization of milk</p> | 2 | | |

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|------------|---|---|---|---|--|--|
| Apr | Theory CC4: Virology Unit 6: Application of Virology | 6 | Theory CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations | 6 | | |
| | Practical CC3: Biochemistry 6 Estimation of Ascorbic acid | 2 | Practical CC 8: Microbial Genetics 5 Study of different conformation of plasmid DNA through Agarose gel electrophoresis using DNA ladder. | 4 | | |
| May | Theory CC3: Biochemistry Unit 1: Bioenergetics (Revision Class) | 4 | Theory CC 8: Microbial Genetics Unit 1: Genome Organization and Mutations | 4 | | |
| | Question – Answer Practice and Discussions | 3 | Practical CC 8: Microbial Genetics 8 Demonstration of Ames test through audio visual teaching aids. | 2 | | |

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| <p>June</p> | <p>Special classes for theory And Practical practice classes.</p> | | <p>Theory CC10: Food and Dairy Microbiology Special class</p> <p>Practical CC10 : Food and Dairy Microbiology and CC 9 : Environmental Microbiology</p> <p>[Repeat practical Class]</p> | <p>2</p> <p>2</p> | | |
|--------------------|---|--|--|-------------------|--|--|

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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF AMARNATH CHATTOPADHYAY
Microbiology (Honours) (2019-20) (July 2019 – June 2020)

| Month | Sem-I (II) | No. of Lecture | Sem-III (II) | No. of Lecture | Sem-V (II) | No. of Lecture |
|-------|---|----------------|---|----------------|---|----------------|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 6: Protozoa | 06 | Theory CC5: Microbial Physiology & Metabolism Unit 1: Microbial Growth and Effect of Environment on Microbial Growth | 10 | Theory CC11: Industrial Microbiology Unit 3: Types of fermentation processes, bio-reactors | 08 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity To study the principle and applications of instruments (autoclave, incubator, hot air oven, centrifugation, light microscope, pH meter) used in the microbiology laboratory | 04 | Practical CC5: Microbial Physiology & Metabolism Study of growth curve of <i>E. coli</i> by turbidometric method, standard plate count method, Direct count method by phase contrast microscopy | 06 | Practical CC11: Industrial Microbiology Demonstration of different parts of a typical fermenter | 04 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3: Direct Microscopic Examination and Culture | 03 | | |
| Aug | Theory: CC2: Bacteriology Unit 2: Bacteriological Techniques | 06 | Theory CC6: Cell Biology Unit 1: Unit 1: Structure and organization of Cell | 08 | Theory CC11: Industrial Microbiology Unit 3: Types of fermentation processes, bio-reactors | 02 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Preparation of culture media (Nutrient Broth and Nutrient Agar) for bacterial cultivation | 02 | Practical CC5: Microbial Physiology & Metabolism Calculation of generation time and specific growth rate of bacteria from the graph plotted with the given data | 02 | CC12: Immunology Unit 4: Antibodies | 08 |
| | Sterilization of medium using Autoclave and assessment for sterility | 02 | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3: Direct Microscopic Examination and Culture | 03 | Practical CC12: Immunology Total Leukocyte Count of the given blood sample | 04 |
| Sept | Theory: CC3: Bacteriology Unit 2: Bacteriological Techniques Unit 5: Growth & Reproduction in Bacteria | 02 04 | Theory CC5: Microbial Physiology & Metabolism Unit 4: Chemoheterotrophic Metabolism- Anaerobic respiration and fermentation | 05 | Theory CC12: Immunology Unit 3: Major Histocompatibility Complex | 04 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Isolation and enumeration of bacteria from air, water and soil | 06 | Practical CC6: Cell Biology Study of a representative plant (epidermal cell of <i>Rhus</i> sp.) and animal cell (squamous epithelial cell) by microscopy | 04 | DSE2: Instrumentation and Biotechniques Unit 2 Chromatography | 06 |
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|-----|---|----------|--|----------|---|----|
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 6: Testing for Antibiotic Sensitivity in Bacteria | 04 | Practical DSE1: Microbes in Sustainable Agriculture Enumeration of bacterial load of barren and fertile soil | 04 |
| Oct | Theory: CC2: Bacteriology Unit 5: Growth & Reproduction in Bacteria | 02 | Theory CC7: Molecular Biology Unit 2: Replication of DNA (Prokaryotes and Eukaryotes) | 08 | Theory DSE2: Instrumentation and Biotechniques Unit 2 Chromatography | 04 |
| | Practical CC2: Bacteriology Estimation of CFU count by spread plate method/pour plate method | 02 | Practical CC6: Cell Biology Study of different stages of Mitosis from permanent slide | 02 | Practical DSE1: Microbes in Sustainable Agriculture Study soil profile (Water holding capacity, pH, total organic carbon content) | 02 |
| Nov | Theory: CC2: Bacteriology Unit 7: Important Archaeal And Bacterial Groups Archaea Cyanobacteria CC1: Introduction to Microbiology and Microbial Diversity Special class, Doubt clearance | 04 | Theory CC7: Molecular Biology Unit 2. Replication of DNA (Prokaryotes and Eukaryotes) Unit 6: Regulation of gene Expression | 02 06 | Theory DSE1: Microbes in Sustainable Agriculture Unit 3 Microbial control of soil borne plant pathogens | 08 |
| | Practical CC2: Bacteriology Isolation of pure cultures of bacteria by streaking method Preservation of bacterial cultures (slant/stab) | 02 02 | Practical CC7: Molecular Biology Isolation of genomic DNA from <i>E. coli</i> | 03 | Practical DSE1: Microbes in Sustainable Agriculture Study soil profile (Water holding capacity, pH, total organic carbon content) | 04 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 4. Serological and Molecular Methods | 03 | | |
| | | | | | | |
| Dec | Theory: CC2: Bacteriology Special Classes, Doubt clearance | 02 | Theory CC6: Cell Biology Unit 4 Cell Signaling Special classes for doubt clearance | 08 02 | Theory Special class for doubt clearance | 04 |
| | Practical CC2: Bacteriology Motility by hanging drop method, Practice Classes | 02 02 | Practical CC7: Molecular Biology Resolution and visualization of DNA by Agarose Gel Electrophoresis | 03 | Practical Practice Class | 04 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Special classes for doubt clearance Question Answer session | 02 | | |

| | Sem-II (II) | | Sem-IV (II) | | Sem-VI (II) | |
|-----|---|----|---|----------|---|----------|
| Jan | Theory CC4: Virology Unit 3: Viral Transmissions, salient features of Viral Nucleic acids & Reproduction | 04 | Theory CC8: Microbial Genetics Unit 2: Plasmids | 08 | Theory CC13: Medical Microbiology Unit 4: Viral diseases | 08 |
| | Practical CC4: Virology Study of TMV infection on Tomato plant induced by TMV infected tobacco extract | 04 | Practical CC8: Microbial Genetics Preparation of master plates and replica plates Study of the effect of physical (UV) mutagens on bacterial cells | 04 02 | Practical CC13: Medical Microbiology Identify bacteria (<i>E. coli</i> , <i>Staphylococcus</i> , <i>Bacillus</i>) using laboratory strains on the basis of cultural, morphological and biochemical characteristics: IMViC | 04 |
| Feb | Theory CC4: Virology Unit 3: Viral Transmissions, salient features of Viral Nucleic acids & Reproduction | 04 | Theory CC9: Environmental Microbiology Unit 3: Biogeochemical Cycling | 08 | Theory CC13: Medical Microbiology Unit 5: Protozoan diseases CC14: Recombinant DNA Technology Unit 1: Introduction to Genetic Engineering | 06 02 |
| | Practical CC3: Biochemistry Qualitative/Quantitative assay of amylase | 04 | Practical CC9: Environmental Microbiology Assessment of microbiological quality of water by using bacterial filter disc method | 02 | Practical CC13: Medical Microbiology Identify bacteria (<i>E. coli</i> , <i>Staphylococcus</i> , <i>Bacillus</i>) using laboratory strains on the basis of cultural, morphological and biochemical characteristics: TSI DSE3: Advances in Microbiology Demonstration of PCR amplification of metagenomic DNA using universal 16S ribosomal gene primers | 02 04 |
| Mar | Theory CC3: Biochemistry Unit 4: Proteins | 06 | Theory CC10: Food and Dairy Microbiology Unit 4: Fermented foods | 10 | Theory Recombinant DNA Technology Unit 1: Introduction to Genetic Engineering DSE4: Bio-safety and Intellectual Property Rights Unit 5: Patent | 02 06 |
| | Practical CC3: Biochemistry Study the effect of temperature and pH on enzyme activity (amylase) | 04 | Practical CC10: Food and Dairy Microbiology MIBT of milk samples | 04 | Practical CC14: Designing of primers for DNA amplification | 04 |
| Apr | Theory CC3: Biochemistry Unit 4: Proteins | 04 | Theory CC8: Microbial Genetics Unit 4: Phage Genetics | 06 | Theory DSE4: Bio-safety and Intellectual Property Rights Unit 5: Patent | 02 |

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| | <p>Practical CC4: Virology Report writing: Educational tour to Institute/Industry</p> | 04 | <p>Practical CC9: Environmental Microbiology Analysis of soil - pH, moisture content, water holding capacity</p> <p>Theory SEC2: Food fermentation Techniques Unit 6 Probiotic Foods Unit 5 Fermented Meat and Fish</p> | 04 03 03 | <p>CC14: Recombinant DNA Technology Unit4: DNA Amplification and DNA sequencing DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions</p> <p>Practical CC14: Interpretation of sequencing gel electropherograms</p> | 04 02 04 |
| May | <p>Theory CC3: Biochemistry Unit 6: Vitamins</p> <p>Practical Isolation and enumeration of bacteriophages (PFU) from water/sewage sample using double agar layer technique</p> | 04 04 | <p>Theory CC10: Food and Dairy Microbiology Unit 7. Rapid detection methods of food borne pathogens in foods</p> <p>Practical CC10: Food and Dairy Microbiology Demonstration of cultivation of edible mushroom (<i>Pleurotus</i> sp)</p> <p>Theory SEC2: Food fermentation Techniques Unit 5 Fermented Meat and Fish</p> | 08 02 03 | <p>Theory DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions</p> <p>Practical DSE4: Bio-safety and Intellectual Property Rights Filing primary applications for patents</p> | 08 04 |
| June | <p>Theory CC3: Biochemistry & CC4: Virology Special class and Doubt Clearance</p> <p>Practical Practice Classes</p> | 04 04 | <p>Theory Special class and Doubt Clearance</p> <p>Practical Practice Classes</p> <p>Theory SEC2: Food fermentation Techniques Special classes</p> | 04 02 02 | <p>Theory DSE3: Unit 3 Molecular Basis of Host-Microbe Interactions Doubt clearance, Q&A</p> <p>Practical DSE4: Bio-safety and Intellectual Property Rights Study of steps of a patenting process</p> <p>Practice class</p> | 02 02 04 02 |

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DEPARTMENT OF MICROBIOLOGY

TEACHING PLAN OF AMARNATH CHATTOPADHYAY
Microbiology (Honours) (2018-19) (July 2018 – June 2019)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Part-III (H) | No. of Lecture |
|-------|--|----------------|--|----------------|--|----------------|
| Jul | Theory: CC1: Introduction to Microbiology and Microbial Diversity Unit 6: Protozoa | 06 | Theory CC5: Microbial Physiology & Metabolism Unit 1. Microbial Growth and Effect of Environment on Microbial Growth | 10 | Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group A. Microbial Genetics & Gene Manipulation 2. Outline of Mendelian genetics | 05 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity To study the principle and applications of instruments (autoclave, incubator, hot air oven, centrifugation, light microscope, pH meter) used in the microbiology laboratory | 04 | Practical CC5: Microbial Physiology & Metabolism Study of growth curve of <i>E. coli</i> by turbidometric method, standard plate count method, Direct count method by phase contrast microscopy | 06 | 8. Molecular Bio-assay Technique | 03 |
| | | | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3 Direct Microscopic Examination and Culture | 03 | Practical Paper IX 1. Antibiotic (Penicillin & streptomycin) assay by agar cup method using one Gram positive and one Gram negative bacteria | 03 |
| Aug | Theory: CC2: Bacteriology Unit 2: Bacteriological Techniques | 06 | Theory CC6: Cell Biology Unit 1: Unit 1: Structure and organization of Cell | 08 | Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group A: Microbial Genetics & Gene Manipulation 8. Molecular Bio-assay Technique | 04 |
| | Practical CC1: Introduction to Microbiology and Microbial Diversity Preparation of culture media (Nutrient Broth and Nutrient Agar) for bacterial cultivation | 02 | Practical CC5: Microbial Physiology & Metabolism Calculation of generation time and specific growth rate of bacteria from the graph plotted with the given data | 02 | Paper VIII (Ecology & Application of Microorganisms) Group B: Food & Industrial Microbiology 5. Fermenter | 04 |
| | Sterilization of media using Autoclave and assessment for sterility | 03 | Theory SEC1: Microbial Diagnosis in Health Clinics Unit 3 Direct Microscopic Examination and Culture | 03 | Practical Paper IX 5. Determination of microbial population in water by filter disc method | 03 |
| Sept | Theory: CC2: Bacteriology Unit 2: Bacteriological Techniques Unit 5: Growth & Reproduction in Bacteria | 02 | Theory CC5: Microbial Physiology & Metabolism Unit 4: Chemoheterotrophic Metabolism- Anaerobic respiration and fermentation | 05 | Theory Paper VIII (Ecology & Application of Microorganisms) Group B: Food & Industrial Microbiology 5. Fermenter 4. Milk Microbiology | 02 |
| | | 04 | Practical CC6: Cell Biology Study of a representative plant (epithelial cell of <i>Rhus</i> sp.) and animal cell (squamous epithelial cell) by microscopy | 04 | | 06 |

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|-----|--|----|---|----------|--|----|--|--|
| | <p>Practical CC1: Introduction to Microbiology and Microbial Diversity Isolation and enumeration of bacteria from air, water and soil</p> | 06 | <p>Theory SEC1: Microbial Diagnosis in Health Clinics Unit 6: Testing for Antibiotic Sensitivity in Bacteria</p> | 04 | <p>Practical Paper- X 5. Isolation of plasmid, chromosomal DNA by standard method</p> | 06 | | |
| Oct | <p>Theory: CC2: Bacteriology Unit 5: Growth & Reproduction in bacteria</p> | 02 | <p>Theory CC7: Molecular Biology Unit 2: Replication of DNA (Prokaryotes and Eukaryotes)</p> | 08 | <p>Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group B: Microbial Pathogenicity & Immunity 4. Immunity: b) Immune elements c) Immunoglobulins</p> | 02 | | |
| | <p>Practical CC2: Bacteriology Estimation of CFU count by spread plate method/pour plate method</p> | 02 | <p>Practical CC6: Cell Biology Study of different stages of Mitosis from permanent slide</p> | 02 | | | 03 | |
| | | | <p>Theory SEC1: Microbial Diagnosis in Health Clinics Unit 4: Serological and Molecular Methods</p> | 03 | | | | <p>Practical 6. Agarose Gel Electrophoresis</p> |
| Nov | <p>Theory: CC2: Bacteriology Unit 7: Important Archaeal And Bacterial Groups Archaea Cyanobacteria</p> | 04 | <p>Theory CC7: Molecular Biology Unit 2: Replication of DNA (Prokaryotes and Eukaryotes) Unit 5: Regulation of gene Expression</p> | 02 | <p>Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group B: Microbial Pathogenicity & Immunity 2. Mechanism of Bacterial Pathogenicity</p> | 08 | | |
| | <p>CC1: Introduction to Microbiology and Microbial Diversity Special class, Doubt clearance</p> | 02 | <p>Practical CC7: Molecular Biology Isolation of genomic DNA from <i>E. coli</i></p> | 03 | | | | |
| | <p>Practical CC2: Bacteriology Isolation of pure cultures of bacteria by streaking method.</p> | 02 | <p>Theory SEC1: Microbial Diagnosis in Health Clinics Unit 4: Serological and Molecular Methods</p> | 03 | | | 03 | |
| | <p>Preservation of bacterial cultures (slant /sub)</p> | 02 | | | | | | |
| | | | | | | | | |
| Dec | <p>Theory: CC2: Bacteriology Special Classes, Doubt clearance</p> | 02 | <p>Theory CC6: Cell Biology Unit 4: Cell Signaling Special classes for doubt clearance</p> | 08 02 | <p>Theory Paper VII: Genetics of Microorganisms & Medical Microbiology Group B: Microbial Pathogenicity & Immunity 2. Mechanism of Bacterial Pathogenicity</p> | 02 | | |
| | <p>Practical CC2: Bacteriology Moldily by hanging drop method, Practice Classes</p> | 02 | <p>Practical CC7: Molecular Biology Resolution and visualization of DNA by Agarose Gel Electrophoresis</p> | 03 | | | | |
| | | 02 | <p>Theory SEC1: Microbial Diagnosis in Health Clinics Special classes for doubt clearance</p> | 02 | | | <p>Paper VIII (Ecology & Application of Microorganisms) Group A: Environmental Microbiology 1. Microbial Participation in natural</p> | 05 |
| | | | <p>Question Answer session</p> | | | | | |

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|------------|---|----|--|----------|--|---|
| | | | | | | Practical 12. Quantitative estimation of alpha-amylase. effect of PH and temperature of alpha-amylase activity |
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| | Sem-II (H) | | Sem-IV (H) | | | |
| Jan | Theory CC4: Virology Unit 3. Viral Transmissions, salient features of Viral Nucleic acids & Reproduction | 04 | Theory CC8: Microbial Genetics Unit 2. Plasmids | 08 | Theory Paper VIII (Ecology & Application of Microorganisms) Group A Environmental Microbiology | |
| | Practical CC4: Virology Study of TMV infection on Tomato plant induced by TMV infected tobacco extract | 04 | Practical CC8: Microbial Genetics Preparation of master plates and replica Plates Study of the effect of physical (UV) mutagens on bacterial cells | 04 02 | 6. Bioremediation or Biodegradation | 10 |
| Feb | Theory CC4: Virology Unit 3. Viral Transmissions, salient features of Viral Nucleic acids & Reproduction | 04 | Theory SEC2: Food fermentation Techniques Unit 1 Fermented Foods. | 02 | Practical 12. Quantitative estimation of alpha-amylase. effect of PH and temperature of alpha-amylase activity | 03 |
| | Practical CC3: Biochemistry Qualitative/Quantitative assay of amylase | 04 | Theory CC9: Environmental Microbiology Unit 3: Biogeochemical Cycling | 08 | Theory Paper VIII (Ecology & Application of Microorganisms) Group B: Food & Industrial Microbiology | 08 |
| | | | Practical CC9: Environmental Microbiology Assessment of microbiological quality of water by using bacterial filter disc method | 02 | 7. Application of Genetic engineering in Microbiology | |
| | | | Theory SEC2: Food fermentation Techniques Unit 1 Fermented Foods | 02 | Practical Practice Class | 02 |
| Mar | Theory CC3: Biochemistry Unit-1: Proteins | 06 | Theory CC10: Food and Dairy Microbiology Unit 4: Fermented foods | 10 | | |
| | Practical CC3: Biochemistry Study the effect of temperature and pH on enzyme activity (amylase) | 04 | Practical CC10: Food and Dairy Microbiology MBRT of milk samples | 04 | | |
| | | | Theory SEC2: Food fermentation Techniques Unit 6 Probiotic Foods | 02 | | |
| Apr | Theory CC3: Biochemistry Unit 4. Proteins | 04 | Theory CC8: Microbial Genetics Unit 4. Phage Genetics | 06 | | |
| | Practical CC4: Virology Report writing Educational tour to Institute/Industry | 04 | Practical CC9: Environmental Microbiology Analysis of soil - pH, moisture content, water holding capacity | 04 | | |

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|-------------|---|----------------------------|---|---|--|--|
| | | | Theory SEC2: Food fermentation Techniques Unit 6 Probiotic Foods Unit 5 Fermented Meat and Fish | 03 03 | | |
| May | Theory CC3: Biochemistry Unit 6: Vitamins Practical Isolation and enumeration of bacteriophages (PFU) from water/sewage sample using double agar layer technique | 04 04 | Theory CC10: Food and Dairy Microbiology Unit 7: Rapid detection methods of food borne pathogens in foods Practical CC10: Food and Dairy Microbiology Demonstration of cultivation of edible mushroom (<i>Pleurotus</i> sp) Theory SEC2: Food fermentation Techniques Unit 5 Fermented Meat and Fish | 08 02 03 | | |
| June | Theory CC3: Biochemistry & CC4: Virology Special class and Doubt Clearance Practical Practice Classes | 04 04 | Theory Special class and Doubt Clearance Practical Practice Classes Theory SEC2: Food fermentation Techniques Special classes | 04 02 02 | | |

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DEPARTMENT OF POLITICAL SCIENCE
TEACHING PLAN OF Subrata Kumar Gupta

Political Science (Honours) (2019-20)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-----------|--|----------------|---|----------------|--|----------------|
| July | CC-1; Ancient Greek Political Thought: Plato – Justice; Aristotle: Concept of the State | | CC-5: Transition from Comparative Government to Comparative Politics - Scope and Objectives of Comparative Politics. | | DSE-1; Distinctive features of Indian and Western political thought | |
| August | CC-1 Medieval Political Thought: Main features. | | CC-5: Conventions and the Rule of Law in UK ; Bill of Rights in the USA. | | DSE-1 Kautilya on State Tilak and Gandhi on Swaraj | |
| September | CC-1 Renaissance and Machiavelli: Concept of Power and Secularization of Politics. | | CC-5; Unitary Systems: UK and France; Federal Systems: USA | | DSE-1 Ambedkar on Social Justice Nehru and Jayaprakash Narayan on Democracy | |
| October | CC-1; Hobbes: Concept of Sovereignty; | | CC-5; Parliamentary and Presidential Systems: UK and USA and China | | DSE-1 Aristotle on Citizenship Locke on Rights | |
| November | CC-1; Locke: Foundations of Liberalism; Rousseau: General Will | | CC-5; Party System in UK and USA. | | DSE-1 Rousseau on inequality | |
| December | CC-1; Rousseau: General Will | | CC-5; Party System in France, Nigeria and Mexico. | | DSE-1 J. S. Mill on liberty and democracy | |

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF Subrata Kumar Gupta

Political Science (General) (2019-20)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-----------|--|----------------|---|----------------|---|----------------|
| July | GE-1/CC-1A: Ancient Greek Political Thought: Main Features | | GE-3/CC-1C Ancient Indian Political Thought : Features ; | | DSE-1A; Distinctive features of Indian and Western political thought | |
| August | GE-1/CC-1A Ancient Greek Political Thought: Main Features | | GE-3/CC-1C Kautilya's theory of Saptanga and the concept of 'Dandaniti'. | | DSE-1A Kautilya on State Tilak and Gandhi on Swaraj | |
| September | GE-1/CC-1A Ancient Greek Political Thought: Main Features | | GE-3/CC-1C Main features of medieval Muslim Political Thought | | DSE-1A Ambedkar on Social Justice Nehru and Jayaprakash Narayan on Democracy | |
| October | GE-1/CC-1A Medieval Political Thought: Main features | | GE-3/CC-1C RammohunRoy : perception of British Colonial Rule and their role as Modernizers.. | | DSE-1A Aristotle on Citizenship Locke on Rights | |
| November | GE-1/CC-1A Medieval Political Thought: Main features | | GE-3/CC-1C Bankim Chandra; Nationalism. | | DSE-1A Rousseau on inequality | |
| December | GE-1/CC-1A Medieval Political Thought: Main features | | GE-3/CC-1C Vivekananda : Nationalism. | | DSE-1A J. S. Mill on liberty and democracy | |
| January | Sem-II (H) | | Sem-IV (H) | | Sem- Sem-VI (G) | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF Sudip Mondal

Political Science (Honours) (2019-20)

| Month | Sem-I (H) | No. of Lecture | Sem-III (H) | No. of Lecture | Sem-V (H) | No. of Lecture |
|-----------|--|----------------|---|----------------|---|----------------|
| July | CC-1; Marx and Engels: Dialectical and Historical Materialism; Lenin: Imperialism | | CC-5; Legislatures in UK and USA: Composition and Functions. | | DSE-2: Evolution of the state system and the concept of sovereignty. | |
| August | CC-1; Marx and Engels: Dialectical and Historical Materialism; Lenin: Imperialism | | CC-5; Legislatures in UK and USA: Composition and Functions | | DSE-2: Global Economy: Bretton Woods institutions(WORLD BANK, IMF) and W.T.O. | |
| September | CC-1; Marx and Engels: Dialectical and Historical Materialism; Lenin: Imperialism | | CC-5; Legislatures in UK and USA: Composition and Functions | | DSE-2: Transnational economic actors-Role of MNC s. | |
| October | CC-1; J.S. Mill and Isaiah Berlin: concept of Liberty | | CC-5; Judiciary in UK, USA and France | | DSE-2: Global Poverty: Sustainable Development Goal. | |
| November | CC-1; J.S. Mill and Isaiah Berlin: concept of Liberty | | CC-5; Judiciary in UK, USA and France | | DSE-2: Dynamics of Civil Society: | |
| December | CC-1; J.S. Mill and Isaiah Berlin: concept of Liberty | | CC-5; Judiciary in UK, USA and France | | DSE-2: New Social Movements and Various interests, Role of NGOs | |
| January | Sem-II (H) | | Sem-IV (H) | | Sem-VI (H) | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF Sudip Mondal

Political Science (General) (2019-20)

| Month | Sem-I (G) | No. of Lecture | Sem-III (G) | No. of Lecture | Sem-V (G) | No. of Lecture |
|-----------|--|----------------|---|----------------|--|----------------|
| July | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Tagore ; State, Society and Nation. | |
| August | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Tagore ; State, Society and Nation. | |
| September | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Tagore ; State, Society and Nation. | |
| October | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Tagore ; State, Society and Nation. | |
| November | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Ambedkar : Social Justice. | |
| December | GE-1/CC-1A; Machiavelli: Concept of statecraft and power politics | | GE-3/CC-1C; Ambedkar : Social Justice. | | GE-1; Ambedkar : Social Justice. | |
| January | Sem-II (H) | | Sem-IV (H) | | Sem- Sem-VI (G) | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |

**TEACHING PLAN (HONS. & GENL.) OF FACULTY MEMBERS OF DEPARTMENT OF PHYSIOLOGY FOR
SESSION 2019-2020**

DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

DR. AMAL KUMAR PARI

Physiology (Honours) (July 2019–June 2020)

| Month | Sem-I(H) | No. of Lecture | Sem-III(H) | No. of Lecture | Sem-V(H) | No. of Lecture | |
|-------|---|----------------|---|----------------|--|----------------|---|
| Jul | <p>Theory: CC2: A Study of Units for Measuring Concentration of Solute: Moles, Equivalents, Osmoles</p> <p>Principles of Dilution, pH, Buffers Proteolysis of water, pH, acid-base neutralization curves</p> <p>Bonds and Forces in Biomolecules</p> <p>Colloids, Properties, importance Colloids: Classification, properties—optical, electrical, electro kinetic. Biological importance of colloids</p> <p>Practical:</p> <p>CC2: Determination of Oncotic Solution Colloidal solutions</p> | 8 | <p>Theory CC6: Origin of the Heartbeat & the Electrical Activity of the heart</p> <p>Introduction</p> <p>Origin & Spread Of Cardiac Excitation</p> <p>Cardiac action potential. Origin and propagation of cardiac impulse. The Electrocardiogram</p> <p>Electrocardiography –the normal electrocardiogram, electrocardiographic leads, vectorial analysis, the vectorcardiogram, the mean electrical axis of heart. The His bundle electrogram. Cardiac Arrhythmias</p> <p>Cardiac Arrhythmias – Normal cardiac rate. Myocardial Infarctions. Cardioplegic solutions. Electrocardiographic Findings in Other Cardiac & Systemic Diseases, hypertrophy and cardiac myopathy</p> <p>Practical CC7: Experiments on superficial (plantar) and deep (knee jerk) reflex Measurement of grip strength</p> <p>Theory SECI A: Detection of food additives/ adulterants Qualitative tests for Food Adulteration Qualitative test for identifying Food Adulterants in some food samples: Metanil yellow, Rhodamin B, Saccharin.</p> | 8 | <p>Theory CC11: Introduction Anatomic Considerations The Image-Forming Mechanism (accommodation and visual acuity) The Photoreceptor Mechanism: Genesis of Electrical Responses Visual Pathways and effects of lesions of these pathways</p> <p>Practical: Measurement of blood pressure before and after different grades of exercise. Recording of recovery heart-rate after standard exercise.</p> | 8 | 4 |

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|-------------|--|---|--|-------------------|
| <p>Aug</p> | <p>Theory: CC2:Surface tension, Specific Gravity Surface tension and Specific Gravity: characteristics, factors influencing and biological applications Viscosity and Resistance Viscosity and Resistance characteristics, factors influencing and biological applications Acids, Bases, Buffers and pH Buffer action: Henderson-Hasselbalchequation. Regulation of pH by blood buffers. Determination of pH–Basic concept of indicators, principle of pH meter- hydrogen electrode and glass electrode Flow and Pressure Diffusion and Osmosis: osmotic pressure–laws. Practical: CC2: Determination of enzyme activities (eg. SOD, CAT)</p> | <p>8</p> <p>Theory CC6: The Heart as a Pump Introduction Anatomy of the heart. Properties of cardiac muscle. Cardiac Innervation. Stanniusligature. Mechanical Events of the Cardiac Cycle The cardiac cycle- pressure and volume changes. Heart sounds. Murmurs. Cardiac Output Cardiac output– measurement by application of Fick’s principle and dye dilution method, factors affecting. Starling’s law of heart. Dynamics of Blood & Lymph Flow Introduction Anatomic Considerations Functional morphology of arteries, arterioles, capillaries, venulesand veins, sinusoids. General pattern of circulation and significance of branching of blood vessels. Biophysical Considerations Hemodynamics of blood flow. Arterial & Arteriolar Circulation Capillary Circulation Lymphatic Circulation & Interstitial Fluid Volume Venous Circulation Practical CC7: Reaction time by stick drop test Short term memory test (shape, picture word) TheorySECI A:Qualitative test for identifying FoodAdulterants in some food samples: Monosodium glutamate, Aluminium foil, Chicory.</p> <p>4</p> | <p>9</p> <p>Theory DSE2B: Color Vision Other Aspects of Visual Function Eye Movements Errors in visual process Practical: DSE2B: Determination of Physical Fitness Index by Harvard Step Test (Modified). Determination of VO2max by Queen College step test.</p> <p>4</p> <p>3</p> | <p>8</p> <p>4</p> |
| <p>Sept</p> | <p>Theory: CC2: Dialysis and Ultracentrifugation Chromatography Electrophoresis Autoradiography Cell Fractionation and Tracer Techniques Nanoparticles and its application in Physiology Practical: CC2: Practice Determination of Oncotic Solution Colloidal solutions</p> | <p>8</p> <p>Theory CC6: Cardiovascular regulatory Mechanisms Introduction Local Regulatory Mechanisms Cardiac and vasomotor centers, baroreceptors and chemoreceptors, cardiac and vasomotor reflexes. Substances Secreted by the Endothelium Systemic Regulation by Hormones Systemic Regulation by the Nervous System 2 Cardiovascular homeostasis–neural and chemical control of cardiac functions and blood vessels. Circulation Through special Regions Introduction Cerebral Circulation Anatomic Considerations Cerebrospinal Fluid The Blood-Brain barrier Cerebral Blood Flow Regulation of Cerebral Circulation Brain Metabolism & Oxygen Requirements Practical CC7: Two point discrimination test TheorySECI A: Qualitative test for identifying FoodAdulterants in some food samples: Bisphenol A and Bisphenol S, Chocolate Brown HT, Margarine</p> <p>2</p> <p>3</p> | <p>8</p> <p>Theory DSE2B: Importance of regular exercise in health and wellbeing. Basic concept of Bioenergetics, Energy sources during exercise (Phosphagen, Anaerobic system and Aerobic system). Cardio-respiratory responses during different grades of exercise. Practical: DSE2B: Measurement of body fat percentage. Six minute walk test.</p> <p>4</p> | <p>8</p> <p>4</p> |

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|-----|---|-------------------|---|----------------------------|---|-------------------|
| Oct | <p>Theory: CC2: Laminar and Streamline Flow Poiseuille- Hagen Formula Laws of Laplace</p> <p>Practical: CC2: Practice Determination of enzyme activities (SOD).</p> | <p>6</p> <p>2</p> | <p>Theory CC6: Coronary Circulation Splanchnic Circulation Circulation of the skin Placental & Fetal Circulation</p> <p>Practical CC7: Practice Experiments on superficial (plantar) and deep (knee jerk) reflex Measurement of grip strength</p> <p>Theory SEC1A: Qualitative test for identifying FoodAdulterants in some foPb, Hg, As, PCB, Dioxin etc in turmeric powder, besan, laddoos</p> | <p>8</p> <p>4</p> <p>3</p> | <p>Theory DSE2B: Concept of excess post exercise oxygen consumption (EPOC), physiological fatigue and recovery.</p> <p>Aerobic work Capacity: Measurement, physiological factors and applications</p> <p>Sports injury and its' management.</p> <p>Practical: DSE2B: Determination of endurance time by hand grip dynamometer</p> | <p>6</p> <p>4</p> |
| Nov | <p>Theory: CC2: Thermodynamics Thermodynamics: Type of surroundings and systems, First Law–Internal energy, enthalpy. Second Law–Entropy, Free energy change, Endergonic and Exergonic reactions, Reversible and Irreversible processes, Equilibrium constant Physiological steady-state, Living body as a Thermodynamic system</p> <p>Practical: Practice Determination of enzyme activities (CAT)</p> | <p>5</p> <p>2</p> | <p>Theory CC6: Cardiovascular Homeostasis in Health & Disease Introduction Compensation for Gravitational Effects Exercise Inflammation & Wound Healing Shock Cardiovascular adjustment after haemorrhage. Hypovolemic and hypervolemic shock. RTI and atherosclerosis. Hypertension The pulse – arterial and venous. Blood pressure– its measurement and factors affecting. Heart Failure, stroke</p> <p>Practical CC7: Practice Two point discrimination test</p> <p>TheorySEC1A:Qualitative test for identifying FoodAdulterants in some foPb, Hg, As, PCB, Dioxin etc in , noodles, chocolate and amriti.</p> | <p>8</p> <p>2</p> <p>4</p> | <p>Theory DSE2B: Training: Principles of physical training, Training to improve aerobic and anaerobic power. Effect of overtraining and detraining. Nutritional supplements and ergogenic aids. Basic idea sports rehabilitation and sports medicine.</p> <p>Practical: DSE2B: Determination of endurance time by hand grip dynamometer</p> | <p>8</p> <p>2</p> |
| Dec | <p>Theory: CC2: Revision</p> <p>Practical Practice</p> <p>Examination</p> | <p>4</p> <p>4</p> | <p>Theory CC6: Revision</p> <p>Practical Practice</p> <p>TheorySEC1A: Revision</p> <p>Examination</p> | <p>4</p> <p>4</p> <p>3</p> | <p>Theory DSE2B: Revision</p> <p>Practical Practice</p> <p>Examination</p> | <p>4</p> <p>4</p> |
| | Sem-II(H) | | Sem-IV(H) | | Sem-VI(H) | |

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|------------|---|----------|--|----------|---|----------|
| Jan | Theory CC4: Proteins Classification of Proteins Definition and classification of proteins Classification, Structure, Nomenclature of proteins and amino acids. Practical: CC4: Qualitative tests for the identification of physiologically important substances: Hydrochloric acid, lactic Acid, | 6 | Theory CC8: Nutrition – BMR, RQ, RDA, SDA, NPU, Biological value of proteins, vitamins and minerals. Practical: CC8: Quantitative estimation of glucose and sucrose by Benedict's method. | 8 | Theory DSE3A: Constituents of food and their significance. 4 Basal metabolic rate -factors, determination by Benedict-Roth apparatus. Respiratory quotient. Specific dynamic action. | 8 |
| | | 4 | Theory SEC2B: Preparation of blood smear and identification of blood cells. | 2 | Basic concept of energy and units. Calorific value of foods. Body calorie requirements – adult consumption unit Practical: DSE3A: Diet Survey (Field Study Record) Diet survey report (hand-written) of a family (as per ICMR specification): Each student has to submit a report on his/her own family. | 4 |

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| Feb | <p>Theory CC4: Structure of Proteins Structure and properties of peptide bonds-- Phi and Psi angles. Different levels of protein structure-- Primary, Secondary (α-helix and β-pleated sheet), Tertiary and Quaternary. Forces stabilizing the structures.</p> <p>Practical: CC4: Qualitative tests for the identification of physiologically important substances: Uric Acid, Glucose</p> | <p>6</p> <p>4</p> | <p>Theory CC8: Basal metabolic rate-factors, determination by Benedict-Roth apparatus</p> <p>Practical: CC8: Quantitative estimation of amino nitrogen (Sorensen's formol titration method [percentage as well as total quantity to be done]).</p> <p>Theory SEC2B: Determination of hematocrit, MCV, MCH, MCHC</p> | <p>6</p> <p>4</p> <p>2</p> | <p>Theory DSE3A: Dietary requirements of carbohydrate, protein, lipid and other nutrients.</p> <p>Balanced diet and principles of formulation of balanced diets for growing child, adult man and woman, pregnant woman and lactating woman.</p> <p>Nitrogen balance, essential amino acids, biological value of proteins.</p> <p>Supplementary value of protein.</p> <p>Protein efficiency ratio and net protein utilization of dietary proteins.</p> <p>Practical: DSE3A: Practice Diet Survey (Field Study Record) Diet survey report (hand-written) of a family (as per ICMR specification); Each student has to submit a report on his/her own family.</p> | <p>10</p> <p>2</p> |
| Mar | <p>Theory CC4: Properties of Proteins Protonic equilibria of Amino acids-- Zwitterions, Isoelectric point, titration curve of amino acids. Reactions with ninhydrin and formaldehyde. Reactions with Sanger's and Edman's reagent. Biuret reaction.</p> <p>Practical: CC4: Practice</p> | <p>6</p> <p>2</p> | <p>Theory CC8: Biological value of proteins – measurement and factors affecting. Proteins spacers. Supplementary value of protein.</p> <p>Practical: CC8: Estimation of percentage quantity of lactose in milk by Benedict's method.</p> <p>Theory SEC2B: Determination of bleeding time, clotting time</p> | <p>4</p> <p>4</p> <p>2</p> | <p>Theory DSE3A: Dietary fibres.</p> <p>Vitamins</p> | <p>8</p> |
| Apr | <p>Theory CC4: . Denaturation and Renaturation. Functions of Proteins, Physiological importance of proteins.</p> <p>Practical: CC4: Qualitative tests for the identification of physiologically important substances: Galactose, Fructose</p> | <p>6</p> <p>4</p> | <p>Theory CC8: Protein efficiency ratio and net protein utilization of dietary proteins.</p> <p>Practical: CC8: Practice Quantitative estimation of glucose and sucrose by Benedict's method.</p> <p>Theory SEC2B: Measurement of hemoglobin in blood. Preparation of serum</p> | <p>4</p> <p>4</p> <p>2</p> | <p>Theory DSE3A: Principle of diet survey.</p> <p>Composition and nutritional value of common food stuffs.</p> <p>Physiology of starvation and obesity.</p> | <p>8</p> |
| May | <p>Theory CC4: DNA and RNAs Structure of DNA and RNA Types of DNA and RNA Functions of DNA and RNA</p> <p>Practical: CC4: Practice</p> | <p>6</p> <p>2</p> | <p>Theory CC8: Dietary fibres</p> <p>Practical: CC8: Practice Quantitative estimation of amino nitrogen (Sorensen's formol titration method [percentage as well as total quantity to be done]).</p> <p>Theory SEC2B:</p> | <p>6</p> <p>4</p> <p>4</p> | <p>Theory DSE4: Sources and physiological significances of vitamins and minerals.</p> <p>Space nutrition.</p> | <p>8</p> |

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| | | | Estimation of SGOT and SGPT. | | | |
| June | Theory CC4: Revision Practical Practice Examination | 4 4 | Theory CC8: Revision Practical Practice Theory SEC2B: Revision Examination | 4 4 2 | Theory DSE3A: Revision Practical Practice Examination | 4 4 |


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DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

DR. AMAL KUMAR PARI

Physiology (General/generic) (July 2019–June 2020)

| Month | Sem-I (G/GE) | No. of lecture |
|-------|---|----------------|
| July | Theory: CC1A: Lipids: Definition and classification. Fatty acids Classification. | 2 |
| Aug | Theory: CC1A: Properties of Fat and Fatty acids—Hydrolysis, Saponification, Saponification number, Iodine number, Hydrogenation, Rancidity-Acid number. | 3 |
| Sep | Theory: CC1A: Phospholipids, Cholesterol & its ester-physiological importance. | 2 |
| Oct | Theory: CC1A: Amino acids, Peptides and Proteins | 2 |
| Nov | Theory: CC1A: Classification and structure. Structure of peptide bonds. | 2 |
| Dec | Theory: CC1A: Revision Examination | 2 |

| Month | Sem-II (G/GE) | No. of lecture | Sem-VI (G/GE) | No. of lecture |
|-------|---|----------------|---|----------------|
| Jan | Theory: CC1B: Basic constituents of food and their nutritional significance. Vitamins: Definition, classification, functions, deficiency symptoms and their daily requirement. Hypervitaminosis | 3 | Theory: SEC1A: Basic idea of doping | 2 |
| Feb | Theory: CC1B: Mineral metabolism- Ca, P, Fe | 3 | Theory: SEC1A: EMG | 1 |
| March | Theory: CC1B: BMR: Definition, factors affecting, determination by Benedict-Roth apparatus. Respiratory quotient: definition, factors affecting and significance | 3 | Theory: SEC1A: Physical fitness index-Harvard step test | 1 |
| April | Theory: CC1B: Biological value of proteins, essential and non-essential amino acids, nitrogen equilibrium Minimum protein requirement: positive and negative nitrogen balance. | 2 | Theory: SEC1A: ECG- Normal waves and leads | 2 |
| May | Theory: CC1B: SDA: definition and importance | 2 | Theory: SEC1A: Anthropometry and its uses | 1 |

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| June | Theory: CC1B: Revision Examination | 2 | Theory: SEC1A: Revision Examination | 2 |
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DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

DR. ARIJIT DEBNATH

Physiology (Honours) (July 2019–June 2020)

| Month | Sem-I(H) | No. of Lectures | Sem-III(H) | No. of Lectures | Sem-V(H) | No. of Lectures |
|-------|--|-----------------|---|-----------------|--|-----------------|
| Jul | <p>Theory: CC2: A Study of Enzymes</p> <p>Structures, coenzymes and Prosthetic Groups</p> <p>Classification- EC nomenclature, Concept of apoenzyme, holoenzyme, coenzyme, cofactors and prosthetic group. Mechanism of Enzyme Action</p> <p>Mechanism of enzyme action: Activation energy, Enzyme-substrate complex, Transition state and Products. Models of enzyme-substrate interactions. Specificity of enzymes. Kinetics Concept of initial rate, maximum velocity and steady-state kinetics.</p> <p>Practical: CC2: Determination of Systolic, Diastolic, Pulse and Mean Blood Pressure by noninvasive methods (Auscultatory method).</p> | 8 | <p>Theory CC5:</p> <p>Red Blood Cells Haemoglobin- Structure, reactions, biosynthesis and catabolism. Foetalhaemoglobin. Abnormal haemoglobins- Sickle-cell anemia and Thalassemia. Different types of anaemia and their causes.</p> <p>Practical CC7: Introduction Preparation of Amphibian Ringer solution Kymographic recording of the movements of perfused heart of toad.</p> | 8 | <p>Theory CC11: Introduction Anatomic considerations Hair cells</p> <p>CC12: Practical: Introduction Preparation of mammalian Ringer solution</p> | 8 |
| | | 6 | | 6 | | 4 |
| Aug | <p>Theory: CC2: Michaelis Constant</p> <p>Michaelis constant, Michaelis-Mentenequation, Graphical representation of hyperbolic kinetics- Lineweaver-Burk plot. Significance of Km and V_{max}.</p> <p>Practical: CC2: Determination of Systolic, Diastolic, Pulse and Mean Blood Pressure by noninvasive methods (Auscultatory method).</p> | 8 | <p>Theory CC5: Blood Types</p> <p>Blood group - ABO and Rh. Erythroblastosis foetalis. Blood transfusion and its hazards.</p> <p>Practical CC7: Study of the effects of changes in perfusion fluid pressure, changes in temperature.</p> | 8 | <p>Theory CC11: Mechanism of hearing Vestibular function Loss of hearing</p> <p>CC12: Practical: Study of the effects of oxytocin on uterine contraction</p> | 8 |
| | | 4 | | 8 | | 6 |

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|-------------|--|----------|--|----------|---|----------|
| Sept | Theory: CC2: Modulation of Enzyme Activities | 8 | Theory CC5: Plasma, Hemostasis | 8 | Theory CC11: Introduction Smell Receptors & Pathways | 8 |
| | Competitive, non-competitive and uncompetitive inhibitions. Regulation of enzyme activities covalent modifications, allosteric modifications-Sigmoid kinetics and Hill equation: K-and M-series, Feed-back inhibition. Rate-limiting enzymes | | Plasmaproteins- normal values, origin and functions. Hemostasis- factors, mechanism, anticoagulants, procoagulants. Disorders of hemostasis. Hemophilia, thrombosis and embolism | | CC12: Practical Study of the effects of adrenaline on intestinal movements of rat | 6 |
| | Practical: CC2: Determination of enzyme activities (Amylase) | 4 | Practical CC7: Study of the effects of calcium and potassium ion concentration on the movement of heart. | 8 | | |
| Oct | Theory: CC2: Factors controlling Enzyme Activities | 6 | Theory CC5: Lymph | 8 | Theory CC11: Physiology of Olfaction Taste | 6 |
| | Factors influencing enzyme-catalyzed reactions: substrate concentration, enzyme concentration, Max pH, temperature. | | Lymph and tissue fluids- formation, circulation, functions and fate. Lymphatic organs- histological structures and functions of lymph gland and spleen. | | Practical: CC12: Study of the effects of adrenaline on uterine movements of rat | 6 |
| | Practical: CC2: Practice Determination of enzyme activities (Transaminase). | 2 | Practical CC7: Study of the effects of acetylcholine and adrenaline concentration on the movement of heart | 8 | | |

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|------------|--|----------|---|----------|--|----------|
| Nov | Theory: CC2: Isoenzymes, Allosteric Enzymes Pro-enzymes Ribozymes, Abzymes Concept of Rate Limiting Enzymes | 8 | Theory CC5: Clinical implications of blood and blood related disorders | 8 | Theory CC11: Receptor Organs & Pathways Physiology of Taste | 6 |
| | Practical: Practice Determination of enzyme activities (Amylase, Transaminase). | 2 | Practical CC7: Practice Study of the effects of acetylcholine and adrenaline concentration on the movement of heart | 8 | Practical: CC12: practice | 4 |
| Dce | Theory: CC2: Revision | 4 | Theory CC5: Revision | 6 | Theory CC11: Revision | 6 |
| | Practical: Practice | 4 | Practical: Practice | 6 | Practical: Practice | 4 |
| | Examination | | Examination | | Examination | |

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|------------|--|---|--|---|---|---|
| Jan | Sem-II(H) | | Sem-IV(H) | | Sem-VI(H) | |
| | Theory CC3: Cardiac Muscle Morphology Microscopic and electron microscopic structure of cardiac muscles. Electrical Properties Mechanical Properties Metabolism Neurotransmitters, co transmitters and neuromodulators Practical: CC3: Isolation and staining of staining of nerve fibers with node (s) of Ranvier (AgNO ₃) and muscle fiber (H and E). Preparation of Sciatic nerve innervated Gastrocnemius muscle of toad. | 8 | Theory CC10: Pulmonary Function Introduction Properties of Gases Anatomy of the Lungs Mechanics of breathing Gas Exchange in the lungs Practical: CC9: Kymographic recording of normal movements of rat's intestine in Dale's apparatus | 8 | Theory CC14: Renal Circulation peculiarities and autoregulation Diuretics Disorders of Renal Functions Diabetes insipidus. Practical: DSE4A: Kymographic recording of the effects of As compounds on: the contraction of perfused heart of toad and the intestinal movements of rats in Dale's bath. | 8 |
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| Feb | <p>Theory CC3: Pacemaker Tissue Smooth Muscle Morphology Microscopic and electron microscopic structure of smooth muscles. Single-unit and multi-unit smooth muscle Visceral smooth Muscle Multi- unit Smooth Muscle</p> <p>Practical: CC3: Study of Kymograph, Induction coil, Key and other instruments used to study mechanical responses of skeletal muscle.</p> <p>Kymographic recording of mechanical responses of Gastrocnemius muscle to a single stimulus and two successive stimuli.</p> | 8 | <p>Theory CC10: Pulmonary Circulation Other Functions of the Respiratory System Gas Transport Between the Lungs & the Tissues Introduction Oxygen Transport Carbon Dioxide Transport</p> <p>Practical: CC9: Effects of hypoxia on normal intestinal movements</p> | 8 | <p>Theory CC14: Renal function tests–creatinine, inulin, ureaand PAH clearance tests. Abnormal constituents of urine, their detection and significance. Renal dialysis. Artificial Kidney.</p> <p>Practical: DSE4A: Kymographic recording of the effects of, Pb compounds on: the contraction of perfused heart of toad, the intestinal movements of rats in Dale’s bath.</p> | 8 |
| Mar | <p>Theory CC3: Synaptic and Junctional Transmission Introduction Synaptic Transmission Functional Anatomy Synapses: types, structure, synaptic transmission of the impulse., Electrical Events at Synapses synaptic potentials Inhibition and Facilitation at Synapses Chemical Transmission at Synaptic Activity</p> <p>Practical: CC3: Kymographic recording of the effects of variations of temperature on single muscle twitch.</p> | 8 | <p>Theory CC10: Respiratory acidosis and alkalosis Regulation of Respiration Introduction Neural control of Breathing Chemical Control of Breathing Nonchemical Influences on Respiration</p> <p>Practical: CC9: Effects of acetylcholin on normal intestinal movements</p> | 8 | <p>Theory CC14: Filling of the Bladder Physiology of urinary bladder Emptying of the Bladder Micturition. Non-excretory function of kidney</p> <p>Practical: DSE4A: Kymographic recordind of the effects of Hg compounds on: the contraction of perfused heart of toad, the intestinal movements of rats in Dale’s bath.</p> | 8 |
| Apr | <p>Theory CC3: Principal neurotransmitter Systems Synaptic Plasticity and learning Neuromuscular Transmission Neuromuscular Junction The neuromuscular junction : structure, transmission, end- plate potential, MEPP and post-tetanic potentiation. Motor unit and Motor point. Denervation Hypersensitivity</p> <p>Practical: CC3: Kymographic recording of the effects of variations of load (after-load) on single muscle twitch. Calculation of work done by the muscle.</p> | 8 | <p>Theory CC10: Respiratory Adjustments in Health & Disease Introduction Effects of Exercise Other Forms of Hypoxia Oxygen Treatment</p> <p>Practical: CC9: Effects of adrenaline on normal intestinal movements</p> | 8 | <p>Theory DSE4A: Toxins and Toxicology Factors Affecting toxicity LD50, LOD50, ED50, NOEL, LOEL Concept of Acute and Chronic Effects</p> <p>Practical: DSE4A: Histochemical studies: chronic effects of food additives and arsenic compounds on liver, kidney, intestinal tissues in rat.</p> | 8 |
| May | <p>Theory CC3: Initiation of Impulses in Sense Organs Introduction Sense Organs and Receptors Classification of general and special senses. Receptors as biological transducers. General concept of ionotropicand metabotropic receptors. Structure, subtypesand functions of nicotinic and muscarinic acetylcholine receptors. Adrenoceptors, glutamate receptors (NMDA and AMPA receptors), GABA, opiate, serotonin, dopamine and histamine receptors. The Senses</p> | 10 | <p>Theory CC10: Hypercapnia&Hypocapnia Other Respiratory Abnormalities Effects of Increased Barometric Pressure Artificial Respiration</p> <p>Practical: CC9: Practice Effects of acetylcholine and adrenaline on normal intestinal movements</p> | 8 | <p>Theory DSE4A: Birth defects and Teratogens Concepts of Biomagnification and Bioconcentration Popular Food Additives and Food Adulterants Prevention of Food Adulteration Act, 1954</p> <p>Practical: DSE4A: Histochemical studies: chronic effects of food additives and arsenic compounds on brain, muscle and lung tissues in rat.</p> | 8 |

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| | Electrical and Ionic Events in Receptors Muller's law of specific nerve energies. Weber-Fechner law, Steven's power law. Sensory transduction in Pacinian corpuscle. Adaptation of receptors—phasic and tonic adaptations. “Coding” of Sensory Information CC4T Practical: CC3: Determination of nerve conduction velocity | 4 | | | | |
| June | Theory CC3: Revision Practical Practice Examination | 6 4 | Theory CC10: Revision Practical Practice Examination | 6 6 | Theory DSE3A: Revision Practical Practice Examination | 6 4 |



Head
Department of Physiology
Sri Venkateswara College
Sri. Raghun

DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

DR. ARIJIT DEBNATH

Physiology (General/generic) (July 2019–June 2020)

| Month | Sem-I(G/GE) | No. of Lecture | Sem-III(G/GE) | No. of Lecture | Sem-V(G/GE) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1A: A brief idea about acids, base, buffers and indicators. | 2 | Theory CC1C: Anatomy and histology of the heart. Properties of cardiac muscle. Origin and propagation of cardiac impulse. | 4 | Theory: DSE1A: Structure and classification of nerves. Origin and propagation of nerve impulse. Velocity of impulse in different types of nerve fiber. | 4 |
| Aug | Theory: CC1A: pH- definition, significance and maintenance of pH in Blood | 3 | Theory: CC1C: Cardiac cycle: events. Heart sounds. Heart rate. Cardiac output: methods of determination (dye dilution and Fick principle), factors affecting, regulation. | 4 | Theory: DSE1A: Properties of nerve fibers: all or none law, rheobase and chronaxie, refractory period, indefatigability | 3 |
| Sept | Theory: CC1A: Colloids- Definition, classification and physiological importance | 3 | Theory CC1C: Structure of arteries, arterioles, capillaries, venules and veins. Pulse-arterial and venous. | 3 | Theory: DSE1A: Synapses: structure and function | 4 |
| Oct | Theory: CC1A: Enzymes- definition and classification | 2 | Theory CC1C: Blood pressure and its regulation and factors controlling. Baro- and chemoreceptors. Vasomotor reflexes. Methods of measurement of blood pressure. | 4 | Theory: DSE1A: Motor unit. Myoneurial junction: structure, function | 3 |
| Nov | Theory: CC1A: Factors affecting enzyme actions, concept of co-enzymes and isoenzymes | 3 | Theory CC1C: Peculiarities of regional circulations coronary, pulmonary, renal, hepatic and cerebral. | 4 | Theory: DSE1A: Mechanism of impulse transmission. Degeneration and regeneration in nerve fibres | 3 |
| Dec | Theory: CC1A: Revision Examination | 2 | Theory CC1A: Revision Examination | 3 | Theory: DSE1A: Revision Examination | 3 |
| Jan | Sem-II(G/GE) | | Sem-IV(G/GE) | | Sem-VI(G/GE) | |
| | Theory: CC1B: Structure in relation to function of salivary gland and digestive glands. | 3 | Theory: CC1D: Elementary structure of kidney and location Relationship between structure and function of kidney | 3 | Theory: SEC4B: Some common pollutants and their effects- carbon monoxide, lead, arsenic. | 4 |

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|-------------|---|---|--|---|--|---|
| Feb | Theory CC1B: Composition, functions and regulation of secretion of digestive juices including bile | 3 | Theory: CC1D: Mechanism of formation of urine Normal and abnormal constitution of urine | 4 | Theory: SEC4B: Some common pollutants and their effects- carbon monoxide, lead, arsenic. | 4 |
| Mar | Theory: CC1B: Composition, functions and regulation of secretion of digestive juices including bile | 3 | Theory: CC1D: Physiology of urine storage and micturition | 4 | Theory: SEC4B: Some common pollutants and their effects- carbon monoxide, lead, arsenic. | 4 |
| Apr | Theory: CC1B: Digestion and absorption of carbohydrate, protein and lipid. | 4 | Theory Renal regulation of acid- base balance | 3 | Theory: SEC4B: Effect of noise on human body and preventive measure | 4 |
| May | Theory: CC1B: Movements of the stomach and small intestine | 3 | Theory: CC1D: Non excretory function of kidney | 3 | Theory: SEC4B: Effect of noise on human body and preventive measure | 4 |
| June | Theory: CC1B: Revision Examination | 4 | Theory: CC1D: Revision Examination | 4 | Theory: SEC4B: Revision Examination | 4 |


 Head
 Department of Physiology
 Sri Vidya College
 S.V.L. Aravam

DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

NUPUR PAUL

Physiology (Honours) (July 2019–June 2020)

| Month | Sem-I(H) | No. of Lecture | Sem-III(H) | No. of Lecture | Sem-V(H) | No. of Lecture |
|-------|---|----------------|---|----------------|--|----------------|
| Jul | Theory: CC1: Organ systems, tissues and cells | 3 | Theory CC5: Introduction Blood Formed elements of blood—origin, formation, functions and fate | 4 | Theory DSE2A: Genesis and concept of ergonomics Importance of ergonomics in occupational health and well-being. | 4 |
| Aug | Theory: CC1: Functional morphology of cells Microscopic structure and functions of eukaryotic endoplasmic reticuli, ribosome | 3 | Theory CC5: Blood volume –normal values, regulation and determination by dye and radioisotope methods. Bone Marrow | 4 | Theory DSE2A: Classification of Physiological work load. Concept of work rest cycle. Physical work environment Thermal environment, its' effect, Heat stress indices Noise and vibration, its' effect on workers. Occupational deafness | 4 |
| Sept | Theory: CC1: Microscopic structure and functions of ribosome, golgi bodies, mitochondria | 3 | Theory CC5: White Blood Cells | 4 | Theory DSE2A: Illumination level and its' effect on visual performances, Ergonomic principles of control of Physical hazards. | 3 |
| Oct | Theory: CC1: Cell cycle | 3 | Theory CC5: Immune Mechanisms | 4 | Theory DSE2A: Static anthropometry, Application of anthropometric data in design. User interface and control display compatibility. | 3 |

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|-----|---|---|---|---|---|---|
| Nov | Theory: CC1: Revision | 3 | Theory CC5: Platelets | 4 | Theory DSE2A: Prevention of accidents, concept of Industrial safety. Occupational Diseases: pneumoconiosis, asbestosis, silicosis and work-related musculoskeletal disorders | 4 |
| Dec | Theory: CC1: Revision Examination | 3 | Theory CC5: Revision Examination | 4 | Theory DSE2A: Revision Examination | 3 |
| Jan | Sem-II(H) Theory CC3: Excitable Tissues: Muscle Introduction Skeletal Muscle Morphology Microscopic and electron microscopic structure of skeletal muscles. The sarco-tubular system. Red and white striated muscle fibers. Muscle groups: antagonists and agonists. Muscle proteins. | 5 | Sem-IV(H) Theory CC9: . Digestion & Absorption Introduction Anatomy and histology of alimentary canal, Deglutition | 3 | Sem-VI(H) Theory CC14: Renal Functions and Malnutrition: Introduction Anatomy of kidney. Histology of Nephron. Function of Malpighian corpuscles and renal tubule, — — | 4 |

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|-------------|---|---|---|---|---|---|
| Feb | Theory CC3: Electrical phenomena and Ionic Fluxes Chemical, thermal and electrical changes in skeletal muscle during contraction and relaxation. Electromyography. | 4 | Theory CC9: Movements of alimentary canal and their regulations | 3 | Theory CC14: counter-current mechanism Formation of urine – glomerular function and tubular functions. Counter-current multiplier and exchanger. | 4 |
| Mar | Theory CC3: Contractile Responses Mechanism of skeletal muscle contraction and relaxation: Excitation-contraction coupling. Dihydropyridine receptors & Ryanodine receptors. | 4 | Theory CC9: Absorption of Water & Electrolytes | 3 | Theory CC14: Formation of hypertonic urine. Water Excretion Renal regulation of osmolarity and volume of blood fluids | 3 |
| Apr | Theory CC3: Energy sources and Metabolism Mechanical components of muscle. Isometric and isotonic contractions—muscle length, tension and velocity relationships. | 4 | Theory CC9: Absorption of Vitamins & Minerals | 3 | Theory DSE4A: Acidification of the Urine & Bicarbonate Excretion Renal regulation of acid-base balance, acidification of urine | 3 |
| May | Theory CC3: Properties of Muscle in the intact Organism Properties of skeletal muscle: excitability, contractility, all or none law, summation of stimuli, summation of contractions, effects of repeated stimuli, genesis of tetanus, onset of fatigue, refractory period, tonicity, conductivity, extensibility and elasticity. Optimal load, optimal length of fibers. | 5 | Theory CC9: Absorption of Vitamins & Minerals | 3 | Theory DSE4A: Regulation of Na ⁺ & Cl ⁻ Excretion | 2 |
| June | Theory CC3: Revision Examination | 3 | Theory CC9: Revision Examination | 3 | Theory CC14: Revision Examination | 3 |

DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

NUPUR PAUL

Physiology (General/generic) (July 2019–June 2020)

| Month | Sem-I(G/GE) | No. of Lecture | Sem-III(G/GE) | No. of Lecture | Sem-V(G/GE) | No. of Lecture |
|-------|--|----------------|---|----------------|---|----------------|
| Jul | Theory: CCIA: Physiological importance of the following physical processes: Diffusion Osmosis Practical: CCIA: Identification of permanent slides: Bone, Lung, Trachea, Spleen, Lymph gland, Liver, Salivary gland, Pancreas, Adrenal gland, Thyroid gland, | 4 | Theory CCIC: Anatomy and histology of the respiratory passage and organs. Practical: CCIC: Leishman's staining of human blood film and identification of different types of blood corpuscles. | 3 | Theory: DSE1A: Different types of muscle and their structure. Red and white muscle. Practical: DSE1A: Use of kymograph | 8 |
| | | 6 | | 4 | | 4 |
| Aug | Theory: CCIA: Physiological importance of the following physical processes: Dialysis Practical: CCIA: Identification of permanent slides: Spinal cord, Cerebellum, Cerebral cortex, Kidney, Skin, Testis, Ovary, Tongue, Oesophagus, Stomach, Small intestine, Large intestine. | 3 | Theory: CCIC: Role of respiratory muscles in breathing. Artificial respiration. Practical: CCIC: Preparation of Haemincrystals. | 4 | Theory: DSE1A: Muscular contraction: structural, mechanical and chemical changes in skeletal muscle during contraction and relaxation. Practical: DSE1A: Recording of pneumography | 8 |
| | | 6 | | 4 | | 4 |
| Sept | Theory: CCIA: Physiological importance of the following physical processes: Ultrafiltration Practical: CCIA: Examination and staining of fresh tissues (other than blood) squamous, ciliated and columnar epithelium, | 3 | Theory CCIC: Significance of physiological and anatomical deadspace. Lung volumes and capacities. Practical: CCIC: Leishman's staining of human blood film and identification of different types of blood corpuscles. | 3 | Theory: DSE1A: Isotonic and isometric contractions. Practical: DSE1A: Practice Use of kymograph | 4 |
| | | 6 | | 4 | | 4 |
| Oct | Theory: CCIA: Physiological importance of the following physical processes: Surface tension Practical: CCIA: Examination and staining of fresh tissues (other than blood) skeletal muscle, cardiac muscle by methylene blue stain. | 3 | Theory CCIC: Exchange of respiratory gases between lung and blood and between blood and tissues. Transport of oxygen and carbon dioxide in blood. Practical: CCIC: Preparation of Haemincrystals. | 4 | Theory: DSE1A: Properties of muscle: a) all or none law, b) beneficial effect, summation, c) refractory period, tetanus, fatigue. Practical: DSE1A: Practice | 6 |
| | | 4 | | 4 | | 2 |
| Nov | Theory: CCIA: Physiological importance of the following physical processes: Adsorption Absorption | 4 | Theory CCIC: Regulation of respiration- chemical. Hypoxia. Practical: | 4 | Theory: DSE1A: A brief idea about the muscle spindle. Practical: DSE1A: | 3 |

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|------------|---|---|--|---|--|---|
| | Practical: CC1A: Staining of adipose tissue by Sudan III or IV. | 4 | CC1C: Leishman's staining of human blood film and identification of different types of blood corpuscles. | 4 | Practice | 2 |
| Dec | Theory: CC1A: Revision | 3 | Theory CC1A: Revision | 3 | Theory: DSE1A Revision | 3 |
| | Practical: CC1A: Practice Examination | 2 | Examination | | Examination | |
| | Sem-II(G/GE) | | Sem-IV(G/GE) | | Sem-VI(G/GE) | |
| Jan | Theory: CC1B: Depot fat. Beta oxidation of saturated fatty acid | 3 | Theory: CC1D: Skin and regulation of body temperature Structure and functions of skin | 3 | Theory: SEC4B: Environment- its physiological aspects. | 4 |
| | Practical: CC1B: Quantitative Experiments: Quantitative estimation of glucose by Benedict's method. | 4 | Practical: CC1D: Identification of normal constitution of urine-Chloride | 4 | | |
| Feb | Theory CC1B: Ketone bodies formation and significance. | 3 | Theory: CC1D: Insensible and sensible perspiration | 4 | Theory: SEC4B: Effect of extreme temperature on humans. | 4 |
| | Practical: CC1B: Quantitative estimation of amino-nitrogen by Sorensen's for molybdenum method. Percentage and total quantity to be done. | 4 | Practical: CC1D: Identification of normal constitution of urine-Sulphate | 4 | — — | |
| Mar | Theory: CC1B: Deamination, Transamination. Amino acid pool | 3 | Theory: CC1D: Regulation of body temperature- physical and physiological processes involved in it. | 4 | Theory: SEC4B: — — Hypobaric environment- effects on physiological system, acclimatization | 4 |
| | Practical: CC1B: Quantitative estimation of glucose by Benedict's method | 4 | Practical: CC1D: Identification of normal constitution of urine-Phosphate | 4 | | |
| Apr | Theory: CC1B: Fate and functions of amino acids in the body. | 3 | Theory CC1D: Revision Structure and functions of skin | 3 | Theory: SEC4B: Hyperbaric conditions and Caisson disease. | 4 |
| | Practical: CC1B: Quantitative estimation of amino-nitrogen by Sorensen's for molybdenum method. Percentage and total quantity to be done. | 4 | Practical: CC1D: Identification of normal constitution of urine-Creatinine | 4 | | |

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|-------------|---|---|---|---|---|---|
| May | Theory: CC1B: Formation of urea and its importance. | 3 | Theory: CC1D: Revision Insensible and sensible perspiration | 3 | Theory: SEC4B: Brief idea of cyanosis, dyspnea, hyperpnoea, apnea, asphyxia. | 4 |
| | Practical: CC1B: Practice | 2 | Practical: CC1D: Identification of normal constitution of urine-Urea | 4 | | |
| June | Theory: CC1B: Revision | 4 | Theory: CC1D: Revision | 4 | Theory: SEC4B: Revision | 4 |
| | Practical: CC1B: Practice Examination | 2 | Practical: CC1D: Practice Examination | 4 | Examination | |



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DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

DR. DEBLINA BALL

Physiology (Honours)

(July 2019–June 2020)

| Month | Sem-I(H) | No. of Lecture | Sem-III(H) | No. of Lecture | Sem-V(H) | No. of Lecture |
|-------|--|----------------|---|----------------|---|----------------|
| Jul | <p>Theory: CC1:</p> <p>Introduction</p> <p>Body fluid components</p> <p>Organ systems, tissues and cells</p> <p>Practical:</p> <p>CC1:</p> <p>Study and identification of stained section of different mammalian tissues and organs:</p> <p>Lung, Trachea, Spinal cord, Cerebral cortex, Cerebellum,</p> | 6 | <p>Theory CC6:</p> <p>Cutaneous, Deep and Visceral Sensation</p> <p>Introduction</p> <p>Ascending and descending tracts: origin, courses, termination and functions.</p> <p>Lower and upper motor neurones.</p> <p>Functions of the spinal cord with special reference to functional changes following hemisection and complete section of spinal cord. Brown-Sequard syndrome, Spinal animal.</p> <p>Practical</p> <p>CC5:</p> <p>Preparation and staining of blood film with Leishman's stain.</p> <p>Identification of the blood corpuscles.</p> | 8 | <p>Theory CC12:</p> <p>The Thyroid Gland</p> <p>Introduction</p> <p>Anatomic Considerations</p> <p>Formation & Secretion of Thyroid Hormones</p> <p>Transport of Thyroid Hormones</p> <p>Effects of Thyroid Hormones</p> <p>Regulation of Thyroid Secretion</p> <p>Clinical Correlates</p> <p>Practical:</p> <p>CC11:</p> <p>Principles of fixation and staining,</p> <p>Staining and identification of fixed endocrine glands and nervous tissue.</p> | 8 |
| | <p>Theory: CC1:</p> <p>Transports across cell membrane: Ion pores, ion pumps, ion channels ionophores. Passive transport. Facilitated diffusion, uniport, symport, antiport. Active transport.</p> <p>Intercellular communication : Basic idea of tight junctions, gap junctions and cell adhesion molecules</p> <p>Practical: CC1:</p> <p>Study and identification of stained section of different mammalian tissues and organs: Parotid gland, Sub maxillary gland, Sublingual gland, Tongue, Oesophagus, Stomach, Duodenum, Jejunum, Ileum, Large intestine, Liver</p> | 8 | <p>Theory CC7:</p> <p>Pain production, perception and regulation. Referred pain.</p> <p>Pathways</p> <p>Touch</p> <p>Proprioception</p> <p>Temperature</p> <p>Pain</p> <p>Other Sensations</p> <p>Control of Posture and Movement : Introduction</p> <p>General Principles</p> <p>Corticospinal & Corticobulbar System</p> <p>Anatomy & Function</p> <p>Posture and its regulation</p> <p>Decerebrate rigidity, Decorticate rigidity, Postural reflexes and regulation of Posture</p> <p>Practical CC5:</p> <p>Differential count of WBC.</p> <p>Total count of RBC and WBC.</p> <p>Bleeding time and clotting time</p> <p>Hemoglobin estimation</p> | 8 | <p>Theory CC12:</p> <p>Endocrine Functions of the Pancreas & the Regulation of Carbohydrate Metabolism:</p> <p>Introduction</p> <p>Islet Cell Structure</p> <p>Structure, Biosynthesis, & Secretion of Insulin</p> <p>Effects of Insulin</p> <p>Mechanism of action</p> <p>Insulin Excess</p> <p>Regulation of Insulin Secretion</p> <p>Glucagon</p> <p>Other Islet Cell Hormones</p> <p>Hypoglycemia & Diabetes Mellitus in Humans</p> <p>Practical: CC11:</p> <p>Practice</p> <p>Staining and Identification of Histological sections provided</p> | 6 |

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| Sept | <p>Theory: CC1:</p> <p>Capillary Wall Homeostasis</p> <p>Practical: CC1: Study and identification of stained section of different mammalian tissues and organs:</p> <p>Kidney, Ureter, Pancreas, Adrenal gland, Thyroid gland, Testis, Ovary</p> | <p>4</p> <p>4</p> | <p>Theory: CC7:</p> <p>Basal Ganglia Cerebellum Movement disorders Neural Basis of Instinctual Behaviour and Emotions : a. Introduction b. Anatomic Considerations c. Limbic Functions</p> <p>4 Limbic system: structure, connections and functions. Physiology of emotion.</p> <p>Practical CC5:</p> <p>Preparation of haemin crystals Preparation and staining of bone marrow. Measurement of diameter of megakaryocyte.</p> | <p>8</p> <p>6</p> | <p>Theory CC12:</p> <p>The Pituitary Gland: Introduction Morphology Posterior pituitary hormones Growth Hormone Physiology of Growth Pituitary Insufficiency Pituitary Hyperfunction in Humans</p> <p>Practical: CC11:</p> <p>Practice Staining and Identification of Histological sections provided</p> | <p>8</p> <p>4</p> |
| Oct | <p>Theory: CC1: Revision</p> <p>Practical: CC1:</p> <p>Practice Study and identification of stained section of different mammalian tissues and organs</p> | <p>6</p> <p>4</p> | <p>Theory CC7:</p> <p>d. Sexual Behavior e. Fear & Rage f. Motivation</p> <p>Higher Functions of the Nervous System a. Introduction b. Methods c. Learning & Memory Higher functions of nervous system: conditioning, learning, short-term and long- term memory. Practical CC5:</p> <p>10. Reticulocyte staining 11. .Blood group determination.</p> | <p>8</p> <p>4</p> | <p>Theory CC12:</p> <p>Revision</p> <p>Practical: CC11:</p> <p>Class Test Staining and Identification of Histological sections provided</p> | <p>4</p> <p>4</p> |
| Nov | <p>Theory: CC2:</p> <p>Question Answer discussion and Assessment</p> <p>Practical:</p> <p>Class Test Slide Identification</p> | <p>5</p> <p>2</p> | <p>Theory CC7:</p> <p>Speech and Aphasia. Asymmetrical organization of certain cognitive functions-split brain d. Functions of the Neocortex</p> <p>2 Electrophysiology of brain: spontaneous electrical activity of brain, EEG and ECoG, evoked potential, DC potential. Isolated cortex. e. Disorders relating learning and memory</p> <p>Practical CC5:</p> <p>Practice Preparation and staining of blood film with Leishman's stain. Identification of the blood corpuscles.</p> | <p>8</p> <p>4</p> | <p>Theory CC12:</p> <p>Question Answer discussion and Assessment</p> <p>Practical:</p> <p>Class test on Practical</p> | <p>4</p> <p>2</p> |

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|--------------|--|------------|--|------------|--|-------------|
| Dec | Theory: CC1: Revision Practical Practice (if required) Examination | 4 4 | Theory CC7: Revision and Question Answer discussion Practical Practice (if required) Examination | 4 4 | Theory CC12: Revision Practical Practice (if required) Examination | 4 4 |
| Month | Sem-II(H) | | Sem-IV(H) | | Sem-VI(H) | |
| Jan | Theory CC3: Excitable Tissues: Nerve Introduction Nerve cells Structure, classification and functions of neurons, Cytoskeletal elements and axoplasmic flow. Excitation and Conduction Practical: CC3: Isolation and staining of nerve fibers with node (s) of Ranvier (AgNO ₃) and muscle fiber (H and E) | 8 4 | Theory CC9: Regulation of Gastrointestinal Function Introduction Digestive glands – histological structures of salivary glands, pancreas and liver. Practical: CC10: Measurement of peak expiratory flow rate Measurement of oxygen saturation by pulse oxymeter before and after exercise | 6 4 | Theory CC13: Introduction Primary and accessory sex organs and secondary sex characters, Physiology of puberty. Sex Differentiation & Development a. Chromosomal Sex Embryology of the Human Reproductive System Aberrant Sexual Differentiation Puberty Precocious & Delayed Puberty Menopause Pituitary Gonadotropins & Prolactin Practical: CC13: Study of estrous cycle | 8 6 |
| Feb | Theory CC3: Measurement of electrical events Propagation of nerve impulse in different types of nerve fibers. Ionic basis of excitation and conduction The resting membrane potential, action potential, electrotonic potentials, current of injury and compound action potential. Practical: CC3: Practice Isolation and staining of nerve fibers with node (s) of Ranvier (AgNO ₃) and muscle fiber (H and E) | 6 4 | Theory CC9: General Considerations Composition, functions and regulation of the secretion of salivary, gastric, pancreatic and intestinal juices and bile. Synthesis of Bile acids. Enterohepatic circulation, Feces and defecation. GALT, MALT. Basic concepts of Peptic Ulcer, Jaundice and Gall-stones Cholelithiasis. Practical: CC10: Measurement of forced expiratory volume (FEV) in first second | 8 2 | Theory CC13: The male reproductive System Structure Histology of testis Gametogenesis & Ejaculation Endocrine Function of the Testes Control of Testicular Function Abnormalities of Testicular Function Practical: CC13: Staining and identification of kidney and ureter | 10 4 |

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| <p>Mar</p> | <p>Theory CC3:</p> <p>Properties of mixed nerves Properties of nerve fibers: excitability, conductivity, all or none law, accommodation, adaptation, summation, refractory period, Indefatigability, Chronaxie&rheobase and utilization time. Injury to peripheral nerves–degeneration and regeneration in nerve fiber, changes in the nerve cell body, trans neuronal degeneration, changes in receptor and motor end-plates, denervation hypersensitivity. Thermal changes of nerve during activity</p> <p>Practical: CC4:</p> <p>Qualitative tests for the identification of physiologically important substances:</p> <p>Urea, Glycerol, Bile salts</p> | <p>6</p> <p>4</p> | <p>Theory CC9:</p> <p>Gastrointestinal hormones</p> <p>Mouth & Esophagus</p> <p>Stomach</p> <p>Exocrine Portion of the Pancreas</p> <p>Liver & Biliary System</p> <p>Practical: CC10:</p> <p>Practice</p> | <p>8</p> <p>4</p> | <p>Theory CC13:</p> <p>6. Pregnancy Fertilization, Preliminary ideas of implantation. Structure and functions of placenta. Maintenance of pregnancy and the bodily changes during pregnancy. Pregnancy tests. Parturition.</p> <p>Practical: CC13:</p> <p>Pregnancy test from human urine by kit method</p> | <p>8</p> <p>2</p> |
| <p>Apr</p> | <p>Theory CC3:</p> <p>Nerve fibre types and function</p> <p>Neurotrophins Nerve growth factors and Neurotrophins</p> <p>Glia Structure, classification and functions of neuroglia cells</p> <p>Practical: CC4:</p> <p>Practice Qualitative tests for the identification of Unknown Sample</p> | <p>4</p> <p>4</p> | <p>Theory CC9:</p> <p>Small Intestine</p> <p>Colon</p> <p>Practical: CC10:</p> <p>Practice (if required)</p> | <p>4</p> <p>4</p> | <p>Theory CC13:</p> <p>Lactation Mammogenesis, Galactopoiesis: Hormonal control</p> <p>Practical: CC13:</p> <p>Practice</p> | <p>4</p> <p>4</p> |
| <p>May</p> | <p>Theory CC3:</p> <p>Revision, Question Answer discussion and Assessment</p> <p>Practical: CC4:</p> <p>Class Test on Identification of given Unknown Sample</p> | <p>5</p> <p>2</p> | <p>Theory CC9:</p> <p>Revision, Question Answer discussion and Assessment</p> <p>Practical:</p> <p>Class Test</p> | <p>5</p> <p>2</p> | <p>Theory CC13:</p> <p>Revision, Question Answer discussion and Assessment</p> <p>Practical: CC13:</p> <p>Class Test</p> | <p>5</p> <p>2</p> |
| <p>June</p> | <p>Theory CC3:</p> <p>Revision</p> <p>Practical Practice (if required)</p> <p>Examination</p> | <p>2</p> <p>2</p> | <p>Theory CC9:</p> <p>Revision</p> <p>Practical Practice (if required)</p> <p>Examination</p> | <p>2</p> <p>2</p> | <p>Theory CC13:</p> <p>Revision</p> <p>Practical Practice (if required)</p> <p>Examination</p> | <p>2</p> <p>2</p> |

DR. DEBLINA BALL

Physiology (Generic/ General)

(July2019–June2020)

| Month | Sem-V(GE/Gen) | No. ofLecture |
|-------|--|---------------|
| July | Theory DSE 1A: Nervous System A brief outline of organization and basic functions (sensory, motor and association) of the nervous system, central and peripheral nervous system. (emphasis on the structure of spinal cord and brain stem). Ascending tracts carrying touch, kinaesthetic, temperature and pain sensations. Descending tracts: pyramidal tract and brief outline of the extra-pyramidal tracts. Pain. Reflex action - definition, reflex arc, classification, properties. Functions of the spinal cord. Outline of functions of brain stem. | 12 |
| Aug | Theory DSE 1A: A brief idea of the structure, connections and functions of cerebellum. Different nuclei and functions of thalamus and hypothalamus. Cerebral cortex: histological structure and localization of functions. CSF : composition, formation, circulation and functions. A brief description of the organization of the autonomic (sympathetic and parasympathetic) nervous system. Functions of sympathetic and parasympathetic nervous system. A brief idea of speech, aphasia, conditioning, learning and memory. | 12 |
| Sep | Theory SEC 3A: Virus - DNA virus and RNA virus. Bacteriophage. Bacteria-structure and morphological classification | 8 |
| Oct | Theory SEC 3A: Gram positive and Gram negative and acid-fast bacteria. Pathogenic and non-pathogenic bacteria - definition with a few examples. Sterilization and Pasteurization | 8 |
| Nov | Theory Revision, Question Answer discussion and Assessment | 6 |
| Dec | Theory Examination | 4 |

| Month | Sem-II(GE/Gen) | No of Lecture | Sem-VI(GE/Gen) | No of Lecture |
|-------|---|---------------|---|---------------|
| Jan | Theory CC1B Metabolism: Pathophysiological significance of the following blood constituents: glucose, urea, creatinine | 6 | Theory DSE1B Sensory Physiology: Classification of general and special senses and their receptors. Receptors as biological transducer. Olfaction and Gustation: Structure of sensory organ, neural pathway of olfactory and gustatory sensation. Physiology of olfactory and gustatory sensation. Olfactory and gustatory adaptation. After-taste. | 8 |

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|-----|---|---|---|---|
| Feb | Theory CC1B Metabolism: Pathophysiological significance of the following blood constituents: uric acid, cholesterol, bilirubin, SGPT and SGOT | 6 | Theory DSE1B Physiology of olfactory and gustatory sensation. Olfactory and gustatory adaptation. After-taste. Audition: Structure of ear, auditory pathway, mechanism of hearing. | 8 |
| Mar | Theory CC1B Metabolism: Pathophysiological significance of the following blood constituents: alkaline and acid phosphatases and ketone bodies | 6 | Theory DSE1B Vision: Structure of the eye. Histology of retina. Visual pathway. Light reflex. Chemical changes in retina on exposure to light. Accommodation - mechanism and pathway. Errors of refraction. Positive and negative after-image. Light and dark adaptation. Elementary idea of colour vision and colour blindness | 8 |
| Apr | Theory CC1B Revision and Question Answer discussion | 6 | Theory DSE1B Revision and Question Answer discussion | 6 |
| May | Theory CC1B Assessment | 2 | Theory DSE1B Assessment | 2 |
| Jun | Examination | 2 | Examination | 2 |


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|--------------------|---|----------|--|--|---|
| <p>Aug</p> | <p>Theory: CC1: Microscopic structure and function of mitochondria, lysosomes, peroxisomes.</p> | <p>4</p> | <p>Theory CC7: The Thalamus & the Cerebral Cortex Evoked Cortical Potentials The Electroencephalogram Physiological Basis of the EEG, Consciousness, & Sleep Interpretation of abnormal EEG pattern</p> | <p>4</p> <p>Theory CC12: The Adrenal Medulla & Adrenal Cortex VII. Regulation of Aldosterone Secretion VIII. Summary of the effects of Adrenocortical Hyper & Hypofunction in Humans Hormonal Control of Calcium Metabolism & the Physiology of Bone a. Introduction b. Calcium & Phosphate Metabolism c. Bone Physiology d. Vitamin D & the Hydroxycholecalciferols e. The Parathyroid Glands f. Calcitonin DSE1A: BIOLOGICAL STATISTICS Parameters Different classes of statistics- mean, median, mode, mean deviation, variance, standard deviation, standard error of mean.</p> | <p>3</p> <p>6</p> <p>2</p> <p>4</p> |
| <p>Sept</p> | <p>Theory: CC1: Cytoskeletal elements and centrosomes.</p> | <p>4</p> | <p>Theory CC7: Introduction Anatomic Organization of Autonomic Outflow Chemical Transmission at autonomic Junctions Responses of Effector Organs to Autonomic Nerve Impulses Cholinergic and Adrenergic Discharge</p> | <p>4</p> <p>Theory CC12: g. Effects of Other Hormones & Humoral Agents on Calcium Metabolism Endocrine Functions of the Kidneys, Heart, & Pineal Gland a. Introduction b. The Renin-Angiotensin System c. Erythropoietin d. The Endocrine Function of the Heart: Atrial Natriuretic Peptide e. Pineal Gland f. Human chronobiology, biological rhythms; basic concepts and implications DSE1A: BIOLOGICAL STATISTICS Standard score. Degrees of freedom</p> | <p>2</p> <p>5</p> <p>2</p> <p>2</p> <p>3</p> <p>2</p> |
| <p>Oct</p> | <p>Theory: CC1: Cell cycle</p> | <p>4</p> | <p>Theory CC7: Central Regulation of Visceral Function a. Introduction b. Medulla Oblongata c. Hypothalamus i. Anatomic Considerations ii. Hypothalamic Function iii. Relation to Autonomic Function iv. Relation to Sleep v. Relation to Cyclic Phenomena vi. Hunger vii. Thirst viii. Control of Posterior Pituitary Secretion ix. Control of Anterior pituitary Secretion x. Temperature Regulation, fever</p> | <p>5</p> <p>Theory DSE1A: Probability. Normal distribution. Student's t-distribution Practice Testing of hypothesis - Null hypothesis, errors of inference Practice</p> | <p>8</p> <p>2</p> <p>4</p> <p>2</p> |

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|------------|--|---|--|--|--|--------------------------------|------------|---|---------------------|
| Nov | Theory: CC1: Cell division a. Mitosis b. Meiosis | 4 | Theory CC7: Neural Basis of Instinctual Behaviour and Emotions a. Introduction b. Anatomic Considerations c. Limbic Functions Limbic system: structure, connections and functions. Physiology of emotion. d. Sexual Behavior e. Fear & Rage f. Motivation Revision Class test | 3 4 | Theory DSE1A: levels of significance, students' t-test and z score for significance of difference. Practice Distribution-free test - Chi-square test Practice | 6 4 4 2 | | | |
| | Theory: CC1: Aging Revision Examination | | 4 | | Theory CC7: Revision Class test Examination | | 6 4 | Theory DSE1A: Revision Practice Class test Examination | 6 4 4 |
| | Sem-II(H) | | | | Sem-IV(H) | | | Sem-VI(H) | |
| Jan | Theory CC4: Carbohydrates a. Classification of Carbohydrates Definition and classification of Carbohydrates b. Structure of Carbohydrates | 4 | Theory CC8: Introduction Energy metabolism Carbohydrate metabolism Glycolysis, R-L cycle Detail, TCA cycle. Gluconeogenesis Cori cycle, Glucose Alanine cycle. Anaplerotic reactions and Amphibolic nature of TCA cycle. Pentose Phosphate Pathway. | 2 14 2 | Theory CC13 The Female Reproductive system Histology of ovary, Oogenesis, folliculogenesis and ovulation. The Menstrual Cycle Formation, functions of corpus luteum and leuteolysis, — — | 6 2 | | | |

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|-------------|---|--------|--|------------------|--|-------------|
| Feb | <p>Theory CC4:</p> <p>Cyclic structures- Pyranose and furanose forms, structure of disaccharides and polysaccharides.</p> | 4 | <p>Theory CC8:</p> <p>Glycogenesis and Glycogenolysis.</p> <p>Protein metabolism Amino acids, Amino acid pool. Deamination, transamination, amination and decarboxylation.</p> <p>Synthesis of Urea and Nitric oxide.</p> <p>Basic idea of glucogenic and ketogenic amino acids.</p> | 4 4 4 2 | <p>Theory CC13:</p> <p>Menstrual cycle and its regulation b. Ovarian Hormones c. Control of Ovarian Function d. Abnormalities of Ovarian Function</p> | 10 |
| | <p>Theory CC4:</p> <p>c. Properties of Carbohydrates</p> <p>Stereoisomerism, optical isomerism, optical activity, epimerism, anomerism, mutarotation and its mechanism.</p> | 4 | <p>Theory CC8:</p> <p>Metabolism of glycine, sulfur-containing amino acids, tryptophan and phenylalanine</p> <p>Fat and cholesterol metabolism β-oxidation and biosynthesis of saturated and monounsaturated fatty acids. Carnitine shuttle.</p> | 6 7 | <p>Theory CC13:</p> <p>Abnormalities in menstrual cycle.</p> <p>Onset of menopause and post-menopausal changes, Postmenopausal syndromes.</p> | 2 2 |
| Apr | <p>Theory CC4:</p> <p>Chemical reactions of monosaccharides (Glucose & Fructose) – Reactions with concentrated mineral acids, alkali, phenyl hydrazine and their biochemical importance</p> | 4 | <p>Theory CC8:</p> <p>Metabolism of Triglycerides.</p> <p>Biosynthesis of Lecithin, Cephalin and Cholesterol. Metabolism of Adipose Tissue. Role of lipoproteins in transport and storage of lipids.</p> <p>Formation of Reactive Oxygen Species (ROs) and the role of Catalase, Superoxide Dismutase, Glutathione Peroxidase and Glutathione Reductase in combating oxidative stress– role of vitamins.</p> | 2 4 4 | <p>Theory DSE3B:</p> <p>Genes - definition. DNA-structure, DNA replication,</p> <p>Transcription of RNA in prokaryotes,</p> <p>Genetic code – properties and wobble hypothesis,</p> | 5 2 2 |
| May | <p>Theory CC4:</p> <p>d. Function of Carbohydrates Derivatives of monosaccharides --Amino sugars, deoxysugars, sugar alcohols, sugar acids, sugar esters, their biochemical and physiological importance.</p> | 4 | <p>Theory CC8:</p> <p>Integration of carbohydrate, fat and protein metabolism</p> <p>Biological oxidation– Redox Potential. Mitochondrial Electron Transport Chain. Oxidative Phosphorylation–Inhibitors and uncouplers.</p> <p>Practice</p> | 2 6 4 | <p>Theory DSE3B:</p> <p>translation in prokaryotes, regulation of gene expression – operon concept: lac operon, gene mutation</p> <p>DNA repairing processes. Basic idea of Recombinant DNA technology and its applications, Polymerase chain reaction (PCR) - basic concepts.</p> | 8 8 |
| June | <p>Theory CC4:</p> <p>Revision</p> <p>Class test</p> <p>Examination</p> | 2 2 | <p>Theory CC8:</p> <p>Revision</p> <p>Practice</p> <p>Examination</p> | 4 4 | <p>Theory CC13:</p> <p>Revision</p> <p>Class test</p> <p>Examination</p> | 4 2 |

DEPARTMENT OF PHYSIOLOGY

TEACHING PLAN

HAIMANTI CHATTERJEE

Physiology (General) (July 2019–June 2020)

| Month | Sem-I(G) | No. of Lectures | Sem-III(G) | No. of Lectures | Sem-V(G) | No. of Lectures |
|-------|--|-----------------|--|-----------------|---|-----------------|
| Jul | <p>Theory: CC 1A: Units of Human System Structure and functions of plasma membrane, nucleus and different cell organelles.</p> | 4 | <p>Theory CC 1C: Blood and Body Fluids Blood: composition and functions. Plasma proteins: origin and functions, Plasmapheresis. Bone marrow. Formed elements of blood-their morphology and functions.</p> <p>Practical: Haematological experiments II: DC of WBC, estimation of haemoglobin</p> | 4 | <p>Theory SEC III: IMMUNOLOGY Elementary knowledge of innate and acquired immunity.</p> <p>Practical: Field Study Population study of physiological parameters such as height, weight, heart-rate, blood pressure</p> | 4 |
| Aug | <p>Theory: CC 1A: Endoplasmic reticulum, Golgi bodies, Mitochondria, Lysosome and Peroxisome.</p> | 4 | <p>Theory CC 1C: Erythropoiesis and leucopoiesis. Haemoglobin: different types of compounds and derivatives. Functions and estimation of haemoglobin. Abnormal haemoglobins-thalassaemia and sickle-cell anaemia.</p> <p>Practical CC 1C: Blood group determination, Bleeding time and coagulation time.</p> | 4 | <p>Theory SEC III: Humoral and cell mediated immunity</p> <p>Practical: Field Study: Population study of physiological parameters such as height, weight, heart-rate, blood pressure</p> | 4 |
| Sept | <p>Theory: CC 1A: Structure, function and classification of Epithelial, Connective, Muscular and Nervous tissues.</p> | 4 | <p>Theory CC 1C: Blood volume and its determination (dye method and Radioisotope method) and regulation. Coagulation of blood: mechanism, factors affecting, procoagulants, anticoagulants, and disorders of coagulation.</p> | 4 | <p>Theory SEC III: Vaccination-principles and importance of immunization. A brief idea of antibiotics</p> <p>Practical: Field Study Population study of physiological parameters such as height, weight, heart-rate, blood pressure respiratory rate, PFI, TC of RBC, estimation of haemoglobin, DC of WBC</p> | 4 |
| oct | <p>Theory: CC 1A: Biochemistry of Biomolecules. a. Carbohydrates: Definition and classification. b. Monosaccharide–Classification, structure. Chemical reactions of monosaccharide (Glucose & Fructose)- Reactions with concentrated mineral acids, alkali, Phenyl hydrazine and their biochemical importance. c. Disaccharides–Maltose, Lactose and Sucrose: Structure, occurrence and physiological importance</p> | 4 | <p>Theory CC 1C: Lymph and tissue fluids: composition, formation, and functions.</p> <p>Practical CC 1C: Practice</p> | 4 | <p>Theory SEC III: Basic principle of immunological detection of Pregnancy.</p> | 2 |

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| Nov | Theory: CC 1A: Polysaccharides–Starch, Glycogen, Dextrin, Cellulose | 4 | Theory CC 1C: Blood groups-ABO and Rh. Blood transfusion-precaution and hazards. Immunological basis of identification of ABO and Rh blood groups Practical CC 1C: Practice | 4 2 | Theory SEC III: Revision. Class test | 4 |
| Dec | Theory: CC1A: Revision Class test Examination | 2 2 | Theory CC 1C: Anaemia-types (definition and causes). Leucocytosis, leucopenia and leukaemia. Purpura Revision Practical Practice Examination | 4 2 | Theory SEC III Revision Practical Practice Examination | 4 2 |
| Jan | Sem-II(G) Theory CC 1B: Metabolism Glycolysis, TCA cycle, Glycogenesis, Glycogenolysis, Gluconeogenesis Practical: 1. Qualitative Experiments: Qualitative tests for identification of starch, dextrin, lactose, sucrose, glucose, fructose, albumin, gelatin, peptone, lactic acid | 4 | Sem-IV(G) Theory CC 1D: Endocrine System Anatomy of endocrine system. Hormones - classification. Basic concept of regulation of hormone actions. Positive and negative Feedback mechanism. Elementary idea of hormone action. Hypothalamus: Basic concept of neurohormone. Hypothalamohypophyseal tract and portal system. Practical: CC 1D: Identification of abnormal constituents of urine - glucose, protein, acetone blood and bile salts. | 4 2 | Sem-VI(G) Theory DSE 1B: Reproductive Physiology Primary and accessory sex organs and secondary sex characters. Testis: histology, spermatogenesis, testicular hormones and their functions. — — — Practical: Human Experiments II Pneumographic recording of respiratory movements along with The effect of drinking of water, talking, forced hyperventilation and breath holding. | 4 2 |


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|-------------|---|---|--|--|------------|
| Feb | <p>Theory CC 1B: Depot fat. Beta oxidation of saturated fatty acid Ketone bodies, formation and significance.</p> | 4 | <p>Theory CC 1D: Pituitary: Histological structure, hormones, functions. Hypo and Hyperactive states of pituitary gland.</p> <p>Practical: CC 1D: Practice</p> | <p>4</p> <p>Theory DSE 1B Ovary : histology, oogenesis, ovarian hormones and their functions.</p> <p>Practical: Human Experiments II</p> <p>2 Measurement of some common anthropometric parameters: stature, weight, eye height, shoulder height, elbow height. Sitting height, elbow rest height(sitting), knee height(sitting), arm reach from wall,</p> | 4 |
| Mar | <p>Theory CC 1B: Deamination, Transamination. Amino acid pool-fate and functions of amino acids in the body.</p> <p>Formation of urea and its importance.</p> | 4 | <p>Theory CC 1D: Thyroid: Histological structure. Functions of thyroid hormones & thyrocalcitonin.</p> <p>Hypo and hyper-active states of thyroid</p> | <p>4</p> <p>Theory DSE 1B: Spermatogenesis & Oogenesis – processes and Factors controlling.</p> <p>Practical: Human Experiments II Measurement of some common anthropometric parameters: Mid -arm circumference, waist circumference, hip circumference, neck circumference, head circumference, chest circumference.</p> | 4 2 |
| Apr | <p>Theory CC 1B: Brief idea of HMP shunt and its significance Lipoproteins -types and functions</p> | 4 | <p>Theory CC 1D: Parathyroid: Histological structure, functions of parathyroid hormone. Tetany. Adrenal Cortex: Histological structure and functions of different hormones. Hypo and hyper-active states of adrenal cortex. Adrenal Medulla: Histological structure and functions of medullary hormones. The relation of adrenal medulla with the sympathetic Nervous system</p> | <p>6</p> <p>Theory DSE 1B: Oestrus and menstrual cycles and their hormonal control. Fertilization, implantation and structure and functions of placenta.</p> | 4 |
| May | <p>Theory CC 1B: Purine and pyrimidine bases, nucleosides, nucleotides and polynucleotides</p> | 4 | <p>Theory CC 1D: Pancreas: Histology of islets of Langerhans. Origin and functions of pancreatic hormones. Diabetes mellitus. Brief Idea of the origin and functions of renin-angiotensin, prostaglandins. Erythropoietin and melatonin. Elementary idea of gastrointestinal hormone.</p> | <p>6</p> <p>Theory DSE 1B: Maintenance of pregnancy –role of hormones. Development of mammary gland and lactation-role of Hormones</p> | 4 |
| June | <p>Theory CC 1B: Revision</p> | 2 | <p>Theory CC 1D: Revision</p> | <p>4</p> <p>Theory DSE 1B: Revision</p> | 4 |

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| | Practical Practice Examination | 2 | Practical Practice Examination | 2 | Practical Practice Examination | 2 |
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TEACHING PLAN
Department of Computer Science

Course: Computer Science (General)
Session: 2019-20 (July 2019 – June 2020)

| Month | Sem-I (G) | Sem-III (G) | Sem-V (G) |
|-------|---|--|--|
| Jul | Theory: Computer Fundamentals, Planning the Computer Program, Introduction to Python Practical: Program to convert from Fahrenheit to Celsius and vice versa , marks grading of students | Theory: Introduction, Types of operating systems, Operating System Organization Practical: Usage of basic Linux commands SEC: In MS Word creating telephone directory , time-table form for your college designing a certificate | Theory: Introduction to Java, Object Oriented Programming Concept Practical: Program to find largest number, Prime no, Fibonacci series, factorial |
| Aug | Theory: Techniques of Problem Solving, Introduction to Python , Overview of Programming Practical: Program to calculate area of geometric figures, Fibonacci Series, factorial of integer. | Theory: Process Management, Shell introduction and Shell Scripting Practical: Writing shell scripts to check prime no, displaying calendar with various options. SEC: In MS Word creating tables with various specifications , first page of a book | Theory: Java Programming Fundamentals Practical: Program to find odd-even, palindroms, integer reversing, Armstrong number |
| Sept | Theory: Introduction to Python, Creating Python Programs Practical: Program to find sum of series, operations on compatible matrices, to create mathematical 3D objects | Theory: Process Management, Scheduling Practical: Writing shell scripts for sum of digits, multiplication table, operations on files SEC: In MS Excel creating worksheets with specified data and applying functions | Theory: Classes and Objects Practical: Program to implement matrix operations, function overloading, multiple inheritance |
| Oct | Theory: Control structures Practical: Program to display histogram, mathematical curves, plotting graphs | Theory: Memory Management Practical: Writing shell scripts for basic calculator, pyramid structure display, LCD of numbers SEC: In MS Excel creating worksheets with specified data and applying functions | Theory: Arrays and Strings, Abstract Class, Interface and Packages Practical: Program to compare, concatenate strings , finding length of string, |
| Nov | Theory: Introduction to Advanced Python: + Tutorial Practical: Program to plot graphs on various equations + Tutorial | Theory: Memory Management Practical: Writing shell scripts to calculate power, factorial, Armstrong no, file permissions + tutorial SEC: In MS Excel plotting with given data, Creating basic presentations in MS PowerPoint | Theory: Exception Handling, File Handling, Applet Programming Practical: Applet program to draw geometrical figures, example of file handling, exception handling |
| Dec | Theory and Practical: Special classes – doubt clearing+ discussions | Theory and Practical: Special classes – doubt clearing+ discussions | Theory and Practical: Special classes – doubt clearing+ discussions |
| Jan | Sem-II (G) | Sem-IV (G) | Sem-VI (G) |
| | Theory: Introduction to Database Management Systems Practical: DDL Commands | Theory: Introduction Practical: Designing the register set, memory and the instruction set with given specifications SEC: Creating HTML document with specified formatting options | Theory: Basic concepts of Computer Network Practical: Simulate Checksum Algorithm. |

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| Feb | Theory: Entity Relationship and Enhanced ER Modelling Practical: DML Commands | Theory: Data Representation and basic Computer Arithmetic Practical: Simulating the created machine for the given register reference instructions SEC: Creating HTML document containing lists, image, links | Theory: Physical Layer, Data Link Layer Practical: Simulating CRC Algorithm |
| Mar | Theory: Relational Data Model Practical: Retrieving employee information from a given company database | Theory: Basic Computer Organization and Design Practical: Simulating the created machine for the memory-reference instructions SEC: Creating HTML document containing tables | Theory: Network Layer, Transport Layer Practical: Simulating Stop & Wait Protocol. |
| Apr | Theory: Database design Practical: Retrieving employee information from a given company database | Theory: Central Processing Unit Practical: Simulating the created machine for the memory-reference instructions SEC: Creating HTML document containing tables | Theory: Application Layer Practical: Simulating Go-Back-N Protocol. |
| May | Theory: Database design Practical: Inserting, deleting employee information from/in a given company database – Tutorial + Study Tour | Theory: Programming the Basic Computer, Input-output Organization+ Tutorial Practical: Modifying a machine with given instruction format + Tutorial SEC: Creating HTML document containing form controls | Theory: Network Security Practical: Simulating Selective Repeat Protocol. |
| Jun | Theory and Practical: Special classes + doubt clearing+ discussions | Theory and Practical: Special classes + doubt clearing+ discussions | Theory and Practical: Special classes + doubt clearing+ discussions |

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