|      | M S RAMAIAH COLLEGE OF ARTS, SCIENCE AND COMMERCE            |            |  |        |   |  |  |  |  |  |  |
|------|--|------------|--|--------|---|--|--|--|--|--|--|
|      | Course Outcomes for all Programs Offered by the Institutions |            |  |        |   |  |  |  |  |  |  |
| Id   | Program  | CourseCode | CourseName                               | COCode | СО  |  |  |  |  |  |  |
|      |  |            |  |        |   |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BFAC1S     | Fundamentals of Accounting               | CO1    | Deliberate the details of INTRODUCTION TO FINANCIAL<br>ACCOUNTING                             |  |  |  |  |  |  |
|      | BBA – Bachelor of Business Administration                    | BFAC1S     |  |        | Understand in details with application, if applicable, ACCOUNTING PROCESS                     |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BFAC1S     | Fundamentals of Accounting               | CO3    | Specify in details with examples SUBSIDIARY BOOKS   |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BFAC1S     | Fundamentals of Accounting               | CO4    | Deliberate the classification and characteristics of FINAL<br>ACCOUNTS OF PROPRIETARY CONCERN |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BFAC1S     | Fundamentals of Accounting               | CO5    | Specify the classification and characteristics of SINGLE ENTRY<br>SYSTEM                      |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BBEC1S     | Business Organization and<br>Environment | CO1    | Understand in details with examples INTRODUCTION TO BUSINESS<br>ORGANIZATION                  |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BBEC1S     | Business Organization and<br>Environment | CO2    | Specify the details of FORMS OF BUSINESS ORGANIZATIONSS<br>ORGANIZATION                       |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BBEC1S     | Business Organization and<br>Environment | CO3    | Learn the details of JOINT STOCK COMPANY  |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BBEC1S     | Business Organization and<br>Environment | CO4    | Write down in details with examples BUSINESS ENVIRONMENT                                      |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BBEC1S     | Business Organization and<br>Environment | CO5    | Deliberate the characteristics of GOVERNMENT AND BUSINESS                                     |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BQMC1S     | Quantitative Methods for<br>Business - I | CO1    | Identify in details with application, if applicable, Number System                            |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BQMC1S     | Quantitative Methods for<br>Business - I | CO2    | Specify in depth Theory of Equations  |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BQMC1S     | Quantitative Methods for<br>Business - I | CO3    | Understand in details with examples Matrices, Indices and Logarithms                          |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BQMC1S     | Quantitative Methods for<br>Business - I | CO4    | Write down in details with examples Commercial Arithmetic                                     |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BQMC1S     | Quantitative Methods for<br>Business - I | CO5    | Identify in depth Progressions  |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BMPC1S     | Management Process                       | CO1    | Understand the characteristics of introduc to management                                      |  |  |  |  |  |  |
| 5256 | BBA – Bachelor of Business Administration                    | BMPC1S     | Management Process                       | CO2    | Identify in details with application, if applicable, planning and decision making             |  |  |  |  |  |  |

|      |   |          |                           |             | Specify in details with application, if applicable, planning and       |
|------|---|----------|---------------------------|-------------|--|
| 5256 | BBA – Bachelor of Business Administration | BMPC1S   | Management Process        | CO3         | decision making  |
|      |   |          |                           |             | Deliberate the classification and characteristics of organizing and    |
| 5256 | BBA – Bachelor of Business Administration | BMPC1S   | Management Process        | CO4         | staffing   |
|      |   |          |                           |             | Deliberate in details with application, if applicable, directing       |
| 5256 | BBA – Bachelor of Business Administration | BMPC1S   | Management Process        | CO5         | communicating and co-ordinating  |
| 5256 | BBA – Bachelor of Business Administration | BMPC1S   | Management Process        | CO6         | Identify in depth controlling  |
|      |   |          |                           |             | Deliberate in details with application, if applicable, social          |
| 5256 | BBA – Bachelor of Business Administration | BMPC1S   | Management Process        | CO7         | responsibilities and ethics  |
| 5256 | BBA – Bachelor of Business Administration | BFAC2S   | Financial Accounting      | CO1         | INSURANCE CLAIMS Introduction  |
| 5256 | BBA – Bachelor of Business Administration | BFAC2S   | Financial Accounting      | CO2         | HIRE PURCHASE AND INSTALLMENT SYSTEMS                                  |
| 5256 | BBA – Bachelor of Business Administration | BFAC2S   | Financial Accounting      | CO3         | ROYALTY ACCOUNTS   |
| 5256 | BBA – Bachelor of Business Administration | BFAC2S   | Financial Accounting      | CO4         | SALE OF PARTNERSHIP TO A LIMITED COMPANY                               |
| 5256 | BBA – Bachelor of Business Administration | BFAC2S   | Financial Accounting      | CO5         | ISSUE OF SHARES  |
|      |   |          | Quantitative Methods for  |             |  |
| 5256 | BBA – Bachelor of Business Administration | BQMC2S   | Business - II             | CO4         | Identify the details of CORRELATION AND REGRESSION ANALYSIS            |
|      |   |          | Quantitative Methods for  |             |  |
| 5256 | BBA – Bachelor of Business Administration | BQMC2S   | Business - II             | CO5         | Deliberate the details of INDEX NUMBERS                                |
|      |   |          | Quantitative Methods for  |             | Understand the classification and characteristics of                   |
| 5256 | BBA – Bachelor of Business Administration | BQMC2S   | Business - II             | CO1         | INTRODUCTION TO STATISTICS   |
|      |   |          | Quantitative Methods for  |             |  |
| 5256 | BBA – Bachelor of Business Administration | BQMC2S   | Business - II             | CO2         | Deliberate the details of MEASURES OF CENTRAL TENDENCY                 |
|      |   |          | Quantitative Methods for  |             | Learn the characteristics of MEASURES OF DISPERSIONAND                 |
|      | BBA – Bachelor of Business Administration | BQMC2S   | Business - Il             | CO3         | SKEWNESS   |
| 5256 | BBA – Bachelor of Business Administration | BRBC2S   | Organizational Behavior   | CO1         | Understand the details of ORGANIZATIONAL BEHAVIOUR                     |
|      |   |          |                           |             | Specify the classification and characteristics of PERSONALITY,         |
| 5256 | BBA – Bachelor of Business Administration | BRBC2S   | Organizational Behavior   | CO2         | PERCEPTION AND ATTITUDES   |
| 5356 |   | 000000   |                           | 600         | Identify the characteristics of LEARNING AND BEHAVIOUR                 |
| 5256 | BBA – Bachelor of Business Administration | BRBC2S   | Organizational Behavior   | CO3         | MODIFICATION   |
| 5250 | DDA Decholon of Duciness Administration   | DDDC2C   | Orregiantia nel Debevier  | <b>CO 1</b> | Deliberate in details with application, if applicable, GROUP           |
| 5256 | BBA – Bachelor of Business Administration | BRBC2S   | Organizational Behavior   | CO4         | DYNAMICS<br>Specify in details with examples ORGANIZATIONAL CHANGE AND |
| 5756 | BBA – Bachelor of Business Administration | BRBC2S   | Organizational Behavior   | CO5         | DEVELOPMENT  |
| 5250 |   | DIADCZS  | Production and Operations |             | Learn in details with examples Introduction to production and          |
| 5256 | BBA – Bachelor of Business Administration | BPMC2S   | Management                | CO1         | operations management  |
| 5250 |   | BI WICZ5 | Production and Operations | 001         |  |
| 5256 | BBA – Bachelor of Business Administration | BPMC2S   | Management                | CO2         | Specify the characteristics of Plant location and layout               |
| 5250 | BBR Bashelor of Bushless Authinistration  | 511025   | management                | 002         | opeany the analytic of that location and hybrid                        |

|      |   |        | Production and Operations |      | Specify the classification and characteristics of Materials          |
|------|---|--------|---------------------------|------|--|
| 5256 | BBA – Bachelor of Business Administration | BPMC2S | Management                | CO3  | management   |
|      |   |        | Production and Operations |      |  |
| 5256 | BBA – Bachelor of Business Administration | BPMC2S | Management                | CO4  | Specify the details of Production planning and quality control       |
|      |   |        | Production and Operations |      | Deliberate in details with examples maintenance and waste            |
| 5256 | BBA – Bachelor of Business Administration | BPMC2S | Management                | CO5  | management   |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO6  | Write down the details of ELEMENTS OF COMMUNICATION                  |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | C07  | Identify in details with application, if applicable, PUBLIC SPEAKING |
|      |   |        |                           |      | Learn in details with application, if applicable, INTERVIEW          |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO8  | TECHNIQUES   |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO9  | Understand in details with application, if applicable, MEETINGS      |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO10 | Deliberate the characteristics of SKILL DEVELOPMENT                  |
|      |   |        |                           |      | Understand in details with examples ELEMENTS OF                      |
|      |   |        |                           |      | COMMUNICATION, PUBLIC SPEAKING, INTERVIEW TECHNIQUES,                |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO11 | MEETINGS, BUSINESS COMMUNICATION                                     |
|      |   |        |                           |      | Learn in depth ELEMENTS OF COMMUNICATION, PUBLIC                     |
|      |   |        |                           |      | SPEAKING, INTERVIEW TECHNIQUES, MEETINGS , BUSINESS                  |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO12 | COMMUNICATION  |
|      |   |        |                           |      | Specify the characteristics of ELEMENTS OF COMMUNICATION,            |
|      |   |        |                           |      | PUBLIC SPEAKING, INTERVIEW TECHNIQUES, MEETINGS, BUSINESS            |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO13 |  |
|      |   |        |                           |      | Write down the details of ELEMENTS OF COMMUNICATION,                 |
| 5256 |   | DCDCDC |                           | 6014 | PUBLIC SPEAKING, INTERVIEW TECHNIQUES, MEETINGS, BUSINESS            |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO14 | COMMUNICATION  |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO1  | Specify in details with examples ELEMENTS OF COMMUNICATION           |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO2  | Understand the characteristics of PUBLIC SPEAKING                    |
|      |   |        |                           |      | Specify in details with application, if applicable, INTERVIEW        |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO3  | TECHNIQUES   |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO4  | Specify the classification and characteristics of MEETINGS           |
|      |   |        |                           |      | Identify in details with application, if applicable, BUSINESS        |
| 5256 | BBA – Bachelor of Business Administration | BSBC3S | Soft Skills for Business  | CO5  | COMMUNICATION  |
|      |   |        |                           |      | Learn the characteristics of company final accounts, financial       |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting      | CO6  | statement analysis   |
|      |   |        |                           |      | Deliberate the characteristics of company final accounts, financial  |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting      | CO7  | statement analysis   |

|      |   |        |                      |      | Write down in details with examples company final accounts,                     |
|------|---|--------|----------------------|------|---|
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO8  | financial statement analysis  |
|      |   |        |                      |      | Identify in details with application, if applicable, company final              |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO9  | accounts, financial statement analysis  |
|      |   |        |                      |      | Identify in details with examples company final accounts , financial            |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO10 | statement analysis  |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO1  | Learn the details of Company Final Accounts                                     |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO2  | Understand in details with examples Financial Statement Analysis                |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO3  | Write down in depth Valuation of Goodwill                                       |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO4  | Deliberate in details with examples Valuation of Shares                         |
|      |   |        |                      |      | Specify in details with application, if applicable, Holding Company             |
| 5256 | BBA – Bachelor of Business Administration | BCAC3S | Corporate Accounting | CO5  | Accounts  |
|      |   |        | Human Resource       |      | Deliberate in details with application, if applicable, human                    |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO1  | resource management   |
|      |   |        | Human Resource       |      | Write down the classification and characteristics of human                      |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO2  | resource planning, recruitment and selection                                    |
|      |   |        | Human Resource       |      |   |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO3  | Understand in details with examples Induction and training                      |
|      |   |        | Human Resource       |      | Understand the classification and characteristics of Perforance                 |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO4  | appraisal and compensation  |
|      |   |        | Human Resource       |      | Learn the classification and characteristics of promotion and                   |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO5  | transfers   |
|      |   |        |                      |      | Learn in details with examples HUMAN RESOURCE MANAGEMENT,                       |
|      |   |        |                      |      | HUMAN RESOURCE PLANNING, RECRUITMENT AND  |
|      |   |        |                      |      | SELECTION, INDUCTION AND TRAINING, PERFORMANCE APPRAISAL                        |
|      |   |        | Human Resource       |      | AND COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                                |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO6  |   |
|      |   |        |                      |      | Understand the details of HUMAN RESOURCE MANAGEMENT,                            |
|      |   |        |                      |      | HUMAN RESOURCE PLANNING, RECRUITMENT AND  |
|      |   |        |                      |      | SELECTION, INDUCTION AND TRAINING, PERFORMANCE APPRAISAL                        |
| 5356 |   | DUDGOG | Human Resource       | 607  | AND COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                                |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | C07  | RESOURCE DEVELOPMENT<br>Specify the details of HUMAN RESOURCE MANAGEMENT, HUMAN |
|      |   |        |                      |      | RESOURCE PLANNING, RECRUITMENT AND SELECTION, INDUCTION                         |
|      |   |        |                      |      | AND TRAINING, PERFORMANCE APPRAISAL AND   |
|      |   |        | Human Resource       |      | COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                                    |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S | Management           | CO8  | RESOURCE DEVELOPMENT  |
| 5250 |   | DIRCSS | wanagement           | 000  |   |

|      |   |          |                             |      | Understand the details of HUMAN RESOURCE MANAGEMENT,              |
|------|---|----------|-----------------------------|------|---|
|      |   |          |                             |      | HUMAN RESOURCE PLANNING, RECRUITMENT AND                          |
|      |   |          |                             |      | SELECTION, INDUCTION AND TRAINING, PERFORMANCE APPRAISAL          |
|      |   |          | Human Resource              |      | AND COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                  |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S   | Management                  | CO9  | RESOURCE DEVELOPMENT  |
| 5250 |   | Brittess | Wanagement                  |      | Deliberate in details with application, if applicable, HUMAN      |
|      |   |          |                             |      | RESOURCE MANAGEMENT, HUMAN RESOURCE PLANNING,                     |
|      |   |          |                             |      | RECRUITMENT AND SELECTION, INDUCTION AND                          |
|      |   |          |                             |      | TRAINING, PERFORMANCE APPRAISAL AND                               |
|      |   |          | Human Resource              |      | COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                      |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S   | Management                  | CO10 | RESOURCE DEVELOPMENT  |
| 5250 |   | Brittess |                             |      | Write down in depth HUMAN RESOURCE MANAGEMENT, HUMAN              |
|      |   |          |                             |      | RESOURCE PLANNING, RECRUITMENT AND SELECTION, INDUCTION           |
|      |   |          |                             |      | AND TRAINING, PERFORMANCE APPRAISAL AND                           |
|      |   |          | Human Resource              |      | COMPENSATION, PROMOTION AND TRANSFERS, HUMAN                      |
| 5256 | BBA – Bachelor of Business Administration | BHRC3S   | Management                  | CO11 | RESOURCE DEVELOPMENT  |
|      |   |          |                             |      |   |
|      |   |          |                             |      | Learn in details with application, if applicable, INTRODUCTION TO |
|      |   |          |                             |      | BUSINESS LAWS , CONTRACT LAWS, INFORMATION LAW AND                |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO6  | RIGHT, COMPETITION AND CONSUMER LAWS                              |
|      |   |          |                             |      | Specify in details with examples INTRODUCTION TO BUSINESS         |
|      |   |          |                             |      | LAWS , CONTRACT LAWS, INFORMATION LAW AND                         |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO7  | RIGHT, COMPETITION AND CONSUMER LAWS                              |
|      |   |          |                             |      | Identify in details with examples INTRODUCTION TO BUSINESS        |
|      |   |          |                             |      | LAWS , CONTRACT LAWS, INFORMATION LAW AND                         |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO8  | RIGHT, COMPETITION AND CONSUMER LAWS                              |
|      |   |          |                             |      | Specify the characteristics of INTRODUCTION TO BUSINESS LAWS,     |
|      |   |          |                             |      | CONTRACT LAWS, INFORMATION LAW AND RIGHT, COMPETITION             |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO9  | AND CONSUMER LAWS   |
|      |   |          |                             |      | Understand in depth INTRODUCTION TO BUSINESS LAWS ,               |
|      |   |          |                             |      | CONTRACT LAWS, INFORMATION LAW AND RIGHT, COMPETITION             |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO11 | AND CONSUMER LAWS   |
|      |   |          |                             |      | Understand in details with examples INTRODUCTION TO BUSINESS      |
|      |   |          |                             |      | LAWS , CONTRACT LAWS, INFORMATION LAW AND                         |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO10 | RIGHT, COMPETITION AND CONSUMER LAWS                              |
|      |   |          |                             |      | Write down the classification and characteristics of              |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO12 | INTRODUCTION TO BUSINESS LAWS                                     |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S   | <b>Business Regulations</b> | CO13 | Specify the details of CONTRACT LAWS                              |

|      |   |        |                             |      | Understand in details with examples INFORMATION LAWS AND   |
|------|---|--------|-----------------------------|------|--|
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | <b>Business Regulations</b> | CO14 | RTE  |
|      |   |        |                             |      | Understand in details with examples COMPETITION AND  |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | Business Regulations        | CO15 | CONSUMER LAWS  |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | Business Regulations        | CO16 | Specify the details of ECONOMIC AND ENVIRONMENTAL LAWS   |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | <b>Business Regulations</b> | CO1  | Write down in depth introduction to business regulations   |
|      |   |        |                             |      | Specify in details with examples introduction to business  |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | Business Regulations        | CO2  | regulations  |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | Business Regulations        | СОЗ  | Deliberate the classification and characteristics of contract law                                    |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | Business Regulations        | CO4  | Learn the details of right to information and right to education                                     |
| 5256 | BBA – Bachelor of Business Administration | BBRC3S | <b>Business Regulations</b> | CO5  | Deliberate the details of competition and consumer laws  |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO1  | Specify the characteristics of formation of a company  |
|      |   |        |                             |      | Identify in details with application, if applicable, capital of                                      |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO2  | company  |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO3  | Learn in depth company meetings  |
|      |   |        |                             |      | Deliberate the classification and characteristics of company   |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO4  | secretary  |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO5  | Specify the characteristics of winding up of companies   |
|      |   |        |                             |      | Specify in depth FORMATION OF A COMPANY, CAPITAL OF A  |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO6  | COMPANY  |
|      |   |        |                             |      | Specify the classification and characteristics of FORMATION OF A                                     |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | C07  | COMPANY, CAPITAL OF A COMPANY  |
| 5256 | DDA Dock along of Ducing on Advaication   | Dereas | Companya Frankrana          | 600  | Understand the characteristics of FORMATION OF A   |
| 5256 | BBA – Bachelor of Business Administration | BCEC3S | Corporate Environment       | CO8  | COMPANY, CAPITAL OF A COMPANY<br>Identify the classification and characteristics of BUSINESS ETHICS, |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO12 | PERSONAL ETHICS, ETHICS IN MANAGEMENT  |
| 5250 |   | DDLC33 |                             | 012  | Write down the details of BUSINESS ETHICS, PERSONAL ETHICS,  |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO13 | ETHICS IN MANAGEMENT   |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO6  | Understand in depth BUSINESS ETHICS  |
|      |   |        |                             |      | Understand the classification and characteristics of BUSINESS  |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO7  | ETHICS   |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO8  | Learn the details of PERSONAL ETHICS   |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO9  | Specify the characteristics of ETHICS IN MANAGEMENT  |
|      |   |        |                             |      | Learn in details with examples ROLE OF CORPORATE CULTURE IN  |
| 5256 | BBA – Bachelor of Business Administration | BBEC3S | Business Ethics             | CO10 | BUSINESS   |

| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO11 | Identify the details of CORPORATE GOVERNANCE                       |
|------|---|------------|---------------------------|------|--|
| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO3  | Write down the characteristics of personal ethics                  |
| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO4  | Learn in depth ethics in HRM                                       |
| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO5  | Learn the characteristics of ethics in marketing                   |
|      |   |            |                           |      | Write down the classification and characteristics of corporate     |
| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO2  | social responsibility  |
| 5256 | BBA – Bachelor of Business Administration   | BBEC3S     | Business Ethics           | CO1  | Learn the characteristics of corporate culture                     |
|      |   |            |                           |      | Write down the classification and characteristics of Deliberate in |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO6  | depth INTRODUCTION TO RESEARCH                                     |
| 5050 |   |            |                           |      |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO7  | Identify in details with examples METHODS OF DATA COLLECTION       |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO8  | Identify in depth TOOLS FOR COLLECTION OF DATA                     |
| 5250 | BBA – Bachelor of Busiliess Authinistration | BRIVIC43   |                           | 008  |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO9  | Identify the details of STATISTICAL METHODS                        |
| 0100 |   |            |                           |      |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO10 | Understand in details with examples REPORT WRITING                 |
|      |   |            |                           |      |  |
|      |   |            |                           |      | Learn in details with examples introduction to research, METHODS   |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO11 | OF DATA COLLECTION, TOOLS FOR COLLECTION OF DATA                   |
| 5356 |   |            |                           | co1  |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO1  | Deliberate in depth INTRODUCTION TO RESEARCH                       |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO2  | Understand the characteristics of METHODS OF DATA COLLECTION       |
| 5250 | bba bachelor of business Administration     | DRIVIC45   |                           | 02   |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO3  | Learn the characteristics of TOOLS FOR COLLECTION OF DATA          |
|      |   |            |                           |      | Write down the classification and characteristics of STATISTICAL   |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO4  | METHODS  |
|      |   |            |                           |      |  |
| 5256 | BBA – Bachelor of Business Administration   | BRMC4S     | Business Research Methods | CO5  | Learn the details of REPORT WRITING                                |
|      |   |            |                           |      | Deliberate the classification and characteristics of INTRODUCTION  |
|      |   |            |                           |      | TO MARKETING MANAGEMENT, MARKETING ENVIRONMENT,                    |
| 5256 | BBA – Bachelor of Business Administration   | BMMC4S     | Marketing Management      | CO6  | MARKETING MIX  |
| 5756 | BBA – Bachelor of Business Administration   | BMMC4S     | Marketing Management      | CO5  | Identify the details of CUSTOMER RELATIONSHIP MANAGEMENT           |
| 5250 |   | DIVIIVIC43 |                           | 005  |  |
| 5256 | BBA – Bachelor of Business Administration   | BMMC4S     | Marketing Management      | CO1  | Understand the characteristics of INTRODUCTION TO MARKETING        |
| 5250 |   |            |                           |      | Deliberate in details with application, if applicable, MARKETING   |
| 5256 | BBA – Bachelor of Business Administration   | BMMC4S     | Marketing Management      | CO2  | ENVIRONMENT (MACRO)  |

|      |   |                  |                       | -    |  |
|------|---|------------------|-----------------------|------|--|
| 5256 | BBA – Bachelor of Business Administration | BMMC4S           | Marketing Management  | соз  | Identify in details with application, if applicable, MARKETING MIX   |
|      |   |                  |                       |      | Deliberate the classification and characteristics of MARKET  |
| 5256 | BBA – Bachelor of Business Administration | BMMC4S           | Marketing Management  | CO4  | SEGMENTATION AND CONSUMER BEAHVIOUR  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO4  | Write down the details of DIVIDEND DECISONS  |
|      |   |                  |                       |      |  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO5  | Specify the characteristics of WORKING CAPITAL MANGEMENT   |
|      |   |                  |                       |      | Specify in details with examples INTRODUCTION TO FINANCIAL   |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO2  | MANAGEMENT   |
|      |   |                  |                       |      | Deliberate the classification and characteristics of TIME VALUE OF   |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO2  | MONEY  |
|      |   |                  |                       |      | Identify in details with application, if applicable, FINNACING   |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO3  | DECISIONS AND INVESTMENT DECISIONS   |
|      |   |                  |                       |      | Specify the classification and characteristics of INTRODUCTION TO  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO6  | FINANCIAL MANAGEMENT   |
|      |   |                  |                       |      | Write down in details with application, if applicable, TIME VALUE  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO7  | OF MONEY   |
|      |   |                  |                       |      | Specify in details with application, if applicable, FINNACING  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO8  | DECISIONS AND INVESTMENT DECISIONS   |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO9  | Write down in depth DIVIDEND DECISONS  |
|      |   |                  |                       |      |  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO10 | Identify the characteristics of WORKING CAPITAL MANGEMENT  |
|      |   |                  |                       |      | Understand the details of INTRODUCTION TO FINANCIAL  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO11 | MANAGEMENT, THE VALUE OF MONEY, DIVIDEND DECISION<br>Write down in details with examples INTRODUCTION TO             |
|      |   |                  |                       |      | FINANCIAL MANAGEMENT, THE VALUE OF MONEY, DIVIDEND   |
| 5250 | DDA Deskeler of Dusiness Administration   |                  | Financial Managament  | CO12 | · · · ·  |
| 5250 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO12 | DECISION   |
|      |   |                  |                       |      | Deliberate in details with examples INTRODUCTION TO FINANCIAL  |
| 5256 | BBA – Bachelor of Business Administration | BFMC4S           | Financial Management  | CO13 | MANAGEMENT, THE VALUE OF MONEY, DIVIDEND DECISION  |
|      | BBA – Bachelor of Business Administration | BIMC4S<br>BSMC4S | Services Management   | CO13 | Specify in details with examples SERVICES MARKETING  |
|      | BBA – Bachelor of Business Administration | BSMC4S           | Services Management   | CO2  | Learn in depth TOURISM AND HOSPITALITY SERVICES  |
|      |   |                  |                       |      |  |
| 5256 | BBA – Bachelor of Business Administration | BSMC4S           | Services Management   | CO1  | Specify in depth INTRODUCTION TO SERVICES MANAGEMENT<br>Identify in details with examples HEALTHCARE AND INFORMATION |
| 5350 | BBA – Bachelor of Business Administration | DEMACAS          | Sorvices Management   | CO5  |  |
| 5250 | DDA – Dachelor of Business Auministration | BSMC4S           | Services Management   | 05   | TECHNOLOGY ENABLED SERVICES<br>Write down the classification and characteristics of BANKING AND                      |
| 5256 | BBA – Bachelor of Business Administration | BSMC4S           | Services Management   | CO4  | INSURANCE SERVICES   |
| 5250 |   | DSIVIC43         | Banking Regulations & | 04   |  |
| 5256 | BBA – Bachelor of Business Administration | BREC4S           | OPERATIONS            | CO1  | Write down the characteristics of COMMERCIAL BANKS   |
| 5250 |   | DIVEC43          |                       | 01   |  |

|      |   |        | Banking Regulations &    |     | Specify the classification and characteristics of BANKER AND       |
|------|---|--------|--------------------------|-----|--|
| 5256 | BBA – Bachelor of Business Administration | BREC4S | OPERATIONS               | CO2 | CUSTOMER RELATIONSHIP  |
|      |   |        | Banking Regulations &    |     |  |
| 5256 | BBA – Bachelor of Business Administration | BREC4S | OPERATIONS               | CO3 | Deliberate in depth NEGOTIABLE INSTRUMENTS                         |
|      |   |        | Banking Regulations &    |     | Specify in details with application, if applicable, PAYING BANKER  |
| 5256 | BBA – Bachelor of Business Administration | BREC4S | OPERATIONS               | CO4 | AND COLLECTING BANKER  |
|      |   |        | Banking Regulations &    |     |  |
| 5256 | BBA – Bachelor of Business Administration | BREC4S | OPERATIONS               | CO5 | Learn the details of PRINCIPLES OF BANK LENDING                    |
|      |   |        |                          |     | Write down in details with examples INTRODUCTION TO COST           |
| 5256 | BBA – Bachelor of Business Administration | BCAC4S | Cost Accounting          | CO1 | ACCOUNTING   |
| 5256 | BBA – Bachelor of Business Administration | BCAC4S | Cost Accounting          | CO2 | Understand the details of MATERIAL COST CONTROL                    |
|      |   |        |                          |     | Learn the classification and characteristics of LABOUR COST        |
| 5256 | BBA – Bachelor of Business Administration | BCAC4S | Cost Accounting          | CO3 | CONTROL  |
|      |   |        |                          |     | Learn in details with application, if applicable, OVERHEAD COST    |
| 5256 | BBA – Bachelor of Business Administration | BCAC4S | Cost Accounting          | CO4 | CONTROL  |
|      |   |        |                          |     | Specify in details with application, if applicable, RECONCILIATION |
| 5256 | BBA – Bachelor of Business Administration | BCAC4S | Cost Accounting          | CO5 | OF COST AND FINANCIAL ACCOUNTS                                     |
|      |   |        | Entrepreneurial          |     |  |
| 5256 | BBA – Bachelor of Business Administration | BEMC5S | Management               | CO3 | Specify in details with examples STARTING A SMALL INDUSTRY         |
|      |   |        | Entrepreneurial          |     |  |
| 5256 | BBA – Bachelor of Business Administration | BEMC5S | Management               | CO4 | Learn the details of PREPARING THE BUSINESS PLAN                   |
|      |   |        | Entrepreneurial          |     | Specify in depth IMPLEMENTATION OF THE PROJECT AND                 |
| 5256 | BBA – Bachelor of Business Administration | BEMC5S | Management               | CO5 | SICKNESS IN SSIs   |
|      |   |        | Entrepreneurial          |     | Write down the classification and characteristics of               |
| 5256 | BBA – Bachelor of Business Administration | BEMC5S | Management               | CO1 | entrepreneurship   |
|      |   |        | Entrepreneurial          |     | Identify the classification and characteristics of Small scale     |
| 5256 | BBA – Bachelor of Business Administration | BEMC5S | Management               | CO2 | Industries   |
|      |   |        | Computer Applications in |     |  |
| 5256 | BBA – Bachelor of Business Administration | BCAC5S | Business                 | CO1 | Specify the details of INTRODUCTION TO INFORMATION SYSTEM          |
|      |   |        | Computer Applications in |     |  |
| 5256 | BBA – Bachelor of Business Administration | BCAC5S | Business                 | CO2 | Identify in depth TYPES OF INFORMATION SYSTEMSON SYSTEM            |
|      |   |        | Computer Applications in |     |  |
| 5256 | BBA – Bachelor of Business Administration | BCAC5S | Business                 | CO3 | Write down in details with examples MS OFFICE                      |
|      |   |        | Computer Applications in |     | Write down in details with examples DATABASE MANAGEMENT            |
| 5256 | BBA – Bachelor of Business Administration | BCAC5S | Business                 | CO4 | SYSTEMS  |
|      |   |        | Computer Applications in |     |  |
| 5256 | BBA – Bachelor of Business Administration | BCAC5S | Business                 | CO5 | Write down in depth ACCOUNTING SOFTWARE                            |
|      |   |        |                          |     | Specify the classification and characteristics of Introduction     |
| 5256 | BBA – Bachelor of Business Administration | BNMC5S | Investment Management    | CO1 | Investment Management  |

| 5256 | BBA – Bachelor of Business Administration   | BNMC5S   | Investment Management                       | CO2 | Understand the details of Securities Analysis                        |
|------|---|----------|---|-----|--|
| 5256 | BBA – Bachelor of Business Administration   | BNMC5S   | Investment Management                       | CO3 | Identify the characteristics of Portfolio Management                 |
| 5256 | BBA – Bachelor of Business Administration   | BNMC5S   | Investment Management                       | CO4 | Understand in depth Portfolio Management Strategies                  |
| 5256 | BBA – Bachelor of Business Administration   | BNMC5S   | Investment Management                       | CO5 | Specify the details of Mutual Funds                                  |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting                       | CO4 | Specify in depth cash flow statement                                 |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting                       | CO5 | Break even analysis and profit volume ratio                          |
|      |   |          | 0 0   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting                       | CO6 | Understand the classification and characteristics of budeting        |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting                       | CO1 | Identify in depth Introduction of management accounting              |
|      |   |          |   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting                       | CO2 | Understand the classification and characteristics of Ratio analysis  |
| 5356 |   |          |   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | BMAC5S   | Management Accounting<br>Advanced Financial | CO3 | Learn the classification and characteristics of funds flow statement |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO1 | Deliberate in depth Investment Decisions and Risk analysis           |
| 5250 | BBA - Bachelor of Business Authinistration  | AI WC55  | Advanced Financial                          | 01  |  |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO2 | Learn the characteristics of Cost of Capital                         |
|      |   |          | Advanced Financial                          |     |  |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO3 | Specify the characteristics of Capital Structure Theories            |
|      |   |          | Advanced Financial                          |     |  |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO4 | Understand the details of Dividend Theories                          |
|      |   |          | Advanced Financial                          |     | Understand the classification and characteristics of Planning and    |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO5 | Forecasting Working Capital  |
|      |   |          | Advanced Financial                          |     |  |
| 5256 | BBA – Bachelor of Business Administration   | AFMC5S   | Management                                  | CO6 | Learn the classification and characteristics of Corporate Valuation  |
| 5256 | BBA – Bachelor of Business Administration   | FMSC5S   | Financial Markets & Services                | CO1 | Understand the characteristics of FINANCIAL MARKETS                  |
| 5250 | BBA - Bachelor of Busiliess Authinistration | 11013033 |   | 01  | Learn in details with application, if applicable, NON-BANKING        |
| 5256 | BBA – Bachelor of Business Administration   | FMSC5S   | Financial Markets & Services                | CO2 | FINANCIAL INTERMEDIARIES   |
|      |   |          |   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | FMSC5S   | Financial Markets & Services                | CO3 | Specify the characteristics of SEBI                                  |
|      |   |          |   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | FMSC5S   | Financial Markets & Services                | CO4 | Specify in details with application, if applicable, MUTUAL FUNDS     |
|      |   |          |   |     |  |
| 5256 | BBA – Bachelor of Business Administration   | FMSC5S   | Financial Markets & Services                | CO5 | Deliberate in depth RECENT TRENDS IN FINANCIAL SERVICES              |
| 5756 | BBA – Bachelor of Business Administration   | MCBC5S   | Consumer Behavior                           | CO1 | Identify the classification and characteristics of INTRODUCTION      |
| 5250 | DDA – Dachelor of Business Authinistration  | IVICBCSS |   | 01  |  |

|      |   |        |                           |     | Specify the characteristics of INTRODUCTIONINDIVIDUAL                  |
|------|---|--------|---------------------------|-----|--|
| 5256 | BBA – Bachelor of Business Administration | MCBC5S | Consumer Behavior         | CO2 | DETERMINANTS OF CONSUMER BEHAVIOUR                                     |
|      |   |        |                           |     | Learn the characteristics of ENVIRONMENTAL DETERMINANTS OF             |
| 5256 | BBA – Bachelor of Business Administration | MCBC5S | Consumer Behavior         | CO3 | CONSUMER BEHAVIOUR   |
|      |   |        |                           |     | Learn the classification and characteristics of CONSUMER'S             |
| 5256 | BBA – Bachelor of Business Administration | MCBC5S | Consumer Behavior         | CO4 | DECISION MAKING PROCESS  |
|      |   |        |                           |     | Write down the characteristics of CONSUMER SATISFACTION &              |
| 5256 | BBA – Bachelor of Business Administration | MCBC5S | Consumer Behavior         | CO5 | CONSUMERISM  |
|      |   |        | Advertising & Media       |     | Write down the classification and characteristics of Introduction      |
| 5256 | BBA – Bachelor of Business Administration | AMMC5S | Management                | CO1 | and Basic Concepts   |
|      |   |        | Advertising & Media       |     |  |
| 5256 | BBA – Bachelor of Business Administration | AMMC5S | Management                | CO2 | Identify the characteristics of Advertising and Campaign Planning      |
|      |   |        | Advertising & Media       |     |  |
| 5256 | BBA – Bachelor of Business Administration | AMMC5S | Management                | CO3 | Learn the details of Creative Strategy & Advertising Budget            |
|      |   |        | Advertising & Media       |     |  |
| 5256 | BBA – Bachelor of Business Administration | AMMC5S | Management                | CO4 | Deliberate in depth Advertising Media Strategy                         |
|      |   |        | Advertising & Media       |     | Learn in details with examples Advertising Effectiveness &             |
| 5256 | BBA – Bachelor of Business Administration | AMMC5S | Management                | CO5 | Organising Advertisement Functions                                     |
|      |   |        | Employee Welfare & Social |     |  |
| 5256 | BBA – Bachelor of Business Administration | EWEC5S | Security                  | CO2 | Understand in details with examples indian labour organization         |
|      |   |        | Employee Welfare & Social |     |  |
| 5256 | BBA – Bachelor of Business Administration | EWEC5S | Security                  | CO1 | Deliberate the details of social and labour welfare                    |
|      |   |        | Employee Welfare & Social |     |  |
| 5256 | BBA – Bachelor of Business Administration | EWEC5S | Security                  | CO5 | Specify the classification and characteristics of ESI Schmes           |
|      |   |        | Employee Welfare & Social |     | Understand the classification and characteristics of labour            |
| 5256 | BBA – Bachelor of Business Administration | EWEC5S | Security                  | CO4 | administration   |
|      |   |        | Employee Welfare & Social |     |  |
| 5256 | BBA – Bachelor of Business Administration | EWEC5S | Security                  | CO3 | Deliberate in details with application, if applicable, social security |
|      |   |        |                           |     | Deliberate in details with application, if applicable, INTRODUCTION    |
| 5256 | BBA – Bachelor of Business Administration | HRMC5S | Strategic HRM             | CO1 | TO STRATEGIC HRM   |
|      |   |        |                           |     | Write down in details with application, if applicable, INVESTMENT      |
| 5256 | BBA – Bachelor of Business Administration | HRMC5S | Strategic HRM             | CO2 | PERSPECTIVES OF HR   |
|      |   |        |                           |     | Deliberate in details with application, if applicable, MANAGING        |
| 5256 | BBA – Bachelor of Business Administration | HRMC5S | Strategic HRM             | CO3 | STRATEGIC ORGANIZATION   |
|      |   |        |                           |     | Understand in details with examples ESTABLISHING STRATEGIC             |
| 5256 | BBA – Bachelor of Business Administration | HRMC5S | Strategic HRM             | CO4 | PLANS  |
| 5256 | BBA – Bachelor of Business Administration | HRMC5S | Strategic HRM             | CO5 | Understand the characteristics of GLOBAL HRM                           |
|      |   |        |                           |     | Learn in details with examples INTRODUCTION TO INTERNATIONAL           |
| 5256 | BBA – Bachelor of Business Administration | BNBC6S | International Business    | CO1 | BUSINESS   |

|      |   |        |                                    |     | Specify in details with examples MODES OF ENTRY INTO  |
|------|---|--------|------------------------------------|-----|---|
| 5256 | BBA – Bachelor of Business Administration | BNBC6S | International Business             | CO2 | INTERNATIONAL BUSINESS  |
| 5256 | BBA – Bachelor of Business Administration | BNBC6S | International Business             | CO3 | Write down in depth GLOBALIZATION   |
| 5256 | BBA – Bachelor of Business Administration | BNBC6S | International Business             | CO4 | Specify in depth INTERNATIONAL MARKETING INTELLIGENCE   |
| 5256 | BBA – Bachelor of Business Administration | BNBC6S | International Business             | CO5 | Identify the characteristics of EXIM TRADE  |
| 5256 | BBA – Bachelor of Business Administration | BEBC6S | E-Business                         | CO1 | Write down in details with application, if applicable, E-commerce                                   |
| 5256 | BBA – Bachelor of Business Administration | BEBC6S | E-Business                         | CO2 | Understand the classification and characteristics of Security for E-<br>business                    |
| 5256 | BBA – Bachelor of Business Administration | BEBC6S | E-Business                         | CO3 | Understand in details with examples E-payments  |
| 5256 | BBA – Bachelor of Business Administration | BEBC6S | E-Business                         | CO4 | Understand in depth E-Business Marketing Technologies   |
| 5256 | BBA – Bachelor of Business Administration | BEBC6S | E-Business                         | CO5 | Specify the characteristics of Cyber Laws   |
| 5256 | BBA – Bachelor of Business Administration | BNTC6S | Income Tax                         | CO1 | Understand in details with examples INTRODUCTION TO INCOME TAX                                      |
| 5256 | BBA – Bachelor of Business Administration | BNTC6S | Income Tax                         | CO2 | Understand the characteristics of INCOME FROM SALARY  |
| 5256 | BBA – Bachelor of Business Administration | BNTC6S | Income Tax                         | CO3 | Deliberate the classification and characteristics of INCOME FROM<br>HOUSE PROPERTY                  |
| 5256 | BBA – Bachelor of Business Administration | BNTC6S | Income Tax                         | CO4 | Specify the classification and characteristics of PROFITS AND GAINS<br>FROM BUSINESS AND PROFESSION |
| 5256 | BBA – Bachelor of Business Administration | BNTC6S | Income Tax                         | CO5 | Identify in details with application, if applicable, COMPUTATATION<br>OF TOTAL INCOME               |
| 5256 | BBA – Bachelor of Business Administration | BSMC6S | Strategic Management Or<br>Project | CO1 | Deliberate in details with application, if applicable, INTRODUCTION TO STRATEGIC MANAGEMENT         |
| 5256 | BBA – Bachelor of Business Administration | BSMC6S | Strategic Management Or<br>Project | CO2 | Understand in depth ENVIRONMENTAL APPRAISAL   |
| 5256 | BBA – Bachelor of Business Administration | BSMC6S | Strategic Management Or<br>Project | CO3 | Understand the classification and characteristics of STRATEGIC PLANNING                             |
| 5256 | BBA – Bachelor of Business Administration | BSMC6S | Strategic Management Or<br>Project | CO4 | Learn the classification and characteristics of IMPLEMENTATION<br>OF STRATEGY                       |
| 5256 | BBA – Bachelor of Business Administration | BSMC6S | Strategic Management Or<br>Project | CO5 | Identify the classification and characteristics of STRATEGY<br>EVALUATION                           |
| 5256 | BBA – Bachelor of Business Administration | BNFC6S | International Finance              | CO1 | Deliberate the classification and characteristics of INTRODUCTION<br>TO INTERNATIONAL FINANCE       |
| 5256 | BBA – Bachelor of Business Administration | BNFC6S | International Finance              | CO2 | Specify the classification and characteristics of FOREIGN<br>EXCHANGE AND BALANCE OF PAYMENTS       |
| 5256 | BBA – Bachelor of Business Administration | BNFC6S | International Finance              | CO3 | Understand in depth INSTRUMENTS IN INTERNATIONAL FINANCIAL<br>MARKETS                               |

|      |   |          |                         |     | Identify the classification and characteristics of FOREIGN          |
|------|---|----------|-------------------------|-----|---|
| 5256 | BBA – Bachelor of Business Administration | BNFC6S   | International Finance   | CO4 | EXCHANGE RISK   |
|      |   |          |                         |     | Specify the classification and characteristics of INTERNATIONAL     |
| 5256 | BBA – Bachelor of Business Administration | BNFC6S   | International Finance   | CO5 | FINANCIAL INSTITUTIONS AND LIQUIDITY                                |
|      |   |          | Stock and Commodity     |     | Understand the details of AN OVERVIEW OF CAPITAL AND                |
| 5256 | BBA – Bachelor of Business Administration | BSCC6S   | Markets                 | CO1 | COMMODITY MARKETS:  |
|      |   |          | Stock and Commodity     |     |   |
| 5256 | BBA – Bachelor of Business Administration | BSCC6S   | Markets                 | CO2 | Learn in details with examples STOCK MARKET                         |
|      |   |          | Stock and Commodity     |     | Identify the classification and characteristics of TRADING IN STOCK |
| 5256 | BBA – Bachelor of Business Administration | BSCC6S   | Markets                 | CO3 | MARKET:   |
|      |   |          | Stock and Commodity     |     |   |
| 5256 | BBA – Bachelor of Business Administration | BSCC6S   | Markets                 | CO4 | Identify in details with examples COMMODITY MARKET                  |
|      |   |          | Stock and Commodity     |     | Deliberate the characteristics of TRADING IN COMMODITY              |
| 5256 | BBA – Bachelor of Business Administration | BSCC6S   | Markets                 | CO5 | MARKETS   |
| 5256 | BBA – Bachelor of Business Administration | BBMC6S   | Brand Management        | CO1 | Identify the characteristics of PRODUCT MANAGEMENT                  |
|      |   |          |                         |     | Specify the classification and characteristics of PRODUCT           |
| 5256 | BBA – Bachelor of Business Administration | BBMC6S   | Brand Management        | CO2 | DEVELOPMENT   |
| 5256 | BBA – Bachelor of Business Administration | BBMC6S   | Brand Management        | СОЗ | Write down in depth MARKET POTENTIAL & SALES FORECASTING            |
| 5250 | BBA - Bachelor of Business Auministration | BBIVICOS |                         | 003 | Write down the classification and characteristics of BRAND          |
| 5256 | BBA – Bachelor of Business Administration | BBMC6S   | Brand Management        | CO4 | MANAGEMENT  |
|      |   |          |                         |     | Identify the classification and characteristics of BRAND            |
| 5256 | BBA – Bachelor of Business Administration | BBMC6S   | Brand Management        | CO5 | LEVERAGING AND BRAND PERFORMANCE                                    |
| 5256 | BBA – Bachelor of Business Administration | BRMC6S   | Retail Management       | CO1 | Identify the characteristics of INTRODUCTION TO RETAILING           |
| 5256 | BBA – Bachelor of Business Administration | BRMC6S   | Retail Management       | CO2 | Specify the characteristics of RETAIL CONSUMER BEHAVIOUR            |
| 0100 |   |          |                         |     | Specify in details with application, if applicable, RETAIL          |
| 5256 | BBA – Bachelor of Business Administration | BRMC6S   | Retail Management       | соз | OPERATIONS  |
|      | BBA – Bachelor of Business Administration | BRMC6S   | Retail Management       | CO4 | Specify the details of RETAIL MARKETING MIX                         |
| 0100 |   |          |                         |     | Learn in details with application, if applicable, IMPACT OF IT IN   |
| 5256 | BBA – Bachelor of Business Administration | BRMC6S   | Retail Management       | CO5 | RETAILING   |
| 0100 |   |          | Organizational Change & |     |   |
| 5256 | BBA – Bachelor of Business Administration | BCDC6S   | Development             | CO1 | Specify in depth CHANGE MANAGEMENT                                  |
|      |   |          | Organizational Change & |     | Understand in details with application, if applicable,              |
| 5256 | BBA – Bachelor of Business Administration | BCDC6S   | Development             | CO2 | ORGANIZATION EFFECTIVENESS  |
|      |   |          | Organizational Change & |     | Understand the characteristics of ORGANIZATIONAL                    |
| 5256 | BBA – Bachelor of Business Administration | BCDC6S   | Development             | CO3 | DEVELOPMENT   |
| -    |   |          | Organizational Change & |     |   |
| EDEE | BBA – Bachelor of Business Administration | BCDC6S   | Development             | CO4 | Identify the details of OD INTERVENTIONS                            |

|      |   |        | Organizational Change &                          |     |  |
|------|---|--------|--|-----|--|
| 5256 | BBA – Bachelor of Business Administration | BCDC6S | Development                                      | CO5 | Identify the details of CREATIVITY & INNOVATION  |
|      |   |        |  |     | Learn in details with application, if applicable, JOB EVALUATION   |
| 5256 | BBA – Bachelor of Business Administration | BCMC6S | Compensation Management                          | CO1 | AND PERFORMANCE APPRAISAL  |
| 5256 | BBA – Bachelor of Business Administration | BCMC6S | Compensation Management                          | CO2 | Write down the characteristics of COMPENSATION MANAGEMENT  |
| 5256 | BBA – Bachelor of Business Administration | BCMC6S | Compensation Management                          | СОЗ | Write down the details of WAGE AND SALARY ADMINISTRATION   |
| 5256 | BBA – Bachelor of Business Administration | BCMC6S | Compensation Management                          | CO4 | Understand in details with application, if applicable, REWARDS<br>AND INCENTIVES   |
| 5256 | BBA – Bachelor of Business Administration | BCMC6S | Compensation Management                          | CO5 | Learn the characteristics of REGULATORY BODIES FOR<br>COMPENSATION MANAGEMENT  |
| 5257 | MBA – Master of Business Administration   | 1.2    | Managerial Accounting                            | CO2 | Identify the details of Financial statement  |
| 5257 | MBA – Master of Business Administration   |        | Managerial Accounting                            | CO1 |  |
|      | MBA – Master of Business Administration   |        | Business Statistics                              | CO1 | Students will acheive statistical literacy and the importance of analytical in business  |
| 5257 | MBA – Master of Business Administration   | 1.5    | Business Statistics                              | CO2 | Students can workout fairly advanced level of problems related to correlation and regression   |
| 5257 | MBA – Master of Business Administration   | 1.5    | Business Statistics                              | соз | Students will be able to conduct field work by setting hypothesis<br>and proving and disproving through parametric and non<br>parametric tests |
| 5257 | MBA – Master of Business Administration   | 1.5    | Business Statistics                              | CO4 | Students will appreciate the importance of decision theories and probability in the real time situations                                       |
| 5257 | MBA – Master of Business Administration   |        | Business planning and<br>Regulations             | CO1 | Learn the classification and characteristics of business plan  |
| 5257 | MBA – Master of Business Administration   | 2.6    | Production and Operations<br>Research            | 1   | The emphasis will be on the concepts and application rather than derivations.  |
| 5257 | MBA – Master of Business Administration   | 2.6    | Production and Operations<br>Research            | 2   | The students acquire quantitative tools, and use these tools for the analysis and solution of business problems.                               |
| 5257 | MBA – Master of Business Administration   |        | Strategic Management and<br>Corporate Governance | 3.1 |  |
| 5257 | MBA – Master of Business Administration   |        | Strategic Management and<br>Corporate Governance | 0.1 | This course will equip students with required skills of managerial decisions and actions   |
| 5257 | MBA – Master of Business Administration   | 3.4    | Corporate Tax Planning nd<br>Management          | CO1 | Understand in details with examples Assessment of Corporate<br>Assessees   |
| 5257 | MBA – Master of Business Administration   | 3.4    | Corporate Tax Planning nd<br>Management          | CO2 | Learn in depth Tax Planning and Management   |

|      |   |         | Corporate Tax Planning nd |      |  |
|------|---|---------|---------------------------|------|--|
| 5257 | MBA – Master of Business Administration | 3.4     | Management                | CO3  | Identify in details with application, if applicable, Customs Duty      |
|      |   |         | Corporate Tax Planning nd |      | Identify in details with application, if applicable, Goods and Service |
| 5257 | MBA – Master of Business Administration | 3.4     | Management                | CO4  | Tax- Framework and Definitions   |
|      |   |         | Corporate Tax Planning nd |      | Specify the classification and characteristics of Valuation for GST    |
| 5257 | MBA – Master of Business Administration | 3.4     | Management                | CO5  | and Computation of GST Liabilities                                     |
|      |   |         | Corporate Tax Planning nd |      |  |
| 5257 | MBA – Master of Business Administration | 3.4     | Management                | CO6  | Understand in depth GST Procedures                                     |
|      |   |         |                           |      | Understand in details with application, if applicable, HIRE            |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO3  | PURCHASE ACCOUNTING  |
|      |   |         |                           |      |  |
|      | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO4  | Identify in details with examples DEPARTMENTAL ACCOUNTS                |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO5  | Learn in details with examples BRANCH ACCOUNTS                         |
|      |   |         |                           |      | Write down in details with application, if applicable, THEORETICAL     |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO1  | FRAMEWORK OF FINANCIAL ACCOUNTING                                      |
|      |   |         |                           |      | Deliberate in details with examples CONVERSION OF SINGLE ENTRY         |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO2  | INTO DOUBLE ENTRY SYSTEM   |
|      |   |         |                           |      | Identify the characteristics of CONVERSION OF PARTNERSHIP FIRM         |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO10 | INTO A LIMITED COMPANY   |
|      |   |         |                           |      | Identify the characteristics of CONVERSION OF SINGLE ENTRY INTO        |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO9  | DOUBLE ENTRY SYSTEM  |
|      |   |         |                           |      | Understand in details with application, if applicable,                 |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO6  | INTRODUCTION TO FINANCIAL ACCOUNTING                                   |
|      |   |         |                           |      | Deliberate the characteristics of HIRE PURCHASE AND                    |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO7  | INSTALMENT SYSTEM  |
|      |   |         |                           |      | Write down the classification and characteristics of ROYALTY           |
| 5260 | B.COM                                   | CC11N1  | FINANCIAL ACCOUNTING      | CO8  | ACCOUNTS   |
|      |   |         | INDIAN FINANCIAL          |      |  |
| 5000 |   | 0044110 | INSTITUTIONS AND          |      |  |
| 5260 | B.COM                                   | CC11N2  | MARKETS                   | CO1  | Deliberate in depth BASICS OF INDIAN FINANCIAL SYSTEM                  |
|      |   |         | INDIAN FINANCIAL          |      |  |
| 5000 |   | 6611112 | INSTITUTIONS AND          | 600  | Learn in details with application, if applicable, BANKING              |
| 5260 | B.COM                                   | CC11N2  | MARKETS                   | CO2  | INSTITUTIONS   |
|      |   |         | INDIAN FINANCIAL          |      |  |
| 5260 | B.COM                                   | CC11N2  |                           | СОЗ  | Deliberate the characteristics of RECLUATORY INSTITUTIONS              |
| 5260 | D.CUIVI                                 | CC11N2  | MARKETS                   | 03   | Deliberate the characteristics of REGULATORY INSTITUTIONS              |
|      |   |         | INSTITUTIONS AND          |      | Learn in details with application, if applicable, NON-BANKING          |
| 5260 | B.COM                                   | CC11N2  | MARKETS                   | CO4  | FINANCIAL INSTITUTIONS   |
| 5260 |   |         | IVIARIEIS                 | CU4  |  |

|      |       |        | INDIAN FINANCIAL      |     |  |
|------|-------|--------|-----------------------|-----|--|
|      |       |        | INSTITUTIONS AND      |     |  |
| 5260 | B.COM | CC11N2 | MARKETS               | CO5 | Identify in depth FINANCIAL MARKETS                              |
|      |       |        | BUSINESS DINAMICS AND |     | Learn the classification and characteristics of introduction to  |
| 5260 | B.COM | CC11N3 | ENTREPRENEURSHIP      | CO1 | management   |
|      |       |        | BUSINESS DINAMICS AND |     | Specify in details with application, if applicable, managerial   |
| 5260 | B.COM | CC11N3 | ENTREPRENEURSHIP      | CO2 | functions  |
|      |       |        | BUSINESS DINAMICS AND |     |  |
| 5260 | B.COM | CC11N3 | ENTREPRENEURSHIP      | CO3 | Understand the characteristics of human resource management      |
|      |       |        | BUSINESS DINAMICS AND |     |  |
| 5260 | B.COM | CC11N3 | ENTREPRENEURSHIP      | CO4 | Identify in depth introduction to entrepreneurship               |
|      |       |        | BUSINESS DINAMICS AND |     | Identify in details with examples government support for         |
| 5260 | B.COM | CC11N3 | ENTREPRENEURSHIP      | CO5 | entrepreneurship   |
|      |       |        | CORPORATE STRUCTURE   |     | Identify the details of Unit 1: FORMATION OF A JOINT STOCK       |
| 5260 | B.COM | CC11N4 | AND ADMINISTRATION    | CO1 | COMPANY  |
|      |       |        | CORPORATE STRUCTURE   |     |  |
| 5260 | B.COM | CC11N4 | AND ADMINISTRATION    | CO2 | Understand in depth Unit 2: CAPITAL OF A COMPANY                 |
|      |       |        | CORPORATE STRUCTURE   |     |  |
| 5260 | B.COM | CC11N4 | AND ADMINISTRATION    | CO3 | Deliberate the details of Unit 3: ADMINISTRATION OF A COMPANY    |
|      |       |        | CORPORATE STRUCTURE   |     |  |
| 5260 | B.COM | CC11N4 | AND ADMINISTRATION    | CO4 | Understand the details of Unit 4: CORPORATE MEETINGS             |
|      |       |        | CORPORATE STRUCTURE   |     | Identify the details of Unit 5: STRUCTURE AND ADMINISTRATION     |
| 5260 | B.COM | CC11N4 | AND ADMINISTRATION    | CO5 | OF GLOBAL COMPANIES  |
|      |       |        | ADVANCED FINANCIAL    |     |  |
| 5260 | B.COM | CC22N1 | ACCOUNTING            | CO2 | UNIT 2 Details with practical sums of CONSIGNMENT ACCOUNTS       |
|      |       |        | ADVANCED FINANCIAL    |     |  |
| 5260 | B.COM | CC22N1 | ACCOUNTING            | CO3 | UNIT 3 practical sums on JOINT VENTURES                          |
|      |       |        | ADVANCED FINANCIAL    |     |  |
| 5260 | B.COM | CC22N1 | ACCOUNTING            | CO4 | UNIT 4 practical sums on BRANCH ACCOUNTS                         |
|      |       |        | ADVANCED FINANCIAL    |     |  |
| 5260 | B.COM | CC22N1 | ACCOUNTING            | CO5 | UNIT 5 practical sums on DEPARTMENTAL ACCOUNTS                   |
|      |       |        | ADVANCED FINANCIAL    |     | UNIT 1 Details with examples of INSURANCE CLAIMS (PRACTICAL      |
| 5260 | B.COM | CC22N1 | ACCOUNTING            | CO1 | SUMS)  |
|      |       |        |                       |     | UNIT 1 to understand the concepts of INTRODUCTION TO RETAIL      |
| 5260 | B.COM | CC22N2 | RETAIL MGT            | CO1 | BUSINESS   |
|      |       |        |                       |     | UNIT 2 to understand the details of consumer behaviour in retial |
| 5260 | B.COM | CC22N2 | RETAIL MGT            | CO2 | business   |
| 5260 | B.COM | CC22N2 | RETAIL MGT            | CO3 | UNIT 3 to understand the details of RETAIL OPEARTIONS            |
|      | B.COM | CC22N2 | RETAIL MGT            | CO4 | UNIT 4 to understand the elements of MARKETING MIX               |

| 5260 B.COM  | CC22N2 | RETAIL MGT           | CO5 | UNIT 5 to understand the IMPACT OF IT IN RETAILING                  |
|-------------|--------|----------------------|-----|---|
|             |        | BANKING LAW &        |     |   |
| 5260 B.COM  | CC22N3 | OPERATIONS           | CO2 | collecting banker   |
|             |        | BANKING LAW &        |     |   |
| 5260 B.COM  | CC22N3 | OPERATIONS           | CO4 | Write down in depth lending operations                              |
|             |        | BANKING LAW &        |     |   |
| 5260 B.COM  | CC22N3 | OPERATIONS           | CO5 | Identify in depth banking innovations                               |
|             |        | BANKING LAW &        |     |   |
| 5260 B.COM  | CC22N3 | OPERATIONS           | CO3 | Write down in depth paying banker                                   |
|             |        | BANKING LAW &        |     | Write down in details with application, if applicable, banking and  |
| 5260 B.COM  | CC22N3 | OPERATIONS           | CO1 | customer relation   |
| 5260 B.COM  | CC22N4 | Q.A.B.D              | CO1 | Specify the characteristics of INTRODUCTION TO STATISTICS           |
| 5260 B.COM  | CC22N4 | Q.A.B.D              | CO2 | Identify the details of CLASSIFICATION AND TABULATION OF DATA       |
|             |        |                      |     | Write down in details with application, if applicable, MEASURES OF  |
| 5260 B.COM  | CC22N4 | Q.A.B.D              | СОЗ | CENTRAL TENDENCY  |
|             |        |                      |     |   |
| 5260 B.COM  | CC22N4 | Q.A.B.D              | CO4 | Write down in depth MEASURES OF DISPERSION AND SKEWNESS             |
|             |        |                      |     |   |
| 5260 B.COM  | CC22N4 | Q.A.B.D              | CO5 | Specify in details with application, if applicable, INDEX NUMBERS   |
| 5260 B.COM  | ENG3C3 | Genreal English      | CO3 | Specify in details with examples PROSE                              |
| 5260 B.COM  | ENG3C3 | Genreal English      | CO4 | Learn in details with examples PROSE                                |
| 5260 B.COM  | ENG3C3 | Genreal English      | CO1 | Identify the details of Business letters                            |
| 5260 B.COM  | ENG3C3 | Genreal English      | CO2 | Identify the classification and characteristics of Business letters |
| 5260 B.COM  | CC13N1 | CORPORATE ACCOUNTING | CO1 | Learn in details with examples UNDERWRITING OF SHARES               |
|             |        |                      |     |   |
| 5260 B.COM  | CC13N1 | CORPORATE ACCOUNTING | CO2 | Specify in depth PROFIT PRIOR TO INCORPORATION                      |
| 5360 0 6014 | CC12N4 |                      | 602 | Learn the classification and characteristics of VALUATION OF        |
| 5260 B.COM  | CC13N1 | CORPORATE ACCOUNTING | CO3 | GOODWILL  |
| 5260 B.COM  | CC13N1 | CORPORATE ACCOUNTING | CO4 | Identify the characteristics of VALUATION OF SHARES                 |
| 5260 B.COM  | CC13N1 | CORPORATE ACCOUNTING | CO5 | Learn in depth COMPANY FINAL ACCOUNTS                               |
|             |        |                      |     | Learn the classification and characteristics of introduction to     |
| 5260 B.COM  | CC13N3 | BUSINESS ETHICS      | CO1 | business ethics   |
| 5260 B.COM  | CC13N3 | BUSINESS ETHICS      | CO2 | Understand the details of personal ethics                           |
|             |        |                      |     | Identify in details with application, if applicable, ethics in      |
| 5260 B.COM  | CC13N3 | BUSINESS ETHICS      | CO3 | management  |
| 5260 B.COM  | CC13N3 | BUSINESS ETHICS      | CO4 | Identify the details of role of corporate culture in business       |

|      |       |         |                                    |     | Learn in details with application, if applicable, corporate                         |
|------|-------|---------|------------------------------------|-----|---|
| 5260 | B.COM | CC13N3  | BUSINESS ETHICS                    | CO5 | governance  |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO1 | Specify in depth INTRODUCTION FINANCIAL MANAGEMENT                                  |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO2 | Deliberate in depth TIME VALUE OF MONEY   |
|      |       |         |                                    |     | Write down in details with examples INVESTMENT & DIVIDEND                           |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO3 | DECISION  |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO4 | Write down in depth FINANCING DECISION  |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO5 | Deliberate in details with examples FINANCING DECISION                              |
| 5260 | B.COM | CC13N2  | FINANCIAL MGT                      | CO6 | Write down in depth WORKING CAPITAL MANAGEMENT                                      |
|      |       |         |                                    |     | Write down the characteristics of UNIT 1 : CORRELATION AND                          |
| 5260 | B.COM | CC13N4  | QABD-II                            | CO1 | REGRESSION ANALYSIS   |
|      |       |         |                                    |     | Identify in details with application, if applicable, UNIT 2 : TIME                  |
| 5260 | B.COM | CC13N4  | QABD-II                            | CO2 | SERIES  |
|      |       |         |                                    |     | Identify the characteristics of UNIT 3 : INTERPOLATION AND                          |
| 5260 | B.COM | CC13N4  | QABD-II                            | CO3 | EXTRAPOLATION   |
|      |       |         |                                    |     | Understand the characteristics of UNIT 4 : SAMPLING AND                             |
| 5260 | B.COM | CC13N4  | QABD-II                            | CO4 | SAMPLING DISTRIBUTION   |
|      |       |         |                                    |     | Identify in details with application, if applicable, UNIT 5 :                       |
| 5260 | B.COM | CC13N4  | QABD-II                            | CO5 | PROBABILITY   |
|      |       |         | PUBLIC RELATION &                  |     |   |
| 5969 |       | 0040045 | CORPORATE                          |     | Identify in details with application, if applicable, UNIT 1 ATTITUDE                |
| 5260 | B.COM | CC13N5  | COMMUNICATION                      | CO1 | AND EMOTIONAL INTELLIGENCE  |
|      |       |         | PUBLIC RELATION &<br>CORPORATE     |     |   |
| 5260 | B.COM | 0012015 |                                    | CO2 | Identify in details with examples UNIT 2 VISION GOAL SETTING<br>AND TIME MANAGEMENT |
| 5260 | B.COM | CC13N5  | COMMUNICATION<br>PUBLIC RELATION & | 02  |   |
|      |       |         | CORPORATE                          |     |   |
| 5260 | B.COM | CC13N5  | COMMUNICATION                      | CO3 | Specify the details of UNIT 3 CREATIVITY  |
| 5200 |       |         | PUBLIC RELATION &                  | 000 |   |
|      |       |         | CORPORATE                          |     |   |
| 5260 | B.COM | CC13N5  | COMMUNICATION                      | CO4 | Identify in details with examples UNIT 4 COMMUNICATION SKILLS                       |
|      |       |         | PUBLIC RELATION &                  |     |   |
|      |       |         | CORPORATE                          |     |   |
| 5260 | B.COM | CC13N5  | COMMUNICATION                      | CO5 | Write down in details with examples UNIT 5 CAREER PLANNING                          |
|      |       |         | ADVANCED CORPORATE                 |     | Learn the classification and characteristics of REDEMPTION OF                       |
| 5260 | B.COM | CC14N1  | ACCOUNTING                         | CO1 | PREFERENCE SHARES   |
|      |       |         | ADVANCED CORPORATE                 |     | Specify the characteristics of MERGERS AND ACQUISITION OF                           |
| 5260 | B.COM | CC14N1  | ACCOUNTING                         | CO2 | COMPANIES   |

|      |       |        | ADVANCED CORPORATE      |     |   |
|------|-------|--------|-------------------------|-----|---|
| 5260 | B.COM | CC14N1 | ACCOUNTING              | CO3 | Learn in details with examples INTERNAL RECONSTRUCTION            |
|      |       |        | ADVANCED CORPORATE      |     |   |
| 5260 | B.COM | CC14N1 | ACCOUNTING              | CO4 | Identify in details with examples LIQUIDATION OF COMPANIES        |
|      |       |        | ADVANCED CORPORATE      | 1   |   |
| 5260 | B.COM | CC14N1 | ACCOUNTING              | CO5 | Deliberate the details of RECENT DEVELOPMENTS IN ACCOUNTING       |
| 5260 | B.COM | CC14N2 | COST ACCOUNTING         | CO1 | Deliberate the details of introduction to cost accounting         |
|      |       |        |                         |     | Learn in details with application, if applicable, MATERIAL COST   |
| 5260 | B.COM | CC14N2 | COST ACCOUNTING         | CO2 | CONTROL   |
|      |       |        |                         |     | Specify the details of RECONCILIATION OF COST AND FINANCIAL       |
| 5260 | B.COM | CC14N2 | COST ACCOUNTING         | CO5 | ACCOUNTS  |
| 5260 | B.COM | CC14N2 | COST ACCOUNTING         | CO3 | Specify in details with examples LABOUR COST CONTROL              |
| 5260 | B.COM | CC14N2 | COST ACCOUNTING         | CO4 | Understand in depth OVERHEAD COST CONTROL                         |
|      |       |        | E BUSINESS AND          |     |   |
| 5260 | B.COM | CC14N3 | ACCOUNTING              | CO1 | Understand the details of E-BUSINESS                              |
|      |       |        | E BUSINESS AND          |     |   |
| 5260 | B.COM | CC14N3 | ACCOUNTING              | CO2 | Specify the details of HARDWARE AND SOFTWARE FOR E-BUSINESS       |
|      |       |        | E BUSINESS AND          |     |   |
| 5260 | B.COM | CC14N3 | ACCOUNTING              | CO3 | Deliberate in depth GETTING STARTED WITH TALLY                    |
|      |       |        | E BUSINESS AND          |     |   |
| 5260 | B.COM | CC14N3 | ACCOUNTING              | CO4 | Understand in depth CONFIGURING TALLY                             |
|      |       |        | E BUSINESS AND          |     | Write down the classification and characteristics of REPORTS IN   |
| 5260 | B.COM | CC14N3 | ACCOUNTING              | CO5 | TALLY:  |
|      |       |        | STOCK & COMMODITY       |     | Understand the characteristics of Capital and Commodities         |
| 5260 | B.COM | CC14N4 | MARKETS                 | CO1 | Markets   |
|      |       |        | STOCK & COMMODITY       |     |   |
| 5260 | B.COM | CC14N4 | MARKETS                 | CO2 | Learn in details with examples Stock Market                       |
|      |       |        | STOCK & COMMODITY       |     |   |
| 5260 | B.COM | CC14N4 | MARKETS                 | CO3 | Write down the details of trading in Stock Market                 |
|      |       |        | STOCK & COMMODITY       |     |   |
| 5260 | B.COM | CC14N4 | MARKETS                 | CO4 | Identify the details of Commodities Market                        |
|      |       |        | STOCK & COMMODITY       |     |   |
| 5260 | B.COM | CC14N4 | MARKETS                 | CO5 | Deliberate in details with examples trading in Commodity Market   |
|      |       |        |                         |     | Identify in details with application, if applicable, INTRODUCTION |
| 5260 | B.COM | CC14N5 | PRINCIPLES OF EVENT MGT | CO1 | TO EVENT MANAGEMENT   |
|      |       |        |                         |     | Specify in details with application, if applicable, 2-EVENT       |
| 5260 | B.COM | CC14N5 | PRINCIPLES OF EVENT MGT | CO2 | MANAGEMENT PROCEDURE  |
|      |       |        |                         |     |   |
| 5260 | B.COM | CC14N5 | PRINCIPLES OF EVENT MGT | CO3 | Identify in depth CONDUCT OF AN EVENT.                            |

| 5260 | B.COM  | CC14N5  | PRINCIPLES OF EVENT MGT | CO4 | Understand the details of PUBLIC RELATIONS                         |
|------|--------|---------|-------------------------|-----|--|
| 5260 | B.COM  | CC14N5  | PRINCIPLES OF EVENT MGT | CO5 | Write down in depth CORPORATE EVENTS                               |
| 5200 | D.COM  | 0014105 |                         | 005 | Understand and compute different types of Residential status of    |
| 5260 | B.COM  | CC15N3  | INCOME TAX-I            | CO1 | individual   |
| 5200 |        |         |                         |     | Understand the classification and characteristics of Computation   |
| 5260 | B.COM  | CC15N3  | INCOME TAX-I            | CO2 | of taxable income from salary                                      |
|      |        |         |                         |     | Understand the characteristics of Computation of taxable income    |
| 5260 | B.COM  | CC15N3  | INCOME TAX-I            | CO3 | from House property  |
|      |        |         |                         |     | Understand the concept of Capital and Revenue under Income tax     |
| 5260 | B.COM  | CC15N3  | INCOME TAX-I            | CO4 | law  |
| 5260 | B.COM  | CC15N4  | COSTING METHODS         | CO1 | Understand in depth INTRODUCTION TO COSTING METHODS                |
|      |        |         |                         |     | Deliberate the classification and characteristics of JOB AND BATCH |
| 5260 | B.COM  | CC15N4  | COSTING METHODS         | CO2 | COSTING  |
| 5260 | B.COM  | CC15N4  | COSTING METHODS         | CO3 | Learn the details of PROCESS COSTING                               |
| 5260 | B.COM  | CC15N4  | COSTING METHODS         | CO4 | Write down in depth CONTRACT COSTING                               |
| 5260 | B.COM  | CC15N4  | COSTING METHODS         | CO5 | Deliberate in details with examples OPERATING COSTING              |
| 5260 | B.COM  | CC15N1  | ENTERPRENERUSHIP DEV.   | CO1 | Identify the details of introduction to entrepreneurship           |
| 5260 | B.COM  | CC15N1  | ENTERPRENERUSHIP DEV.   | CO2 | Write down the details of small scale industries                   |
|      |        |         |                         |     | Learn the classification and characteristics of formation of small |
| 5260 | B.COM  | CC15N1  | ENTERPRENERUSHIP DEV.   | CO3 | scale industries   |
| 5260 | B.COM  | CC15N1  | ENTERPRENERUSHIP DEV.   | CO4 | Write down in details with examples preparing the business plan    |
|      | B.COM  | CC15N1  | ENTERPRENERUSHIP DEV.   | CO5 | Understand the details of project assistance                       |
| 5200 | 2.0011 |         |                         |     | Specify in details with application, if applicable, International  |
| 5260 | B.COM  | CC15N2  | IFRS                    | CO1 | Financial Reporting Standards:                                     |
|      |        |         |                         |     | Specify the classification and characteristics of Accounting for   |
| 5260 | B.COM  | CC15N2  | IFRS                    | CO2 | Assets and Liabilities   |
|      |        |         |                         |     | Understand in details with examples Presentation of Financial      |
| 5260 | B.COM  | CC15N2  | IFRS                    | CO3 | Statements   |
| 5260 | B.COM  | CC15N2  | IFRS                    | CO4 | Learn in depth Accounts of Groups:                                 |
|      |        |         |                         |     | Identify in details with examples UNIT 1: ACCOUNTS OF BANKING      |
| 5260 | B.COM  | CCE5N1  | ADVANCED ACCOUNTING     | CO1 | COMPANIES  |
|      |        |         |                         |     | Understand in details with application, if applicable, UNIT 2:     |
|      | B.COM  | CCE5N1  | ADVANCED ACCOUNTING     | CO2 | ACCOUNTS OF INSURANCE COMPANIES                                    |
| 5260 | B.COM  | CCE5N1  | ADVANCED ACCOUNTING     | CO3 | Write down in depth UNIT 3: INFLATION ACCOUNTING                   |
| 5260 | B.COM  | CCE5N1  | ADVANCED ACCOUNTING     | CO4 | Understand the details of UNIT 4: FARM ACCOUNTING                  |

|      |          |         |                          |     | Write down the characteristics of UNIT 5: INVESTMENT                |
|------|----------|---------|--------------------------|-----|---|
| 5260 | B.COM    | CCE5N1  | ADVANCED ACCOUNTING      | CO5 | ACCOUNTING  |
|      |          |         |                          |     | Identify in details with examples introduction to goods and service |
| 5260 | B.COM    | CCE6N9  | G.S.T                    | CO1 | tax   |
| 5260 | B.COM    | CCE6N9  | G.S.T                    | CO2 | Understand in depth goods and service tax act                       |
|      |          |         |                          |     | Deliberate the characteristics of procedure and levy under goods    |
| 5260 | B.COM    | CCE6N9  | G.S.T                    | CO3 | and service tax   |
| 5260 | B.COM    | CCE6N9  | G.S.T                    | CO4 | Understand in depth assessment and returns                          |
| 5260 | B.COM    | CCE6N9  | G.S.T                    | CO5 | Learn in details with examples GST and technology                   |
|      |          |         |                          |     | Understand in depth UNIT 1 : INTRODUCTION TO INTERNATIONAL          |
| 5260 | B.COM    | CCE61N  | INT FINANCIAL MGT        | CO1 | FINANCIAL MANAGEMENT  |
|      |          |         |                          |     | Specify the classification and characteristics of UNIT 2 : WORKING  |
| 5260 | B.COM    | CCE61N  | INT FINANCIAL MGT        | CO2 | CAPITAL MANAGEMENT  |
| 5260 | D. CO.M. | 005641  |                          |     |   |
|      | B.COM    | CCE61N  | INT FINANCIAL MGT        | CO3 | Learn in details with examples UNIT 3 : INVESTMENT APPRAISAL        |
| 5260 | B.COM    | CCE61N  | INT FINANCIAL MGT        | CO4 | Specify the details of UNIT 4 : BUSINESS FINANCE                    |
|      |          |         |                          |     | Write down in details with examples UNIT 5 : BUSINESS               |
| 5260 | B.COM    | CCE61N  | INT FINANCIAL MGT        | CO5 | VALUATION   |
| 5260 | D. CO.M. | 001014  | MANAGEMENT               | 601 |   |
| 5260 | B.COM    | CC16N4  | ACCOUNTING<br>MANAGEMENT | CO1 | Write down in depth introduction to management accoutning           |
| 5260 | D. COM   | 001014  |                          | COL |   |
| 5260 | B.COM    | CC16N4  | ACCOUNTING               | CO5 | Understand the details of management reporting                      |
| 5260 | B.COM    | CC16N4  | MANAGEMENT<br>ACCOUNTING | CO2 | Understand the details of ratio analysis                            |
| 5260 | B.COM    |         | MANAGEMENT               | 02  | Understand the details of ratio analysis                            |
| 5260 | B.COM    | CC16N4  | ACCOUNTING               | СОЗ | Write down in depth fund flow analysis                              |
| 5200 | B.COM    | 0010104 | MANAGEMENT               | 03  |   |
| 5260 | B.COM    | CC16N4  | ACCOUNTING               | CO4 | Learn in depth cash flow analysis                                   |
|      | B.COM    | CC16N1  | BUSINESS REGULATIONS     | CO2 | Specify the characteristics of CONTRACT LAWS                        |
| 5200 |          | CCIONI  | DOSINESS RECOLATIONS     | 02  | Identify the characteristics of COMPETITION AND CONSUMER            |
| 5260 | B.COM    | CC16N1  | BUSINESS REGULATIONS     | соз | LAWS  |
| 5200 |          | CEIGHT  |                          |     |   |
| 5260 | B.COM    | CC16N1  | BUSINESS REGULATIONS     | CO4 | Learn the classification and characteristics of ECONOMIC LAWS       |
| 5260 | B.COM    | CC16N1  | BUSINESS REGULATIONS     | CO5 | Specify in details with examples ENVIRONMENTAL LAWS                 |
| 5260 | B.COM    | CC16N1  | BUSINESS REGULATIONS     | CO1 | Specify in depth INTRODUCTION TO BUSINESS LAWS                      |
|      |          | -       | PRINCIPLES & PRACTICE OF | -   |   |
| 5260 | B.COM    | CC16N2  | AUDITING                 | CO1 | Understand in details with examples INTRODUCTION TO AUDITING        |

|       |       |        | PRINCIPLES & PRACTICE OF    |     |   |
|-------|-------|--------|-----------------------------|-----|---|
| 5260  | B.COM | CC16N2 | AUDITING                    | CO2 | Learn the characteristics of IINTERNAL CONTROL                        |
|       |       |        | PRINCIPLES & PRACTICE OF    |     |   |
| 5260  | B.COM | CC16N2 | AUDITING                    | CO3 | Specify in depth VOUCHING   |
|       |       |        | PRINCIPLES & PRACTICE OF    |     | Specify the characteristics of VERIFICATION AND VALUATION OF          |
| 5260  | B.COM | CC16N2 | AUDITING                    | CO4 | ASSETS AND LIABILITIES  |
|       |       |        | PRINCIPLES & PRACTICE OF    |     | Identify in details with examples AUDIT OF LIMITED COMPANIES          |
| 5260  | B.COM | CC16N2 | AUDITING                    | CO5 | AND OTHERS  |
| 5260  | B.COM | CCE6N1 | BUSINESS TAXATION-II        | CO1 | Deliberate the classification and characteristics of CUSTOMS ACT      |
|       | B.COM | CCE6N1 | BUSINESS TAXATION-II        | CO2 | Deliberate the details of SALES TAX / CENTRAL SALES TAX               |
| 5200  |       | CCLONI |                             | 002 |   |
| 5260  | B.COM | CCE6N1 | <b>BUSINESS TAXATION-II</b> | CO3 | Write down in details with examples ASSESSMENT OF FIRMS               |
| 5260  | B.COM | CCE6N1 | BUSINESS TAXATION-II        | CO4 | Learn in details with examples ASSESSMENT OF COMPANIES                |
|       |       |        |                             |     | Learn in details with application, if applicable, COST CONTROL AND    |
| 5260  | B.COM | CCE6N2 | COST MGT                    | CO1 | COST REDUCTION  |
| 5260  | B.COM | CCE6N2 | COST MGT                    | CO2 | Learn the characteristics of MARGINAL COSTING                         |
| 5260  | B.COM | CCE6N2 | COST MGT                    | CO3 | Deliberate in details with examples STANDARD COSTING                  |
|       |       |        |                             |     | Understand the classification and characteristics of BUDGETARY        |
| 5260  | B.COM | CCE6N2 | COST MGT                    | CO4 | CONTROL   |
|       |       |        |                             |     | Learn in details with application, if applicable, ACTIVITY BASED      |
| 5260  | B.COM | CCE6N2 | COST MGT                    | CO5 | COSTING   |
|       |       |        |                             |     | Understand in depth SPECIALIST COST AND MANAGEMENT                    |
| 5260  | B.COM | CCE6F1 | PERFORMANCE MGT             | CO1 | ACCOUNTING TECHNIQUES   |
| 50.00 |       | 005654 |                             |     | Specify the classification and characteristics of PERFORMANCE         |
| 5260  | B.COM | CCE6F1 | PERFORMANCE MGT             | CO4 | MEASUREMENT AND CONTROL   |
| 5260  | B.COM | CCE6F1 | PERFORMANCE MGT             | CO2 | Identify the characteristics of DECISION MAKING TECHNIQUES            |
|       |       |        |                             |     | Learn the classification and characteristics of BUDGETING AND         |
| 5260  | B.COM | CCE6F1 | PERFORMANCE MGT             | CO3 | CONTROL   |
|       |       |        | INT. AUDITING &             |     |   |
| 5260  | B.COM | CCE6F2 | ASSURANCE                   | CO1 | Identify the details of audit framework and regulation                |
|       |       |        | INT. AUDITING &             |     |   |
| 5260  | B.COM | CCE6F2 | ASSURANCE                   | CO2 | Identify the characteristics of planning and risk assessment          |
|       |       |        | INT. AUDITING &             |     |   |
| 5260  | B.COM | CCE6F2 | ASSURANCE                   | CO3 | Deliberate the classification and characteristics of internal control |
|       |       |        | INT. AUDITING &             |     |   |
| 5260  | B.COM | CCE6F2 | ASSURANCE                   | CO4 | Deliberate the details of audit evidence                              |

|      |   |        | INT. AUDITING &        |     |  |
|------|---|--------|------------------------|-----|--|
| 5260 | B.COM   | CCE6F2 | ASSURANCE              | CO5 | Deliberate in details with examples review and reporting               |
|      |   |        | BANKING OPERATIONS AND |     |  |
| 5260 | B.COM   | 2.4    | INNOVATIONS            | CO1 | UNIT 1 to understand about NEGOTIABLE INSRTUMENTS                      |
|      |   |        | BANKING OPERATIONS AND |     | UNTI 2 to understand about types and nature of CUSTOMER AND            |
| 5260 | B.COM   | 2.4    | INNOVATIONS            | CO2 | BANKER RELATIONSHIP  |
|      |   |        | BANKING OPERATIONS AND |     |  |
| 5260 | B.COM   | 2.4    | INNOVATIONS            | CO3 | UNIT 3 to understand about actual BANKING OPERATIONS                   |
|      |   |        | BANKING OPERATIONS AND |     | UNIT 4 to know about nature and types of CUSTOMER AND                  |
| 5260 | B.COM   | 2.4    | INNOVATIONS            | CO4 | ACCOUNT HOLDERS  |
|      |   |        | BANKING OPERATIONS AND |     |  |
| 5260 | B.COM   | 2.4    | INNOVATIONS            | CO5 | UNIT 5 to understand about recent BANKING INNOVATIONS                  |
|      |   |        |                        |     | Deliberate in details with application, if applicable, introduction to |
| 5260 | B.COM   | 2.5    | MODERN MARKETING       | CO1 | marketing  |
|      |   |        |                        |     | Deliberate in details with application, if applicable, marketing       |
| 5260 | B.COM   | 2.5    | MODERN MARKETING       | CO2 | environment  |
|      |   |        |                        |     |  |
| 5260 | B.COM   | 2.5    | MODERN MARKETING       | CO3 | Deliberate the classification and characteristics of marketing mix     |
| 5260 | B.COM   | 2.5    | MODERN MARKETING       | CO4 | Write down in depth degitial marketing                                 |
|      |   |        |                        |     |  |
| 5260 | B.COM   | 2.5    | MODERN MARKETING       | CO5 | Specify the classification and characteristics of service marketing    |
|      |   |        |                        |     |  |
|      |   |        |                        |     | Understand in details with examples 1) language skill 2) true love     |
|      |   |        |                        |     | demand sacrifice 3) acceptance of LGBT community 4) sporting           |
|      |   |        |                        |     | spirit 5) marriage is a private affair 6) towards a competitive nation |
| 5260 | B.COM   | ENG1C1 | Genreal English        | CO1 | 7) freedom and choice in education                                     |
|      |   |        |                        |     |  |
|      |   |        |                        |     | Learn the classification and characteristics of 1) language skill 2)   |
|      |   |        |                        |     | true love demand sacrifice 3)acceptance of LGBT community              |
|      |   |        |                        |     | 4)sporting spirit 5) marriage is a private affair 6) towards a         |
| 5260 | B.COM   | ENG1C1 | Genreal English        | CO2 | competitive nation 7) freedom and choice in education                  |
|      |   |        | Basic Psychological    |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | A0291  | Processes I            | CO6 | define psychology  |
|      |   |        | Basic Psychological    |     | Understand the classification and characteristics of perspectives of   |
| 5266 | BA (Psychology/ Journalism/ Optional English) | A0291  | Processes I            | CO1 | psychology   |
|      |   |        | Basic Psychological    |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | A0291  | Processes I            | CO2 | Learn the classification and characteristics of intelligence           |
|      |   |        | Basic Psychological    |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | A0291  | Processes I            | CO3 | Understand in systems of memory  |

|       |   |         | Basic Psychological           |     |   |
|-------|---|---------|-------------------------------|-----|---|
| 5266  | BA (Psychology/ Journalism/ Optional English) | A0291   | Processes I                   | CO4 | types of learning and its applications                                  |
|       |   |         | Basic Psychological           |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | A0291   | Processes I                   | CO5 | theories, drives, incentives, Maslow's hierarchy of needs               |
|       |   |         |                               |     |   |
|       |   |         | British Literature - Romantic |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0291   | Age and Facets of Language    | CO1 | Understand in details with examples age of transition                   |
|       |   |         | British Literature - Romantic |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0291   | Age and Facets of Language    | CO2 | Write down in depth romantic age  |
|       |   |         |                               |     |   |
|       |   |         | British Literature - Romantic |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0291   | Age and Facets of Language    | CO3 | Understand the details of poetry and its defence                        |
|       |   |         | British Literature - Romantic |     |   |
| 5266  |   | 00001   |                               | 604 |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0291   | Age and Facets of Language    | CO4 | Specify in details with application, if applicable, facets of language  |
|       |   |         | British Literature - Romantic |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0291   | Age and Facets of Language    | CO5 | Specify in details with examples victorian age                          |
|       |   |         | Basic Psychological           |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0361   | Processes II                  | CO1 | Deliberate in details with theories and measuring personality           |
|       |   |         | Basic Psychological           |     | Specify in details with thinking. types of thinking reasoning,          |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0361   | Processes II                  | CO2 | problem solving, decision making  |
|       |   |         | Basic Psychological           |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0361   | Processes II                  | CO3 | neurons, central nervous system, endocrine system                       |
|       |   |         | Basic Psychological           |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0361   | Processes II                  | CO4 | theories and elements of emotions                                       |
|       |   |         | Basic Psychological           |     | Learn the classification and characteristics of sensation and           |
| 5266  | BA (Psychology/ Journalism/ Optional English) | B0361   | Processes II                  | CO5 | perception, threshold, constancy  |
| 50.66 |   |         |                               |     | Write down in details with application, if applicable, careers of       |
| 5266  | BA (Psychology/ Journalism/ Optional English) | AP4C3S  | Child Development -I          | CO1 | child psychology  |
| 5266  | PA (Revehology/ Journalism/ Optional English) | AP4C3S  | Child Development -I          | CO2 | Specify the details of genetic foundation, abnormalities, cell division |
| 5200  | BA (Psychology/ Journalism/ Optional English) | AP4C33  |                               | 02  | Deliberate the details of stages, factors influencing, assessment ,     |
| 5266  | BA (Psychology/ Journalism/ Optional English) | AP4C3S  | Child Development -I          | соз | birth process prenatal development                                      |
| 5200  |   | Ar 4033 |                               | 05  |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | AP4C3S  | Child Development -I          | CO4 | Specify the details of emotional development                            |
|       | ( , , , , , , , , , , , , , , , , , , ,       |         |                               |     |   |
| 5266  | BA (Psychology/ Journalism/ Optional English) | AP4C3S  | Child Development -I          | CO5 | Deliberate in details with social development                           |

| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C3S | Child Development -I   | CO6     | Identify the classification and characteristics of motor development   |
|------|---|--------|------------------------|---------|--|
| 5266 | BA (Psychology/ Journalism/ Optional English) | ENGC3S | General English        | ENG CO2 | Encourage the use of strategies, such as contextualization of new vocabulary, use of previewing, skimming and scanning techniques, and knowledge of text organisation and discourse markers, to aid the comprehension of written and spoken language.E           |
| 5266 | BA (Psychology/ Journalism/ Optional English) | ENGC3S | General English        | ENG CO3 | Demonstrate an awareness of the significance of literature and of<br>literary forms by being conversant about the functions of texts and<br>their relations with historical, social, and political contexts.   |
| 5266 | BA (Psychology/ Journalism/ Optional English) | ENGC3S | General English        | ENG CO4 | Create awareness about the new learning styles to comprehend<br>the theme and genre and the relevance of it in a better and deeper<br>way and also to increase the competence in the use of ICT so that<br>learners may more effectively achieve academic goals. |
|      | BA (Psychology/ Journalism/ Optional English) | ENGC3S | General English        | ENG CO5 | Learn and practice academic paragraph and essay elements<br>including a central idea supported by relevant details and<br>transition, with unity and organisation<br>Develop English language skills inlistening, speaking, reading and                          |
| 5266 | BA (Psychology/ Journalism/ Optional English) | ENGC3S | General English        | ENG CO1 | writing by having learners engage in a range of communicative tasks and activities suiting indian context  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C4S | Child Development -II  | CO1     | Deliberate in details with theories moral development  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C4S | Child Development -II  | CO2     | Specify in details with identity, self concept and self development  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C4S | Child Development -II  | CO3     | Learn the characteristics of peer and schooling<br>Identify the details of childhood disorders like ADHD, conduct D/o,   |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C4S | Child Development -II  | CO4     | Anxiety D/o, depression, Symptoms , causes, treatments and outcomes  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C4S | Child Development -II  | CO5     | childhood disorders like Pervasive developmental D/o, Learning D/o, symptom D/o, therapies treatments and outcomes.  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51 | Abnormal psychology -I | CO1     | statistical, social, mal adaptive, personal discomfort, classifications, myths   |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51 | Abnormal psychology -I | CO2     | Identify in depth theories of abnormality  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51 | Abnormal psychology -I | CO3     | Deliberate in details with causes types and treatments of stress   |

| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51  | Abnormal psychology -I       | CO4 | symptoms, causes, treatments of anxiety disorder                     |
|------|---|---------|------------------------------|-----|--|
|      |   |         |                              |     | Symptoms, causes treatments and outcomes of dissociative             |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51  | Abnormal psychology -I       | CO5 | disorder   |
|      |   |         |                              |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C51  | Abnormal psychology -I       | CO6 | Specify in depth somatoform disorders                                |
|      |   |         |                              |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C52  | Industrial Psychology - I    | CO1 | Specify the characteristics of introduction to Industrial psychology |
|      |   |         |                              |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C52  | Industrial Psychology - I    | CO2 | Write down the characteristics of job analysis and selection         |
| 5266 |   | 4.04652 |                              | 600 |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C52  | Industrial Psychology - I    | CO3 | Learn the characteristics of employee attitude                       |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C52  | Industrial Psychology - I    | CO4 | Write down the characteristics of motivation and reward systems      |
| 5200 |   | AF4CJ2  |                              | 04  |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C52  | Industrial Psychology - I    | CO5 | Specify the details of consumer psychology                           |
| 5200 |   | / 1052  |                              |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C61  | Abnormal psychology - II     | CO1 | clusters of personality disorders, symptoms and treatments           |
|      |   |         |                              |     | Understand the classifications, Symptoms , causes, treatments and    |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C61  | Abnormal psychology - II     | CO2 | outcomes of schizophrenia  |
|      |   |         |                              |     | Learn the classification Symptoms , causes, treatments and           |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C61  | Abnormal psychology - II     | CO3 | outcomes of mood disorders   |
|      |   |         |                              |     | Deliberate the characteristics, Symptoms , causes, treatments and    |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C61  | Abnormal psychology - II     | CO4 | outcomes of mental retardation                                       |
|      |   |         |                              |     | cognitive impairments Symptoms , causes, treatments and              |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C61  | Abnormal psychology - II     | CO5 | outcomes brain disorders   |
| 5266 |   | 104662  | la duataial Davaha la availl | 601 |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C62  | Industrial Psychology - II   | CO1 | Specify in details with examples performance appraisal               |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C62  | Industrial Psychology - II   | CO2 | Write down the details of training and development                   |
| 5200 |   | AI 4002 |                              | 02  |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C62  | Industrial Psychology - II   | CO3 | Write down the details of managing communications                    |
| 0100 |   |         |                              |     |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C62  | Industrial Psychology - II   | CO4 | Write down in details with examples leadership, team work            |
|      |   |         |                              | 1   |  |
| 5266 | BA (Psychology/ Journalism/ Optional English) | AP4C62  | Industrial Psychology - II   | CO5 | Specify the details of stress and counselling                        |
| 5271 | M.Com   |         | 1.1 Monetary System          | CO1 | Understand the characteristics of MONEY                              |
|      |   |         |                              |     |  |
| 5271 | M.Com   |         | 1.1 Monetary System          | CO2 | Deliberate the details of INTRODUCTION TO MONETARY SYSTEM            |

| 5271    | M.Com   |        | 1.1 | Monetary System         | CO3 | Specify the details of INTERNATIONAL MONETARY SYSTEM                 |
|---------|---|--------|-----|-------------------------|-----|--|
|         |   |        |     |                         |     | Specify in details with application, if applicable, INTERNATIONAL    |
| 5271    | M.Com   |        | 1.1 | Monetary System         | CO4 | FINANCIAL SYSTEM   |
|         |   |        |     |                         |     | Write down in details with application, if applicable, BALANCE OF    |
| 5271    | M.Com   |        | 1.1 | Monetary System         | CO5 | PAYMENT  |
|         |   |        |     | Information Systems and |     |  |
| 5271    | M.Com   |        | 1.4 | Computers               | CO1 | Identify the details of Information system in business               |
|         |   |        |     | Information Systems and |     | Identify in details with application, if applicable, kinds of        |
| 5271    | M.Com   |        | 1.4 | Computers               | CO2 | information system   |
|         |   |        |     | Information Systems and |     |  |
| 5271    | M.Com   |        | 1.4 | Computers               | CO3 | Write down in depth ITGRC  |
|         |   |        |     | Information Systems and |     |  |
| 5271    | M.Com   |        | 1.4 | Computers               | CO4 | Learn the characteristics of IT Act                                  |
|         |   |        |     | Information Systems and |     | Learn in details with application, if applicable, data base          |
| 5271    | M.Com   |        | 1.4 | Computers               | CO5 | management system  |
|         |   |        |     | Information Systems and |     |  |
| 5271    | M.Com   |        | 1.4 | Computers               | CO6 | Deliberate in depth Electronic spredsheet                            |
|         |   |        |     |                         |     |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT101 |     | Cell Biology & Genetics | CO1 | Journey of a cell - cell theory, cell division and cell death        |
|         |   |        |     |                         |     |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT101 |     | Cell Biology & Genetics | CO2 | Description of cell organelles                                       |
|         |   |        |     |                         |     | Understand the nature & significance of Genetic material &           |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT101 |     | Cell Biology & Genetics | CO3 | concepts of Genetics   |
|         |   |        |     |                         |     |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT101 |     | Cell Biology & Genetics | CO4 | Deviations in concepts of genetics                                   |
|         |   |        |     |                         |     | Understand Chromosomal variations, mapping, evolution,               |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT101 |     | Cell Biology & Genetics | CO5 | mutations & Cytoplasmic inheritance                                  |
|         |   |        |     |                         |     |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO5 | To study the properties of gases                                     |
|         |   |        |     |                         |     | To know about Periodic Table, Classification, physical and chemica   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO6 | properties.  |
|         |   |        |     |                         |     | To know the factors affecting I.P, EA, EN & the diagonal             |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO7 | relationship between Be & Al.  |
|         |   | 1      |     |                         |     | Comparative study of Chalcogens and halogens w.r.t Electronic        |
| F 2 7 2 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO8 | Configuration, Atomic radii, Ionic radii etc.                        |
| 5272    |   | 1      |     |                         |     | To study Halides, oxides and carbonates of alkali and alkaline earth |
| 5272    |   |        |     |                         |     |  |
|         | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO9 | metals.  |
|         | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S |     | Chemistry-I             | CO9 | -  |

|      |   |        |             |      | To study Equivalent weights of acids, bases, salts, oxidizing and   |
|------|---|--------|-------------|------|---|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO11 | reducing agents.  |
|      |   |        |             |      | To understand Significant figures and their computations,   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO12 | Normality and Molarity. Numerical problems.   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO13 | Definition and explanation for homolytic and heterolytic cleavage.<br>Explaination for electrophilic and nucleophilic Reagents. |
| 01/1 |   | 001010 |             |      |   |
|      |   |        |             |      | Types of reactions - addition, substitution and elimination.  |
|      |   |        |             |      | Definition & explanation for different types of isomers.Brief   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO14 | explanation for chiral centre and Tautomerism.  |
|      |   |        |             |      |   |
|      |   |        |             |      | Nomenclature of branched chain alkanes, preparation of  |
|      |   |        |             |      | symmetrical unsymmetrical alkanes. explanation of Corey- House  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO15 | reaction and Wurtz reaction - their merits and demerits.  |
|      |   |        |             |      | Conformational analysis of n-butane - Sawhorse & Newman   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO16 | projection formulae to be used -Energy profile diagram  |
|      |   |        |             |      | Deliberate in details with examples Alkanes, Alkenes, Alkynes,  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO17 | Cycloalkanes and Dienes   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO1  | To understand the basic interaction of molecule with light  |
|      |   |        |             |      | To study the basic principles and applications of photochemical   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO2  | reactions   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO3  | To study the properties of Liquids and soltuions  |
| 5272 |   | 501015 |             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO4  | Applications of Distribution Laws for liquids   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO20 | Learn the details of Photochemistry   |
|      |   |        |             |      | Specify the classification and characteristics of Liquids and   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO21 | Solutions   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO22 | Understand in depth Periodic Table and Periodic properties  |
|      |   |        |             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO23 | Specify the details of Analytical Chemistry   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO24 | Understand the classification and characteristics of Basic concepts<br>in organic chemistry                                     |
|      |   |        |             | C035 |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S | Chemistry-I | CO25 | Learn the characteristics of Aliphatic Hydrocarbons   |

|   |   |  |   | Understand in details with application, if applicable, Aliphatic  |
|---|---|--|---|---|
| B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S  | Chemistry-I  | CO26  | Hydrocarbons  |
|   | 1   |  |   | Learn in details with application, if applicable, Mathematical  |
| S.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S  | Chemistry-I  | CO18  | Concepts for Chemistry  |
|   |   |  |   |   |
| B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C1S  | Chemistry-I  | CO19  | Identify the characteristics of Gaseous state   |
|   |   |  |   | Definition of antibiotic, classification of antimicrobial drugs and   |
| B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT101  | Basic Microbiology   | CO4   | their mode of action with suitable example.   |
|   |   |  |   | Principle and applications of analytical instruments- Centrifuge,   |
|   |   |  |   | Ultracentrifuge, Spectrophotometer and Chromatotography   |
| B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT101  | Basic Microbiology   | CO5   | techniques.   |
|   |   |  |   |   |
|   |   |  |   | Definition of Sterilization, methods of sterilization and mode of   |
| 3.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT101  | Basic Microbiology   | CO6   | action of physical and chemical agents as sterilizing agents.   |
|   |   |  |   | Unit 1: Introduction History and Scone of Microbiology Students   |
|   |   |  |   | Unit 1: Introduction, History and Scope of Microbiology- Students will be able to discover the microbial world, origin of life on earth,  |
|   |   |  |   |   |
|   |   |  |   | the basic and applied aspects of microbiology as modern science,  |
|   |   |  | 604   | controversy over spontaneous generation, contributions of   |
| S.Sc (Biotechnology/ Chemistry/ Microbiology) | MBI101  | Basic Microbiology   | C01   | different scientists for microbiology   |
|   |   |  |   |   |
|   |   |  |   | Microscopy- students will be able to understand basic principles of   |
|   |   |  |   | microscopy (resolution, magnification, numerical aperture and   |
|   |   |  |   | working distance). They will also be learning about a special   |
|   |   |  |   | technique called photomicrography, that is the fixing of DSLR   |
|   |   |  |   | camera to a normal microscope. They will be studying about  |
|   |   |  |   | differences between light and electron microscope. Working  |
|   |   |  |   | principle, construction and applications of different types of  |
|   |   |  |   | microscope is dealt. Light microscope include, bright field, dark   |
|   |   |  |   | field, florescence, phase contrast microscope. Electron   |
|   |   |  |   | microscopes include Scanning Electron Microscope (SEM) and  |
| B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT101  | Basic Microbiology   | CO2   | Transmission Electron Microscope (TEM).   |
| 3.<br>3.                                      | Sc (Biotechnology/ Chemistry/ Microbiology)<br>Sc (Biotechnology/ Chemistry/ Microbiology)<br>Sc (Biotechnology/ Chemistry/ Microbiology) | Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S         Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101 | Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S       Chemistry-I         Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S       Chemistry-I         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology | Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S       Chemistry-I       CO18         Sc (Biotechnology/ Chemistry/ Microbiology)       SC1C1S       Chemistry-I       CO19         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology       CO4         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology       CO5         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology       CO5         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology       CO5         Sc (Biotechnology/ Chemistry/ Microbiology)       MBT101       Basic Microbiology       CO6 |

|      |   |        |   | -   |  |
|------|---|--------|---|-----|--|
|      |   |        |   |     | Students will be able to know about nature of dyes, Physical and<br>chemical theories of staining. Principle, procedure and applications<br>of two different staining techniques like simple staining and<br>differential staining techniques a) Simple staining includes negative<br>and positive staining b) Differential staining includes Grams and<br>acid fast staining c) Structural staining includes cell wall, |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT101 | Basic Microbiology                      | CO3 | endospore, flagella and capsular staining techniques   |
|      | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT201 | General Microbiology &<br>Biostatistics | CO2 | Importance of sterilization and its applications   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT201 | General Microbiology &<br>Biostatistics | CO3 | Knowledge on structure, physiology & classification of<br>microorganisms   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT201 | General Microbiology &<br>Biostatistics | CO4 | understand the epidemiology, mechanism, symptoms & treatment<br>of important human diseases  |
|      | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT201 | General Microbiology &<br>Biostatistics | CO1 | Knowledge on principle & construction of different types of<br>microscopes   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT201 | General Microbiology &<br>Biostatistics | CO5 | Application of statistics in biology   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO5 | Specify in depth Silicates   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO6 | Identify in depth Noble gases  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | C07 | Understand in depth General study of d and f block elements.   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO4 | Learn the details of Aromatic hydrocarbons   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO1 | To learn the theories of chemical bonding of molecules   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO2 | To understand the basics of quantum chemistry  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C2S | Chemistry-II                            | CO3 | To learn characteristic features of d- and f- block elements   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P2S | Chemistry practical-II                  | CO1 | To learn the basics of physical chemistry experiments  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P2S | Chemistry practical-II                  | CO2 | To learn handling of equipments and analyse the data<br>To learn and Understand the Physical Properties Like   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P2S | Chemistry practical-II                  | CO1 | Density, Viscosity and Surface tension of Different Liquids  |

|      |  |        | Microbial Taxonomy &        |      | Unit 1 The Microbial World- The study of various groups of        |
|------|--|--------|-----------------------------|------|---|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | MBT201 | Culture Techniques          | CO1  | microorganisms  |
|      |  |        | Microbial Taxonomy &        |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | MBT201 | Culture Techniques          | CO2  | Unit 2 Culturing of microorganisms                                |
|      |  |        | Microbial Taxonomy &        |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | MBT201 | Culture Techniques          | CO3  | Unit 3 Microbial growth   |
|      | / , , , / , , / , , , ,                        |        |                             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT301 | Biological chemistry        | CO4  | To understand and apply biophysical and analytical techniques     |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT301 | Biological chemistry        | CO5  | To apply the applications of spectroscopic and isotope techniques |
| 5272 | B.SC (BIOLECHHOLOGY/ CHEMISTRY/ MICrobiology)  | BIISUI | Biological chemistry        | 05   | The course is intended to make the student understand the         |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT301 | Biological chemistry        | CO1  | structures and functions of biomolecules.                         |
| 5272 | bise (bioteenhology) enemistry/ wierobiology)  | 511301 |                             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT301 | Biological chemistry        | CO2  | Identify in details with examples Biotechnology                   |
|      |  |        |                             |      | ,                           |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT301 | Biological chemistry        | CO3  | Identify the characteristics of Biological chemistry              |
|      |  |        |                             |      | Students are able to understand the importance of biomolecules    |
|      |  |        |                             |      | with reference to their properties and functions in the living    |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP302 | <b>Biological chemistry</b> |      | system.   |
|      |  |        |                             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO5  | Identify the characteristics of Chemical Kinetics                 |
|      |  |        |                             |      | Write down in details with examples ChemThermodynamics lical      |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO6  | Kinetics  |
| 5272 | P. C. (Distochaslogy/ Chamistry/ Misrobiology) | 562625 | Chamistry III               | 07   | Understand in details with examples Thermodynamics U              |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | C07  | Understand in details with examples Thermodynamics II             |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO8  | Identify in details with examples Surface chemistry               |
|      |  | 505055 |                             |      | Specify in details with application, if applicable, Organic and   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO9  | Inorganic Polymers  |
|      |  |        | ,                           |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO12 | Identify in details with examples Organometallic compounds        |
|      |  |        |                             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO10 | Write down in depth Ethers and Epoxides                           |
|      |  |        |                             |      |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO11 | Deliberate the characteristics of Fertilizers                     |
|      |  |        |                             |      | Identify in details with application, if applicable, Compounds of |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO10 | some Nonmetals  |
| 5050 |  |        |                             | 6011 |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC3C3S | Chemistry-III               | CO11 | Write down the classification and characteristics of Metallurgy   |

| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3C3S  | Chemistry-III             | CO8 | Identify the characteristics of Alcohols and Thiols                           |
|---------|---|---------|---------------------------|-----|---|
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3C3S  | Chemistry-III             | CO9 | Identify in depth Phenols   |
| 5272    |   | 303033  | Chemistry-in              | 03  | Identify in details with application, if applicable, Alcohols and             |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO8 | Thiols  |
| 5272    |   | 5001.00 |                           |     |   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO9 | Understand in details with examples Ethers and Epoxides                       |
|         |   |         |                           |     | Specify in details with application, if applicable, Thermodynamics I          |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO5 | and II  |
| 5070    |   | 662.026 |                           | 604 |   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO4 | Deliberate in depth Chemical Kinetics   |
| F 2 7 2 | D. C. (Distante al any / Chamistery / Misershieldery) | 662026  | Chamistary are stigal III | 607 | Deliberate in details with application, if applicable, Surface                |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO7 | chemistry<br>To have basic practical skills for the synthesis and analysis of |
| E 2 7 2 | P.Sc. (Piotochnology/ Chamictay/ Microhiology)        | scapas  | Chamistry practical III   | CO1 |   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | 01  | organic compounds<br>To know and recall the fundamental principles of organic |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO2 | chemistry   |
| 5272    |   | 303733  | Chemistry practical-in    | 02  | to make capable to describe the method of chromatography and                  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | SC3P3S  | Chemistry practical-III   | CO3 | its applications  |
| 5272    |   | 5651 55 | Microbial Physiology      | 000 | Understanding enzymes in detail with its properties and                       |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | &Microbial Genetics       | CO1 | applications  |
|         |   |         | Microbial Physiology      |     | knowing the classification, characteristics and structure of Nucleic          |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | & Microbial Genetics      | CO2 | acids   |
|         |   |         | Microbial Physiology      |     | Understanding of Genome organization and detailed process of                  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | & Microbial Genetics      | CO3 | DNA replication in prokaryotes and eukaryotes                                 |
|         |   |         | Microbial Physiology      |     | Learn in details with examples about Genetic recombination and                |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | & Microbial Genetics      | CO4 | transposable elements in Bacteria   |
|         |   |         | Microbial Physiology      |     | Study of Mutagenic agents, types of Mutations, Mutation detection             |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | &Microbial Genetics       | CO5 | techniques and its applications   |
|         |   |         | Microbial Physiology      |     |   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | &Microbial Genetics       | CO6 | understanding biomolecules and bioenergetics                                  |
|         |   |         | Microbial Physiology      |     | Learning Oxidation reduction reaction and energy yielding                     |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | &Microbial Genetics       | CO7 | pathways  |
|         |   |         | Microbial Physiology      |     |   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBT301  | & Microbial Genetics      | CO8 | understanding bacterial photosynthesis  |
|         |   |         | Microbial Physiology      |     | Understand in details with application, if applicable, dna                    |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)         | MBP302  | &Microbial Genetics       | CO2 | replication   |

|      |   |        |                   | T    |  |
|------|---|--------|-------------------|------|--|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | ENG4S4 | General English   | CO1  | DEVELOPING INDIVIDUAL IDENTITY   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | ENG4S4 | General English   | CO2  | Identify the classification and characteristics of FDSGHDFWJHGE                          |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT401 | Molecular biology | CO1  | Understand the basic concepts of nucleic acids   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT401 | Molecular biology | CO2  | knowledge on central dogma of Molecular biology  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT401 | Molecular biology | CO3  | Understand the gene organization, expression & regulation in<br>Prokaryotes & Eukaryotes |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT401 | Molecular biology | CO4  | genetic recombination mechanism  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT401 | Molecular biology | CO5  | Transposable elements & its significance   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO3  | Learning and Understanding the Nuclear and Radiochemistry                                |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO8  | Learn in depth Steel   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO9  | Deliberate the details of Aldehydes and Ketones  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO10 | Write down in depth Carboxylic acids and their derivatives.                              |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO11 | Write down the details of Tautomerism and Enolates                                       |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO12 | Identify the characteristics of Environmental Chemistry                                  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO6  | Deliberate in depth Aldehydes and ketones  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO1  | Understanding the structure of Solids  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO2  | Understanding the Phase rule and its Applications  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO1  | Properties and applications of various steels  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO2  | Condensation reactions and their mechanism   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4C4S | Chemistry-IV      | CO3  | Synthesis and important reactions of aldehydes and ketones                               |

| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4P4S | Chemistry practical-IV | CO1  | Understanding the Analysis of Inorganic Saltmixures                |
|------|---|--------|------------------------|------|--|
| _    |   |        |                        |      | To learn how to analyse the salt mixture through a systematic      |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4P4S | Chemistry practical-IV | CO2  | analytical procedure   |
|      |   |        |                        |      |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4P4S | Chemistry practical-IV | CO3  | To understand the concept of qualitative analysis                  |
|      |   |        |                        |      | To determine the acid and base radicals by preliminary and         |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC4P4S | Chemistry practical-IV | CO4  | confirmatory chemical tests  |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO23 | Study of gene regulation in prokaryotes                            |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      | Knowing the details of DNA manipulative enzymes and vectors        |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO24 | used in RDT  |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      | Understanding the construction and transformation of r DNA         |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO25 | molecule and study of screening techniques                         |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      | Study of molecular techniques and applications and hazards of      |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO26 | genetic engineering  |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO21 | Understanding the types and functions of RNA molecules             |
|      |   |        | Molecular Biology &    |      |  |
|      |   |        | Recombinanent DNA      |      | understanding the gene expression- mechanism of transcription      |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT401 | Technology             | CO22 | and translation in prokaryotes                                     |
|      |   |        |                        |      | To remember the basics of Screening and selection of recombinant   |
|      |   |        | Genetic Engineering &  |      | host cells and apply construction of gene libraries, Molecular     |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT501 | Environ. Biotechnology | CO3  | biology techniques   |
|      |   |        |                        |      | Analyse and understand the technology of bioremediation,           |
|      |   |        | Genetic Engineering &  |      | treatment of municipal waste, industrial effluents, biofertilizers |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT501 | Environ. Biotechnology | CO5  | and bioleaching.   |
|      |   |        | Genetic Engineering &  |      | Understand Renewable, Non-Renewable resources of energy,           |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT501 | Environ. Biotechnology | CO4  | Conventional fuels and Modern fuels.                               |
|      |   |        | Genetic Engineering &  |      |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT501 | Environ. Biotechnology | CO1  | To understand the concepts of Genetic Engineering and its tools.   |
|      |   |        | Genetic Engineering &  |      | Apply the basics of In Vitro construction of recombinant DNA       |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | BTT501 | Environ. Biotechnology | CO2  | molecules and Transformation of r-DNA                              |

|         |  |        | Immunology & Animal    |            |  |
|---------|--|--------|------------------------|------------|--|
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT502 | Biotechnology          | CO1        | Understand the details of immunology   |
|         |  |        | Immunology & Animal    |            |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT502 | Biotechnology          | CO2        | Learn the details of animal biotechnology  |
|         |  |        | Genetic Engineering &  |            |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP503 | Environ. Biotechnology | CO1        | Deliberate in depth calculation of income tax  |
|         |  |        | Genetic Engineering &  |            |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP503 | Environ. Biotechnology | CO2        | Specify the details of genetic engg  |
|         |  |        | Immunology & Animal    |            |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP504 | Biotechnology          | CO2        | Types of Vaccination and immunization  |
|         |  |        | Immunology & Animal    |            | To understand the scope of animal cell culture and different   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP504 | Biotechnology          | CO3        | methods employed in culture of animal cells  |
|         |  |        |                        |            |  |
|         |  |        | Immunology & Animal    |            | To learn the expression of cloned proteins in animal cells and   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP504 | Biotechnology          | CO4        | methods of growth factors, antibodies and vaccines production  |
|         |  |        | Immunology & Animal    |            | To understand the different techniques in transgenic animal  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP504 | Biotechnology          | CO5        | production   |
|         |  |        | Immunology & Animal    |            | To study the history of Immunology, types of immunity,   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP504 | Biotechnology          | CO1        | interaction of Ag-Ab and hypersensitivity reactions  |
|         |  |        |                        |            | Learning the synthesis and structural elucidation of   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C51 | Chemistry-V            | CO1        | citral,Zingiberene and nicotine  |
|         |  |        |                        |            | Deliberate in depth definition, classification, structures and   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C51 | Chemistry-V            | CO2        | impotances of terpenes and alkaloids   |
|         |  |        |                        |            |  |
|         |  |        |                        |            | Learn the details of classification, preparation, properties.basicity  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C51 | Chemistry-V            | CO3        | and synthetic applications of amines   |
|         |  |        |                        |            |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C51 | Chemistry-V            | CO4        | Understanding of Heterocyclic compounds in detail  |
|         |  |        |                        |            | structure elucidation of organic compounds using spectroscopic   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C51 | Chemistry-V            | CO5        | techniques   |
| F 2 7 2 |  | 561653 | Chamistry VI           | <b>CO1</b> | Deliberate the details of Flootrack surjetures   |
| 52/2    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C52 | Chemistry-VI           | CO1        | Deliberate the details of Electrochemistry I   |
| F 2 7 2 |  | 561653 | Champing 1/4           | 602        | Deliberate in details with application, if applicable,   |
| 52/2    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C52 | Chemistry-VI           | CO2        | Electrochemistry II  |
| 5272    | D Co (Distochaology) Chomistay ( Missobiology) | 501053 | Chomistry //           | <b>CO1</b> | Deliberate in death Dhysical properties and Malesular structures   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C52 | Chemistry-VI           | CO4        | Deliberate in depth Physical properties and Molecular structures<br>Specify in details with application, if applicable, Chemical |
| 5272    | D Co (Distochaology) Chomistay ( Missobiology) | 501053 | Chomistry / )/I        | CO5        |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | SC1C52 | Chemistry-VI           | CUS        | Spectroscopy I   |

|      |   |        |                            |     | Write down in details with application, if applicable, Chemical      |
|------|---|--------|----------------------------|-----|--|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C52 | Chemistry-VI               | CO6 | Spectroscopy II  |
|      |   |        |                            |     | Identify the classification and characteristics of Electroanalytical |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C52 | Chemistry-VI               | CO7 | Methods  |
|      |   |        |                            |     |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C52 | Chemistry-VI               | CO3 | Deliberate in depth Ionic equilibria                                 |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P51 | Chemistry practical-V      | CO1 | To develop skills in doing experiments and handling instruments      |
| 01/1 |   |        |                            |     |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P51 | Chemistry practical-V      | CO2 | To provide the fundamental concepts of physical chemistry lab        |
|      |   |        |                            |     | To skill in solving problems, critical thinking and analytical       |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P51 | Chemistry practical-V      | CO3 | reasoning  |
|      |   |        |                            |     | To get the practical knowledge about physical chemistry              |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P52 | Chemistry practical-VI     | CO1 | experiments.   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P52 | Chemistry practical-VI     | CO2 | Learning various titrimetric methods                                 |
| 5272 | B.SC (BIOLECHNOLOGY) CHEMISLIY/ WICLOBIOLOGY) | 301732 |                            | 02  |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P52 | Chemistry practical-VI     | СОЗ | Skill development to make the reagents and solutions for lab         |
|      |   |        |                            |     | Significance of soil and soil microbiology, soil structure and       |
|      |   |        |                            |     | microorganisms found in soil. Details of different microbes- their   |
|      |   |        | Agricultural & Environment |     | role and characteristics (bacteria, fungi, actinomycetes, viruses,   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT501 | Microbiology               | CO1 | protozoans, algae).  |
|      |   |        |                            |     | Different microbes having positive or negative impact in             |
|      |   |        |                            |     | agriculture. Types of interactions of microbes with plants. Role of  |
|      |   |        |                            |     | microorganisms in different biogeochemical cycles. Different         |
|      |   |        |                            |     | microbes acting as biofertilizers and biopesticides- mechanism and   |
|      |   |        | Agricultural & Environment |     | merits. Biodegration of xenobiotic compounds and natural             |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT501 | Microbiology               | CO2 | polymers. Phytopathogens -symptoms, host and control measures.       |

|         |   | I      |                           | 1   |  |
|---------|---|--------|---------------------------|-----|--|
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT502 | Food & Dairy Microbiology | C01 | PRACTICAL-Food Microbiology-• Understand the principles of microorganisms during various food-processing and preservation steps. • Comprehend the interactions between microorganisms and the food environment, and factors influencing their growth and survival. • Understand the significance and activities of microorganisms in food. • Recognize the characteristics of food-borne, waterborne and spoilage microorganisms, and methods for their isolation, detection and identification. • Analyze the importance of microbiological quality control programme's in food production. • Discuss the microbiology of different types of food commodities Dairy- Quality analysis of Milk like MBRT, SPC, DMC. Estimation of lactose and fat content in milk. |
| 5272    |   |        |                           |     | Specify in depth Food and microorganisms, food spoilage, food  |
|         |   |        |                           |     | poisoning, food preservation, microbial examination of food,   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | CO2 | microorganisms as food   |
|         |   |        | , /0/                     |     |  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | CO2 | Milk composition, Milk sterilization, Microbial analysis of milk,<br>pasteurization, Sterilization and Dehydration, Yogurt and cheese<br>production, Prebiotics and Probiotics, Lactic acid fermentation,<br>Colour and Flavour- milk fermentation, Proteolysis  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | СОЗ | Microorganisms and Milk Physical and chemical properties of milk.<br>Milk as a substrate for microorganisms. Types of microorganisms<br>in Milk -bacteria, fungi and yeast. Sources of microbial<br>contamination of milk -milch animal, utensils and equipment,<br>water, milking environment,- personnel and packaging material.   |
|         |   |        |                           |     | Microbiological analysis of milk Rapid platform tests -organoleptic,<br>Clot on boiling (COB), titratable acidity, alcohol test, DMC,  |
|         |   |        |                           |     | sedimentation test and pH. Standard plate count, reductase test -  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | CO4 | MBRT, Resazurin test   |
|         |   |        |                           |     | Methods of preservation of milk and milk products Pasteurization,  |
|         |   |        |                           |     | sterilization and dehydration An account of condensed and dried  |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | CO5 | milk   |
|         |   |        |                           |     | Formerstation in will Country locking sold formerstation, as low and   |
| E 2 7 2 | P.S. (Piotochnology) Chomistry (Microhiology) |        | Food & Dainy Microbiology | CO6 | Fermentation in milk Souring, lactic acid fermentation, colour and   |
| 5272    | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology | CO6 | flavour fermentation, gassy fermentation and proteolysis.  |

|      |  |         |                           |      | Fermented Milk Products Yogurt -Types & production Cheese -  |
|------|--|---------|---------------------------|------|--|
|      |  |         |                           |      | types and production -Cheddar & Cottage Cultured Butter milk.  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | MBP504  | Food & Dairy Microbiology | CO7  | Genetic engineering and Dairy industry   |
|      |  |         |                           |      |  |
|      |  |         |                           |      | Learn in details with application, if applicable, To know the  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT602  | Industrial Biotechnology  | CO1  | concepts of industrial Biotechnology and fermentation technology.  |
|      |  |         |                           |      | Specify the classification and characteristics of To remember the  |
|      |  |         |                           |      | basics of Screening, Isolation, maintenance of strains and Types of  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT602  | Industrial Biotechnology  | CO2  | fermentation and fermenters.   |
|      |  |         |                           |      | Apply the basics of Process Development and Production of  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT602  | Industrial Biotechnology  | CO3  | Microbial products   |
|      |  |         |                           |      |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT602  | Industrial Biotechnology  | CO4  | Apply Enzyme Biotechnology and analyse Fermented foods.  |
|      |  |         |                           |      | Understand the technique of mass culture and apply culture   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTT602  | Industrial Biotechnology  | CO5  | methods for Algae and microbial polysaccharides.   |
|      |  |         |                           |      | Developing concepts in Biotechnology and Intellectual Property   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP603  | Plant Biotechnology       | CO3  | Rights (IPR)   |
| 5272 |  | DTDCOO  |                           | co 4 |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP603  | Plant Biotechnology       | CO4  | Production of edible vaccines  |
| 5272 | P. S. (Distochaslogy/ Chamistry/ Misrobiology) | DTDCO2  | Diant Diatashnalagu       | CO5  | Data of ticcus sulture in agriculture, horticulture and forestry   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP603  | Plant Biotechnology       | COS  | Role of tissue culture in agriculture, horticulture and forestry<br>To understand the basics of various invitro methods in plant |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP603  | Plant Biotechnology       | CO1  | biotechnology  |
| 5272 | B.SC (BIOLECHIOLOGY/ CHEMISLIY/ WICLOBIOLOGY)  | BIF005  |                           | 01   | To learn the tranformation techniques involved in transgenic plant   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP603  | Plant Biotechnology       | CO2  | production   |
| 5272 | b.sc (biotechnology/ chemistry/ wherobiology)  | BIF003  |                           | 02   | To know the concepts of industrial Biotechnology and   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP604  | Industrial Biotechnology  | CO1  | fermentation technology.   |
| 5272 |  | 511 004 |                           | 001  |  |
|      |  |         |                           |      | To remember the basics of Screening, Isolation, Maintenance of   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | ВТР604  | Industrial Biotechnology  | CO2  | strains and Types of fermentation and Fermenters.  |
|      |  |         |                           | -    | Identify in details with examples the basics of Process  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP604  | Industrial Biotechnology  | CO3  | Development and Production of Microbial products   |
|      |  |         |                           |      |  |
|      |  |         |                           |      | Understand the classification and characteristics of applied   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP604  | Industrial Biotechnology  | CO4  | enzyme biotechnology and analyse fermented foods.  |
|      |  |         |                           | 1    |  |
|      |  |         |                           |      | Understand the technique of mass culture and its application in  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)  | BTP604  | Industrial Biotechnology  | CO5  | production of algal and microbial polysaccharides  |

| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C61 | Chemistry-VII                        | CO1 | To understand the chemistry of coordination compounds and their biological importance   |
|------|---|--------|--------------------------------------|-----|---|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C61 | Chemistry-VII                        | CO2 | To learn the types and applications of industrial materials   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C61 | Chemistry-VII                        | CO4 | To learn about the organometallic compounds and their structure   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C61 | Chemistry-VII                        | CO3 | To introduce the newer materials in chemistry and to discuss their properties and relevance                                       |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C62 | Chemistry-VIII                       | CO2 | Knowledge on metabolism of carbohydrates, lipids and proteins.  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C62 | Chemistry-VIII                       | CO1 | Understanding of Carbohydrates, lipids, proteins with examples  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C62 | Chemistry-VIII                       | CO3 | Understand the principle, procedure and applications of<br>Biochemical Techniques   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C62 | Chemistry-VIII                       | CO4 | Knowledge on Nucleic acids and enzymes  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1C62 | Chemistry-VIII                       | CO5 | understanding of molecularbiology   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P62 | Chemistry practical VIII             | CO1 | To estimate particular biomolecules in the solution by various methods  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P62 | Chemistry practical VIII             | CO2 | To learn about the basic experiments in biochemistry  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | SC1P62 | Chemistry practical VIII             | CO3 | Colourimetric estimation of biomolecules  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | C01 | Learn the classification and characteristics of Isolation and identification of microorganisms from Ear, nose, throat and sputum. |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | CO2 | Write down in details with examples Isolation and identification of microorganisms from clinical samples -urine                   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | CO3 | Understand in depth Chemical analysis of urine -crystal identification, Determination of sugar and protein in urine samples       |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | CO4 | Learn the details of Blood grouping   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | CO5 | Understand the details of Differential count of WBC. 1 unit   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBT601 | Immunology & Medical<br>Microbiology | CO6 | Write down in details with application, if applicable, Coagulase test   |

|      |  |         | Immunology & Medical                              |             |  |
|------|--|---------|---|-------------|--|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO7         | Understand the classification and characteristics of WIDAL test  |
| 5070 |  | 107504  | Immunology & Medical                              | <b>CO</b> 0 |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO8         | Deliberate in details with examples VDRL test  |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO9         | Specify in details with examples Spot ELISA.   |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO10        | Deliberate the details of ODD -Ouchtlerlony Double Diffusion   |
|      |  |         | Immunology & Medical                              |             | Understand in details with application, if applicable, RID -   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO11        | Radiallmmuno Diffusion   |
|      |  |         | Immunology & Medical                              |             | Write down the classification and characteristics of Study of AFB  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO12        | -slide   |
|      |  |         |   |             | Identify in details with application, if applicable, Study of  |
|      |  |         |   |             | pathogenic microorganisms –Shigella spp, Clostridium spp,  |
|      |  |         | Immunology & Medical                              |             | Staphylococcus spp; Streptococcus spp, Entamoeba spp;  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT601  | Microbiology                                      | CO13        | Plasmodium spp, and Candida spp ( Slides)  |
|      |  |         | Industrial Microbiology                           |             | history of industrial microbiology- detail history of industrial   |
| 5272 | P. S. (Distochnology) Chemistry (Misrobiology)       |         | • ·   | <b>CO1</b>  |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT602  | &Microbial Technology                             | CO1         | microbiology with examples, its scope and development.<br>Fermentative production of economically important compounds, |
|      |  |         | Industrial Misrahiology                           |             |  |
| 5272 | D.C. (Distant a la mul Chamistanul Misus hislamu)    |         | Industrial Microbiology                           | 604         | biofuels, vaccines, hormones and other commercially important  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT602  | &Microbial Technology                             | CO4         | products<br>Fermenter- Basic structure and its operation, downstream   |
|      |  |         | Industrial Misrahiology                           |             |  |
| 5272 | D. Co. (Distochuselosus) Chamistrus ( Misushielosus) |         | Industrial Microbiology                           | 603         | processing, fermentation process parameters and their regulation   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT602  | & Microbial Technology<br>Industrial Microbiology | CO2         | and important components involved  |
| 5070 |  | MARTCOR | •   | 603         | Ministration Technology, industrial condition of some more and calls   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBT602  | & Microbial Technology                            | CO3         | Microbial Technology- industrial application of enzymes and cells  |
| 5070 |  |         | Immunology & Medical                              | 600         | Delthemate in denth Tak and a in   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO8         | Deliberate in depth Tuberculosis   |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO9         | Understand in details with examples Viral Diseases a. Rabies   |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO10        | Identify the details of b. Hepatitis A,B   |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO11        | Understand the details of c. HIV   |
|      |  |         | Immunology & Medical                              |             | Understand in details with examples Important groups of  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO4         | pathogenic microorganisms  |
|      |  |         | Immunology & Medical                              |             |  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology)        | MBP603  | Microbiology                                      | CO5         | Learn in details with examples Bacterial Diseases a. Syphilis  |

|      |   |        | Immunology & Medical        |         |   |
|------|---|--------|-----------------------------|---------|---|
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO6     | Deliberate in depth Diphtheria                                    |
|      |   |        | Immunology & Medical        |         |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO7     | Identify in details with application, if applicable, Cholera      |
|      |   |        | Immunology & Medical        |         |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO12    | Understand the details of Protozoan Diseases a. Amoebiasis        |
|      |   |        | Immunology & Medical        |         |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO13    | Deliberate the characteristics of b. Malaria                      |
|      |   |        | Immunology & Medical        |         | Learn the classification and characteristics of b. Cutaneous      |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO14    | mycoses   |
|      |   |        | Immunology & Medical        |         | Specify in details with application, if applicable, Major         |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO1     | developments in medical microbiology                              |
|      |   |        | Immunology & Medical        |         |   |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO2     | Learn in depth Factors responsible for microbial pathogenicity    |
|      |   |        | Immunology & Medical        |         | Deliberate in details with examples Microbial flora of the human  |
| 5272 | B.Sc (Biotechnology/ Chemistry/ Microbiology) | MBP603 | Microbiology                | CO3     | body  |
|      |   |        |                             |         | This course introduces the students to the basics of cell and its |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT101 | Fundamental of Cell Bioloty | CO-1    | components  |
|      |   |        |                             |         | Describe the fundamental principles cellular biology and model    |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT101 | Fundamental of Cell Bioloty | CO-2    | organisms   |
|      |   |        |                             |         | Understand how cells grow, divide, and die and how these          |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT101 | Fundamental of Cell Bioloty | CO-3    | important processes are regulated                                 |
|      |   |        |                             |         | Understanding how these cellular components are used to           |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT101 | Fundamental of Cell Bioloty | CO-4    | generate and utilize energy in cells                              |
|      |   |        |                             |         | The use of microscope equipment, interpretation and evaluation    |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT101 | Fundamental of Cell Bioloty | CO-5    | of ultrastructural data   |
|      |   |        |                             |         |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNP101 | Fundamental of Cell Bioloty | GNP 101 | FUNDAMENTALS OF CELL BIOLOGY                                      |
|      |   |        |                             |         |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C3S | BioChemistry-I              | CO1     | To learn the significance, conversions and applications of units  |
|      |   |        |                             |         |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C3S | BioChemistry-I              | CO2     | To study the importance of bonding and geomtries of molecules     |
|      |   |        |                             |         |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C3S | BioChemistry-I              | CO4     | To study the principles of Radioactivity and its applications     |
|      |   |        |                             |         | Specify the classification and characteristics of Solutions and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C3S | BioChemistry-I              | CO4     | Colligative properties  |
|      |   |        |                             |         |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C3S | BioChemistry-I              | CO6     | Learn in depth Acids, Bases and Buffers                           |

| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C3S | BioChemistry-I     | CO7       | Identify in details with application, if applicable, Liquids        |
|------|---|--------|--------------------|-----------|---|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C3S | BioChemistry-I     | CO5       | Deliberate in details with examples Electrochemistry                |
|      |   |        |                    |           | Deliberate in details with examples classification of antimicrobial |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | CO1       | drugs   |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T1.1      | Microbes and theories of origin of life on earth                    |
|      |   |        |                    | MBT101UNI | -   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T1.2A     | History of microbiology   |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T1.2B     | Scope of microbiology   |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T1.3      | Branches of Microbiology  |
|      |   |        | 67                 | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T1.4      | Contribution of scientists to microbiology                          |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T2.1      | Principles of microscopy  |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T2.2      | Principles of photomicrography                                      |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T2.3      | Dark field, phase contrast, fluorescent microscope                  |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T2.3B     | Electron microscopes  |
|      |   | 1      |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T4.1      | Nature of dyes and stains   |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T4.2      | Physical and Chemical theories of Staining                          |
|      |   |        |                    | MBT101UNI |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT101 | Basic Microbiology | T4.3      | Simple, Differential and structural staining                        |

| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP102 | Basic Microbiology     | CO1  | Learn in details with application, if applicable, Safety measures in<br>Laboratory, Study of student microscope and research microscope,<br>Autoclave, hot air oven, Laminar air flow bench, Inoculation<br>chamber, inoculation loop and needle,Incubator, centrifuge, pH<br>meter, seitz filter, colony counter, membrane filter and<br>colorimeter/spectrophotometer, Cleaning and sterilization of<br>glassware, preparation of cotton plugs for test tubes and pipettes,<br>wrapping of petriplates and pipettes, transfer of media and<br>inoculum, Simple staining, Gram staining, cell wall, endospore<br>staining and capsule staining |
|------|---|--------|------------------------|------|---|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT201 | Principles of Genetics | CO-1 | An overview of the principles of plant genetics including<br>Mendelian, history of genetics and modern concepts of heredity.<br>The student will demonstrate knowledge of the basics principles of  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT201 | Principles of Genetics | CO-2 | Mendelian genetics pea plant, law of segregation and law of independent assortment  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT201 | Principles of Genetics | CO-3 | The student will demonstrate deviations from classical Mendelian analysis, multiple analysis, and gene interactions   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT201 | Principles of Genetics | CO-4 | Gaining knowledge about the elements of Biometry mean,<br>median, variance chi square student t test, probability and<br>distribution   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT201 | Principles of Genetics | CO-5 | Understanding the basic concept on sex determinations,<br>Environment, hormone control and sex differentiation in<br>Drosophila and man   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | CO5  | Deliberate the classification and characteristics of Solids   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | CO6  | Learn the classification and characteristics of Phase Rule  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | C07  | Deliberate in details with application, if applicable, Chemical Equilibrium   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | CO8  | Identify the details of Reaction Kinetics   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | CO9  | Identify in details with examples Catalysis   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | CO6  | Deliberate the classification and characteristics of Introduction to<br>organic chemistry   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C23 | BioChemistry-II        | C07  | Identify in details with examples Hydrocarbons  |

| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II                         | CO8  | Deliberate the characteristics of Cycloalkanes   |
|------|---|---------|---|------|--|
| 5070 |   |         |   |      |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II                         | CO9  | Write down in depth Arenes   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II                         | CO10 | Write down in depth Alkylhalides and organometallic reactions  |
|      |   |         |   |      |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II                         | CO11 | Identify in details with application, if applicable, Alcohols  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II                         | CO12 | Identify the characteristics of Phenols  |
| 5272 | D Sa (Canadias / Diasharaista / Miarahialasa) | 661633  | Die Chamister - U                       | CO13 | Succify the dataile of Carbonyl companying   |
| 5275 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C23  | BioChemistry-II<br>Microbial Taxonomy & | 015  | Specify the details of Carbonyl compounds<br>Understand the details of Nutritional types of Microorganisms and |
| 5272 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBT201  | Culture Techniques                      | CO5  | growth curve and counting methods  |
| 5275 |   | WIB1201 | Microbial Taxonomy &                    | 005  | Write down in details with examples Media, its components and  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBT201  | Culture Techniques                      | CO4  | classification of Media  |
| 5275 | bise (denetics/ biochemistry/ withobiology)   | NIB1201 | Microbial Taxonomy &                    | 04   |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBT201  | Culture Techniques                      | CO1  | Specify in depth Structure and properties of Virus   |
| 5275 |   |         |   |      | Deliberate in details with examples Structure and replication of   |
|      |   |         | Microbial Taxonomy &                    |      | Tobacco Mosoic Virus , Lambda Phage, T4 Bacteriophage, HIV and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBT201  | Culture Techniques                      | CO2  | Herpes virus   |
|      |   |         | Microbial Taxonomy &                    |      |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBT201  | Culture Techniques                      | CO3  | Specify in depth Ultra structure of Bacterial Cell and fungal cell   |
|      |   |         | Microbial Taxonomy &                    |      | Identify the classification and characteristics of Structure and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBP202  | Culture Techniques                      | CO1  | replication of Tobacco Mosoic Virus and Herpes virus   |
|      |   |         | Microbial Taxonomy &                    |      |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBP202  | Culture Techniques                      | CO2  | Understand the characteristics of Structure and properties of Virus  |
|      |   |         | Microbial Taxonomy &                    |      | Identify the classification and characteristics of Structure and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | MBP202  | Culture Techniques                      | CO3  | Replication of HIV   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT301  | Cytogenetics                            | CO-1 | Cytological responses in gene associated diseases  |
|      | ,,  |         | - /                                     |      |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT301  | Cytogenetics                            | CO-2 | Understand the cytogenetic aberrations related disorders   |
|      |   |         |   |      | Understand the transfer of alleles/traits from generation to   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | GNT301  | Cytogenetics                            | CO-3 | generation in the development of organisms   |
|      |   |         |   |      | To make them understand about Bio inorganic chemistry in   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C33  | BioChemistry-III                        | CO5  | biological system and environmenta chemistryl  |
|      |   |         |   |      | To make them understand about the Environmental Toxicology   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology)   | SC1C33  | BioChemistry-III                        | CO6  | with examples  |

| 1    |   |        |                      |     | To make themunderstand about Identification and Separation           |
|------|---|--------|----------------------|-----|--|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C33 | BioChemistry-III     | CO7 | Techniques its principle instrumentation and applications            |
|      |   |        | -                    |     | Identify the classification and properties of carboxylic acids and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C33 | BioChemistry-III     | CO1 | Amines   |
|      |   |        |                      |     | Specify the properties, structures and importance of Terpenes and    |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C33 | BioChemistry-III     | CO2 | Alkaloids  |
|      |   |        | -                    |     | Specify in details with examples of Heterocyclic compounds and its   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C33 | BioChemistry-III     | CO3 | properties   |
|      |   |        |                      |     | Learn in details with examples, classification and importance of     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C33 | BioChemistry-III     | CO4 | drugs  |
|      |   |        | Microbial Physiology |     | Understanding enzymes in detail with its properties and              |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO2 | applications   |
|      |   |        | Microbial Physiology |     | Knowing the classification, characteristics and structure of nucleic |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO2 | acids  |
|      |   |        | Microbial Physiology |     | Understanding genome organization and detailed process of DNA        |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | СОЗ | replication in prokaryotes and eukaryotes                            |
|      |   |        | Microbial Physiology |     | learn in detail with examples about genetic recombination and        |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO4 | transposable elements in bacteria                                    |
|      |   |        | Microbial Physiology |     |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO5 | study of mutation in detail  |
| 01/0 |   |        | Microbial Physiology |     |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO6 | understanding biomolecules and bioenergetics                         |
|      |   |        | Microbial Physiology |     | learning oxidation reduction reactions and energy yielding           |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | C07 | pathways   |
| 01/0 |   |        | Microbial Physiology |     |  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT301 | & Microbial Genetics | CO8 | understanding bacterial photosynthesis                               |
| 01/0 |   |        |                      |     |  |
| 1    |   |        |                      |     | Understand the details of growth curve for fungi, IMViC,             |
|      |   |        |                      |     | Fermentation of glucose, sucrose, and lactose, Fermentation of       |
|      |   |        |                      |     | glucose, sucrose, and lactose, Mannitol motility test, Starch        |
|      |   |        |                      |     | hydrolysis, Gelatin liquefaction test, Catalase, Oxidase test,       |
|      |   |        |                      |     | Estimation of reducing sugar glucose, Estimation of Protein by       |
|      |   |        |                      |     | Lowry's method, Effect of pH and temperature on bacterial            |
|      |   |        | Microbial Physiology |     | growth, Conjugation, Transformation, Griffith's experiment and       |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP302 | & Microbial Genetics | CO1 | mechanism, Transduction -generalized and specialized ,               |
|      |   |        |                      |     | Provide basic information on the molecular mechanisms by which       |
|      |   |        |                      |     | genetic material controls development, growth or morphological       |
|      |   |        |                      |     |  |

| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT401 | Molecular Genetics  | CO-2 | Understand the historical developments of scientific discoveries, and their impacts on the development of biological methods |
|------|---|--------|---|------|--|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT401 | Molecular Genetics  | CO-3 | Explain the introduction of mutations due to the gene alterations that can be used for development of therapeutic agents     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | C07  | Understanding of Nutrition in detail with examples   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO8  | Understand the details of Macro and micro nutrients  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO6  | Learn in details with examples of different types of tissues   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO5  | Write down the mechanism of resipiration   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO2  | PHYSIOLOGY OF NERVOUS SYSTEM   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO3  | IMPROTANC OF HORMONES OF DIFFERENT GLANDS  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO4  | PHYSIOLOGY OF CARDIOVASCULAR SYSTEM  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C4S | BioChemistry-IV   | CO1  | IMPROTANCE AND ENZYMES INVOLVED IN DIGESTION   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Molecular Biology &<br>Recombinanent DNA<br>Technology<br>Molecular Biology & | C01  | Understanding the types and functions of RNA molecules   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Recombinanent DNA<br>Technology   | CO2  | Understanding the mechanism of transcription and translation in prokaryotes  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Molecular Biology &<br>Recombinanent DNA<br>Technology                        | CO3  | study of gene regulation in prokaryotes  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Molecular Biology &<br>Recombinanent DNA<br>Technology<br>Molecular Biology & | CO4  | study of DNA manipulative enzymes and vectors used in RDT  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Recombinanent DNA<br>Technology   | CO5  | Understanding the construction and transformation of r DNA molecule and study of screening techniques                        |

|      |   |        | Molecular Biology &                   |      |   |
|------|---|--------|---------------------------------------|------|---|
|      |   |        | Recombinanent DNA                     |      | study of molecular techniques and applications and hazards of                                       |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT401 | Technology                            | CO6  | genetic engineering   |
|      |   |        |                                       |      |   |
|      |   |        | Recombinant DNA                       |      | Provide the knowledge on application of recombinant DNA   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT501 | Technology                            | CO-2 | technology in the field of agriculture, environment and biomedical.                                 |
|      |   |        | Recombinant DNA                       |      | Explains the methods of cloning, genetic manipulation and their                                     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT501 | Technology                            | CO-3 | application in genetic analysis.  |
|      |   |        |                                       |      |   |
|      |   |        | Recombinant DNA                       |      | Application and Importance of Molecular methods in construction                                     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT501 | Technology                            | CO-1 | of recombinant gene and production of transgenic organisms  |
|      |   |        |                                       |      | Provide basic information on the fundamentals of human genetics                                     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT502 | Basic Human Genetics                  | CO-1 | and hereditary  |
|      |   |        |                                       |      | Role of immunology in genetic analysis for protection against                                       |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT502 | Basic Human Genetics                  | CO-2 | disease and autoimmune disorders.   |
|      |   |        |                                       |      | Explains the mechanics of inheritance, probability, gene structure                                  |
|      |   |        |                                       |      | and function, molecular genetics, and contemporary issues in  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT502 | Basic Human Genetics                  | CO-3 | human genetics  |
| 5272 |   |        | Die Chemistry V                       | COL  |   |
| 52/3 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C55 | BioChemistry-V                        | CO5  | IMPROTANCE OF STRUCTURE AND CONFIRMATIONS OF PROTIENS<br>DEFINITION CLASSIFICATION AND STRUCTURE OF |
| 5272 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C55 | BioChemistry-V                        | CO4  | CARBOHYDRATES WITH IMPROTANCE   |
| 5275 | B.St (Genetics/ Biochemistry/ Microbiology) | 301033 | Biochemistry-v                        | 04   | Understanding of classification, structures, properties and   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C55 | BioChemistry-V                        | CO2  | importance of Aminoacids  |
| 5275 |   | 561655 |                                       | 002  | Definition, classification, structures and biological improtance of                                 |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C55 | BioChemistry-V                        | CO1  | lipid   |
| 5275 |   | 501055 |                                       | 001  |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C55 | BioChemistry-V                        | CO3  | Transformation of energy and its improtance in biological system                                    |
|      |   |        |                                       |      | Definition classification and mechanism of enzymes Biological                                       |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C56 | BioChemistry-VI                       | CO1  | system  |
|      |   |        | ,                                     |      | To make them understand about the Transcription processes in  |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C56 | BioChemistry-VI                       | CO2  | both eukaryotes and prokaryotes   |
|      | , , , ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,      |        | , , , , , , , , , , , , , , , , , , , |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C56 | BioChemistry-VI                       | CO4  | Understand the classification and characteristics of mutation                                       |
|      |   |        | · ·                                   |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C56 | BioChemistry-VI                       | CO3  | Write down in details of structure and types of nucleic acids                                       |
|      |   |        |                                       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP504 | Food & Dairy Microbiology             | CO1  | Learn the characteristics of Food and Dairy Microbiology  |

|         |   |         | Developmental and            |      | Understand the role of plant and animal developmental Genetics    |
|---------|---|---------|------------------------------|------|---|
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT601  | <b>Evolutionary Genetics</b> | CO-1 | with examples   |
|         |   |         | Developmental and            |      | Explains the basics of quantitative characters and inheritance in |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT601  | <b>Evolutionary Genetics</b> | CO-2 | evolutionary, population genetics                                 |
|         |   |         | Developmental and            |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT601  | <b>Evolutionary Genetics</b> | CO-3 | Provide the application of statistical methods in genetical study |
|         |   |         |                              |      | Provide information on importance of genetics in medicine and     |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT602  | Applicative Genetics         | CO-1 | pharmacogenomics.   |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT602  | Applicative Genetics         | CO-2 | Understand the use of molecular markers and bioinformatics tools  |
|         |   |         |                              |      | Understand the genetic resources, biodiversity in studying        |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | GNT602  | Applicative Genetics         | CO-3 | behavioral nature of organisms for bio fortification              |
|         |   |         |                              |      | Identify the classification and characteristics of METABOLISM OF  |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO6  | AMINO ACIDS   |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO7  | Deliberate the characteristics of METABOLISM OF NUCELIC ACIDS     |
| 5070    |   | 664.665 | Die Chausister ( ) (II       | 604  |   |
| 52/3    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO4  | Deliberate in depth METABOLISM OF PROTIENS                        |
| 5272    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | СОЗ  | Understand the characteristics of PHOTOSYNTHESIS                  |
| 5275    | b.se (Genetics/ Biochemistry/ Microbiology) | 301005  | Biochemistry-vii             | 003  | Understand the classification and characteristics of BIOLOGICAL   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO5  | NITROGEN FIXATION   |
| 52/5    |   | 001000  |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO1  | IMPROATANCE OF CARBOHYDRATES METABOLISM                           |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C65  | BioChemistry-VII             | CO2  | IMPROTANCE OF LIPID METABOLISM                                    |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C66  | BioChemistry-VIII            | CO3  | Specify the characteristics of immunology techniques              |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C66  | BioChemistry-VIII            | CO4  | Learn in depth conceptes in immunology                            |
|         |   |         |                              |      | Understand in fermentors, process and methods of fermentation     |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C66  | BioChemistry-VIII            | CO1  | techology   |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1C66  | BioChemistry-VIII            | CO2  | To understand the tools and process of Genetic engineering        |
|         |   |         |                              |      |   |
| 5273    | B.Sc (Genetics/ Biochemistry/ Microbiology) | SC1P65  | BioChemistry practical VII   | CO1  | Understand the details of biomolecules                            |
| F 2 - 2 |   |         | Immunology & Medical         | 604  | Write down in depth Isolation and identification of               |
| 52/3    | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601  | Microbiology                 | CO1  | microorganisms from Ear, nose, throat and sputum.                 |

|      |   |        | Immunology & Medical |      | Identify in details with examples Isolation and identification of       |
|------|---|--------|----------------------|------|---|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO2  | microorganisms from clinical samples -urine                             |
|      |   |        |                      |      |   |
|      |   |        | Immunology & Medical |      | Identify in details with examples Chemical analysis of urine -crystal   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO3  | identification, Determination of sugar and protein in urine samples     |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO4  | Specify the details of Blood grouping                                   |
|      |   |        | Immunology & Medical |      | Specify the classification and characteristics of Differential count of |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO5  | WBC. 1 unit   |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO6  | Specify in details with examples Coagulase test                         |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO7  | Learn the characteristics of WIDAL test                                 |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO8  | Write down in details with application, if applicable, VDRL test        |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO9  | Specify the characteristics of Spot ELISA.                              |
|      |   |        | Immunology & Medical |      | Specify the classification and characteristics of ODD -Ouchtlerlony     |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO10 | Double Diffusion  |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO11 | Learn the details of RID -Radiallmmuno Diffusion                        |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO12 | Learn in depth Study of AFB –slide                                      |
|      |   |        |                      |      | Specify in details with application, if applicable, Study of            |
|      |   |        |                      |      | pathogenic microorganisms – Shigella spp, Clostridium spp,              |
|      |   |        | Immunology & Medical |      | Staphylococcus spp; Streptococcus spp, Entamoeba spp;                   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBT601 | Microbiology         | CO13 | Plasmodium spp, and Candida spp (Slides)                                |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology         | CO1  | Learn in depth Major developments in medical microbiology               |
|      |   |        | Immunology & Medical |      | Specify the characteristics of Factors responsible for microbial        |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology         | CO2  | pathogenicity   |
|      |   |        | Immunology & Medical |      | Identify in details with application, if applicable, Microbial flora of |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology         | CO3  | the human body  |
|      |   |        | Immunology & Medical |      | Deliberate the characteristics of Important groups of pathogenic        |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology         | CO4  | microorganisms  |
|      |   |        | Immunology & Medical |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology         | CO5  | Learn in details with examples Bacterial Diseases a. Syphilis           |

|      |   |        | Immunology & Medical       |      |   |
|------|---|--------|----------------------------|------|---|
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO6  | Deliberate in details with examples Diphtheria                        |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO7  | Deliberate the details of Tetanus                                     |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO8  | Specify in details with application, if applicable, Typhoid           |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO9  | Identify in depth Cholera   |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO10 | Identify in depth Tuberculosis  |
|      |   |        | Immunology & Medical       |      | Deliberate in details with application, if applicable, Viral Diseases |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO11 | a. Rabies   |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO12 | Learn the details of b. Hepatitis A,B                                 |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO13 | Write down the details of c. HIV                                      |
|      |   |        | Immunology & Medical       |      | Write down in details with examples Protozoan Diseases a.             |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO14 | Amoebiasis  |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO15 | Understand in details with examples b. Malaria                        |
|      |   |        | Immunology & Medical       |      | Identify the classification and characteristics of Fungal Diseases a. |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO16 | Candidiasis   |
|      |   |        | Immunology & Medical       |      |   |
| 5273 | B.Sc (Genetics/ Biochemistry/ Microbiology) | MBP603 | Microbiology               | CO17 | Identify the characteristics of b. Cutaneous mycoses                  |
|      |   |        |                            |      | Identify in details with examples Arrays: Declaring and Initializing, |
|      |   |        |                            |      | One Dimensional Arrays, Two Dimensional Arrays, Multi                 |
|      |   |        |                            |      | Dimensional Strings: Operations on strings, Arrays of strings,        |
|      | B.Sc (Computer science/ Electronics/        |        | Programming Concepts using |      | Storage Classes - Automatic, External, Static and Register            |
| 5274 | Mathematics)                                | SE1C1S | С                          | CO3  | Variables.  |
|      |   |        |                            |      |   |
|      |   |        |                            |      | Write down the characteristics of Structures - Declaring and          |
|      |   |        |                            |      | Initializing, Nested structure, Array of Structure, Unions, typedef,  |
|      |   |        |                            |      | enum, Bit fields. Pointers and functions, Call by value, Call by      |
|      | B.Sc (Computer science/ Electronics/        |        | Programming Concepts using |      | reference, Arrays of Pointers, Pointers and Structures, static and    |
| 5274 | Mathematics)                                | SE1C1S | С                          | CO4  | dynamic memory allocation, Memory allocation functions.               |
|      |   |        |                            |      | Learn in details with examples Files - File modes, File operations,   |
|      |   |        |                            |      | Text and Binary files, Command Line arguments. C Preprocessor         |
|      | B.Sc (Computer science/ Electronics/        |        | Programming Concepts using |      | directives, Macros, Creating and implementing user defined            |
| 5274 | Mathematics)                                | SE1C1S | С                          | CO5  | header files  |

| 5274 Mathematics)       SE1C1S       C       CO1       Flowcharts. Overview of C, C basis         B       Sec (Computer science/ Electronics/       SE1C1S       C       CO1       Flowcharts. Overview of C, C basis         S274 Mathematics)       SE1C1S       C       CO2       and goto statements. Functions in C         B.Sc (Computer science/ Electronics/       SE1C1S       C       CO2       and goto statements. Functions in C         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO3       Write down the characteristics of Matrices and Determinen         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO1       Understand the characteristics of Differential Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       equipments  |      |                                      |         |                            |     | Learn in details with application, if applicable, Introduction to<br>Programming Concepts: Classification of Software, Modular |
|---|------|--------------------------------------|---------|----------------------------|-----|--|
| B.Sc (Computer science/ Electronics/         SE1C1S         Programming Concepts using<br>C         Specify the characteristics of Managing Input and Output<br>Operation-Formatted and Unformatted I/O Functions, Deci<br>Making StatementsIf Statement, switch statement, ?: operation-formatted generation in C           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO3         write down the characteristics of Marines and Determinen<br>B.Sc (Computer science/ Electronics/           5274 Mathematics)         SM1C1S         Mathematics I         CO3         Write down the characteristics of Matrices and Determinen<br>B.Sc (Computer science/ Electronics/           5274 Mathematics)         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO2         Geometry           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           8.Sc (Computer science/ Electronics/         SE1C1S         Basic Electronics         CO1         Understand in depth Integral Calculus           8.Sc (Computer science/ Electronics/         SE1C1S         Basic Electronics         CO1         equipments   |      | B.Sc (Computer science/ Electronics/ |         | Programming Concepts using |     | Programming, Structured Programming, Algorithms and  |
| B.Sc (Computer science/ Electronics/         SELCIS         Programming Concepts using         Operation-Formatted and Unformatted I/O Functions, Deci, Making Statements - If Statement, switch statement, ?: ope Looping - while, do-while, for loop, Nested loop, break, cont and goto statements. Functions in C           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO3         Write down the characteristics of Matrices and Determinen           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO2         Geometry           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand the characteristics of Differential Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/         SELCIS         Basic Electronics         CO1         equipments           B.Sc (Computer science/ Electronics/         SELCIS         Basic Electronics         CO2         Maxing superation of Electronic sof semiconductor diode and application <td>5274</td> <td>Mathematics)</td> <td>SE1C1S</td> <td>С</td> <td>CO1</td> <td>Flowcharts. Overview of C, C basis</td>  | 5274 | Mathematics)                         | SE1C1S  | С                          | CO1 | Flowcharts. Overview of C, C basis   |
| B.Sc (Computer science/ Electronics/         SELCIS         C           5274         Mathematics)         SELCIS         C           6274         Mathematics)         SELCIS         C           6274         Mathematics)         SELCIS         CO2         and goto statements - functions in C           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO3         Write down the characteristics of Matrices and Determinen           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO2         Geometry           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand the characteristics of Differential Calculus           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           8.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           8.Sc (Computer science/ Electronics/         SELC1S         Basic Electronics         CO1         equipments           8.Sc (Computer science/ Electronics/         SELC1S <td< td=""><td></td><td></td><td></td><td></td><td></td><td>Specify the characteristics of Managing Input and Output</td></td<>   |      |                                      |         |                            |     | Specify the characteristics of Managing Input and Output   |
| B.Sc (Computer science/ Electronics/       SE1C1S       C       CO2       and goto statements - if Statement, switch statement, ?: ope         25274       Mathematics)       SE1C1S       C       CO2       and goto statements. Functions in C         35274       Mathematics)       SM1C1S       Mathematics I       CO3       Write down the characteristics of Matrices and Determinen         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO1       Understand the characteristics of Differential Calculus         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         8.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       equipments         8.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem   |      |                                      |         |                            |     | Operation-Formatted and Unformatted I/O Functions , Decision   |
| B.Sc (Computer science/ Electronics/       Programming Concepts using<br>C       Looping - while, do-while, for loop, Nested loop, break, cont<br>and goto statements. Functions in C         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO3         5274 Mathematics)       SM1C1S       Mathematics I       CO1       Understand the characteristics of Differential Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Basic Electronics       CO1       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/<  |      |                                      |         |                            |     | Making Statements - if Statement, switch statement, ?: operator,   |
| 5274       Mathematics)       SE1C1S       C       CO2       and goto statements. Functions in C         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO3       Write down the characteristics of Matrices and Determinen         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO1       Understand the characteristics of Differential Calculus         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         8.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         8.5c (Computer science/ Electronics/       SM1C1S       Basic Electronics       CO1       Understand in depth Integral Calculus         8.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       Understand in depth Integral Calculus         8.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       Mathematics)       Geometry         8.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics  |      | B.Sc (Computer science/ Electronics/ |         | Programming Concepts using |     | Looping - while, do-while, for loop, Nested loop, break, continue,   |
| B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO3         Write down the characteristics of Matrices and Determinen           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO2         Geometry           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO2         Geometry           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/         SE1C1S         Basic Electronics         CO1         Understand in depth Identification of Electronic component           B.Sc (Computer science/ Electronics/         SE1C1S         Basic Electronics         CO2         Maximum power transform theorem           B.Sc (Computer science/ Electronics/         SE1C1S         Basic Electronics         CO3         application      <   |      |                                      | SE1C1S  | C                          |     |  |
| B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SM1C1S         Mathematics I         CO1         Understand the characteristics of Differential Calculus           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SM1C1S         Mathematics I         CO2         Geometry           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SM1C1S         Mathematics I         CO2         Geometry           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SM1C1S         Mathematics I         CO4         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SE1C1S         Basic Electronics         CO1         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SE1C1S         Basic Electronics         CO1         Understand in depth Integral Calculus           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SE1C1S         Basic Electronics         CO2         Maximum power transform theorem           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SE1C1S         Basic Electronics         CO3         application         Baplication, if applicable, BJT and<br>transitor working and its application           B.Sc (Computer science/ Electronics/<br>5274 Mathematics)         SE1C1S         Basic Electronics         CO4         transistor working and its application <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>  |      |                                      |         |                            |     |  |
| 5274       Mathematics)       SM1C1S       Mathematics I       CO1       Understand the characteristics of Differential Calculus         B.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         5274       Mathematics)       SM1C1S       Mathematics I       CO2       Geometry         B.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.5c (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       equipments         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Mathematics of Semiconductor diode and application         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       Understand in details with application, if applicable, BJT and Semiconductor diode and application         B.5c (Computer science/ Electronics/       SE1C1S       Basic Electron   | 5274 | Mathematics)                         | SM1C1S  | Mathematics I              | CO3 | Write down the characteristics of Matrices and Determinents  |
| B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application </td <td></td> <td>B.Sc (Computer science/ Electronics/</td> <td></td> <td></td> <td></td> <td></td>  |      | B.Sc (Computer science/ Electronics/ |         |                            |     |  |
| 5274       Mathematics)       SM1C1S       Mathematics I       CO2       Geometry         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       Understand in details with application, if applicable, BJT and in details with application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       transistor working and its application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       transistor working and its application         S274       Mathematics)       SE1C1S       Basic Electronics       CO4  | 5274 | Mathematics)                         | SM1C1S  | Mathematics I              | CO1 | Understand the characteristics of Differential Calculus  |
| B.Sc (Computer science/ Electronics/       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         8.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of   |      | B.Sc (Computer science/ Electronics/ |         |                            |     | Identify in details with application, if applicable, Analytical  |
| 5274       Mathematics)       SM1C1S       Mathematics I       CO4       Understand in depth Integral Calculus         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       Understand in details with application, if applicable, BJT and application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details o  |      | •                                    | SM1C1S  | Mathematics I              | CO2 | Geometry   |
| B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate   |      | B.Sc (Computer science/ Electronics/ |         |                            |     |  |
| 5274       Mathematics)       SE1C1S       Basic Electronics       CO1       equipments         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronic  |      |                                      | SM1C1S  | Mathematics I              | CO4 |  |
| B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         5274 Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274 Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274 Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and transistor working and its application         5274 Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274 Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274 Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274 Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274 Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         6       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding  |      |                                      |         |                            |     | Understand in depth Identification of Electronic components and  |
| 5274       Mathematics)       SE1C1S       Basic Electronics       CO2       Maximum power transform theorem         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       transistor working and its application, if applicable, BJT and transistor working and its application         S274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding   |      |                                      | SE1C1S  | Basic Electronics          | CO1 |  |
| B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         6       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         6       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         7       Mathematics)       SE1C1S       Basic Electronics       CO5 <t< td=""><td></td><td>• •</td><td></td><td></td><td></td><td></td></t<>   |      | • •                                  |         |                            |     |  |
| 5274       Mathematics)       SE1C1S       Basic Electronics       CO3       application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       Understand in details with application, if applicable, BJT and transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         1       Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, A data types, algorithms complexity, time-space tradeoff.       Preliminaries: Mathematical notations and functions, Algori notations, control structures, Complexity of algorithms, asynthematical notations, and functions, control structures, Complexity of algorithms, asynthematical notations, control struct  |      |                                      | SE1C1S  | Basic Electronics          | CO2 |  |
| B.Sc (Computer science/ Electronics/       SE1C1S       Basic Electronics       CO4       Understand in details with application, if applicable, BJT and transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         6       Organization, Data Structures, data structures operations, A data types, algorithms complexity, time-space tradeoff.       Preliminaries: Mathematical notations and functions, Algorit notations, control structures, Complexity of algorithms, asynthematical structures, Complexity o  |      |                                      |         |                            |     |  |
| 5274       Mathematics)       SE1C1S       Basic Electronics       CO4       transistor working and its application         B.Sc (Computer science/ Electronics/<br>5274       B.Sc (Computer science/ Electronics/<br>Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         Introduction and Overview: Definition, Elementary data<br>organization, Data Structures, data structures operations, A<br>data types, algorithms complexity, time-space tradeoff.<br>Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asynthematical structures, Comp   |      |                                      | SE1C1S  | Basic Electronics          | CO3 |  |
| B.Sc (Computer science/ Electronics/<br>5274 Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, A data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algori notations, control structures, Complexity of algorithms, asynthesis   |      | • •                                  |         |                            |     |  |
| 5274       Mathematics)       SE1C1S       Basic Electronics       CO5       Deliberate the details of Number system and coding         Image: Second se  |      |                                      | SE1C1S  | Basic Electronics          | CO4 | transistor working and its application   |
| Introduction and Overview: Definition, Elementary data<br>organization, Data Structures, data structures operations, A<br>data types, algorithms complexity, time-space tradeoff.<br>Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asys   |      | • •                                  |         |                            |     |  |
| organization, Data Structures, data structures operations, A<br>data types, algorithms complexity, time-space tradeoff.<br>Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asyst  | 5274 | Mathematics)                         | SE1C1S  | Basic Electronics          | CO5 | Deliberate the details of Number system and coding   |
| organization, Data Structures, data structures operations, A<br>data types, algorithms complexity, time-space tradeoff.<br>Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asyst  |      |                                      |         |                            |     | Introduction and Overview: Definition. Elementary data   |
| data types, algorithms complexity, time-space tradeoff.<br>Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asy  |      |                                      |         |                            |     |  |
| Preliminaries: Mathematical notations and functions, Algori<br>notations, control structures, Complexity of algorithms, asy   |      |                                      |         |                            |     |  |
| notations, control structures, Complexity of algorithms, asy  |      |                                      |         |                            |     |  |
|   |      |                                      |         |                            |     |  |
| IBSc (Computer science/ Electronics/ Processing: Instantian I<br>Instantian Instantian Inst |      | B.Sc (Computer science/ Electronics/ |         |                            |     | notations for complexity of algorithms. String Processing:   |
| 5274 Mathematics) S2CC1S Data Structures CO1 Definition, Storing Strings, String as ADT,  |      | • •                                  | \$20015 | Data Structures            | CO1 |  |

|      | B.Sc (Computer science/ Electronics/<br>Mathematics) | S2CC1S | Data Structures                                  | CO2 | Learn the classification and characteristics of IntroArrays:<br>Definition, Linear arrays, arrays as ADT, Representation of Linear<br>Arrays in Memory, Traversing Linear arrays, Inserting and deleting,<br>Sorting: Bubble sort, Insertion sort, Selection sort, Searching:<br>Linear Search, Binary search, Multidimensional arrays, Matrices<br>and Sparse matrices.duction and Overview   |
|------|--|--------|--|-----|--|
|      | B.Sc (Computer science/ Electronics/                 |        |  |     | Learn the characteristics of Linked list: Definition, Representation<br>of Singly linked list in memory, Traversing a Singly linked list,<br>Garbage collection, Header liked list, Circular linked list.:<br>Definition, Linear arrays, arrays as ADT, Representation of Linear<br>Arrays in Memory, Traversing Linear arrays, Inserting and deleting,<br>Sorting: Bubble sort, Insertion sort, Selection sort, Searching:<br>Linear Search, Binary search, Multidimensional arrays, Matrices |
| 5274 | Mathematics)   | S2CC1S | Data Structures                                  | CO3 | and Sparse matrices.duction and Overview<br>Stacks – Definition, Array representation of stacksStack as ADT,   |
|      |  |        |  |     | Arithmetic Expressions: Polish Notation, Application of Stacks,<br>Recursion, Towers of Hanoi, recursive procedures by stack. Queues<br>– Definition, Array representation of queue, Types of queue:   |
|      | B.Sc (Computer science/ Electronics/                 |        |  |     | Simple queue, Circular queue, Double ended queue , Priority  |
|      | Mathematics)   | S2CC1S | Data Structures                                  | CO4 | queue  |
| 5274 | B.Sc (Computer science/ Electronics/<br>Mathematics) | S2CC1S | Data Structures                                  | CO5 | Write down the characteristics of Graphs: Graph theory<br>terminology, Sequential representation of Graphs: Adjacency<br>matrix, traversing a Graph. Tree – Definitions, Binary trees,<br>Representing binary trees in memory, Traversing binary trees   |
|      | B.Sc (Computer science/ Electronics/                 |        |  |     |  |
|      | Mathematics)   | SM1C2S | Mathematics II                                   | CO1 | Specify the classification and characteristics of Differential calculus  |
| 5274 | B.Sc (Computer science/ Electronics/<br>Mathematics) | SM1C2S | Mathematics II                                   | CO2 | Identify the characteristics of integral calculus  |
| 5274 | B.Sc (Computer science/ Electronics/<br>Mathematics) | SM1C2S | Mathematics II                                   | CO4 | Understand in details with examples Group Theory   |
| 5274 | B.Sc (Computer science/ Electronics/<br>Mathematics) | SM1C2S | Mathematics II                                   | CO4 | Write down in details with examples Differential Equations -I  |
| 5274 | B.Sc (Computer science/ Electronics/<br>Mathematics) | SE1C2S | Electronic Circuits & Special<br>Purpose devices | CO1 | Deliberate in details with examples small signal amplifiers  |
|      | B.Sc (Computer science/ Electronics/<br>Mathematics) | SE1C2S | Electronic Circuits & Special<br>Purpose devices | CO2 | Deliberate the characteristics of Power and tuned amplifier  |

|      | B.Sc (Computer science/ Electronics/ |        | Electronic Circuits & Special |     |  |
|------|--------------------------------------|--------|-------------------------------|-----|--|
| 5274 | Mathematics)                         | SE1C2S | Purpose devices               | CO3 | Specify in depth Differential amplifier                              |
|      | B.Sc (Computer science/ Electronics/ |        | Electronic Circuits & Special |     |  |
| 5274 | Mathematics)                         | SE1C2S | Purpose devices               | CO4 | Understand in depth Feedback and oscillators                         |
|      | B.Sc (Computer science/ Electronics/ |        | Electronic Circuits & Special |     |  |
| 5274 | Mathematics)                         | SE1C2S | Purpose devices               | CO5 | Identify in depth special purpose devices                            |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     |  |
|      | Mathematics)                         | SE1C3S | C Programming                 | CO1 | Learn the details of Integrted circuit and operational amplifier     |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     |  |
| 5274 | Mathematics)                         | SE1C3S | C Programming                 | CO2 | Write down in depth Application of OP-AMP and IC 555 Timer           |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     | Write down in details with application, if applicable, Introduction  |
| 5274 | Mathematics)                         | SE1C3S | C Programming                 | CO3 | to C programming   |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     | Specify in details with application, if applicable, Decision making, |
| 5274 | Mathematics)                         | SE1C3S | C Programming                 | CO4 | branching & looping  |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     |  |
| 5274 | Mathematics)                         | SE1C3S | C Programming                 | CO5 | Learn the characteristics of structure and unions in C               |
|      |                                      |        | Database Management           |     | Specify in details with application, if applicable, software and     |
|      | B.Sc (Computer science/ Electronics/ |        | System and Software           |     | software engineering, process model, agile development, extreme      |
| 5274 | Mathematics)                         | SCSC3S | Engineering                   | CO1 | programming  |
|      |                                      |        | Database Management           |     |  |
|      | B.Sc (Computer science/ Electronics/ |        | System and Software           |     | Deliberate the classification and characteristics of Requirement     |
| 5274 | Mathematics)                         | SCSC3S | Engineering                   | CO2 | modeling, data modeling, component level design                      |
|      |                                      |        | Database Management           |     |  |
|      | B.Sc (Computer science/ Electronics/ |        | System and Software           |     |  |
| 5274 | Mathematics)                         | SCSC3S | Engineering                   | CO3 | Specify in depth Quality concepts, software testing strategies.      |
|      |                                      |        | Database Management           |     |  |
|      | B.Sc (Computer science/ Electronics/ |        | System and Software           |     |  |
| 5274 | Mathematics)                         | SCSC3S | Engineering                   | CO4 | Learn the details of Relational database concepts                    |
|      |                                      |        | Database Management           |     |  |
|      | B.Sc (Computer science/ Electronics/ |        | System and Software           |     |  |
|      | Mathematics)                         | SCSC3S | Engineering                   | CO5 | learn the different SQL Commands                                     |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SM1C3S | Mathematics III               | CO1 | Sequences of Real Numbers  |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SM1C3S | Mathematics III               | CO2 | Series of Real Numbers   |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SM1C3S | Mathematics III               | CO3 | Differential Calculus  |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C3S | Mathematics III               | CO4 | Learn the characteristics of cosets in group theory                  |

|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     | Understand in details with examples integrated circuit and             |
|------|--------------------------------------|--------|-------------------------------|-----|--|
| 5274 | Mathematics)                         | SE1P3S | C Programming                 | CO1 | operational amplifiers   |
|      | B.Sc (Computer science/ Electronics/ |        | Linear Integrated Circuits &  |     | Specify in details with examples applications of operational           |
| 5274 | Mathematics)                         | SE1P3S | C Programming                 | CO2 | amplifier and IC 555   |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1P3S | Mathematics practicals III    | CO3 | Specify in depth series of real numbers                                |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     | Specify in details with application, if applicable, differential       |
| 5274 | Mathematics)                         | SM1P3S | Mathematics practicals III    | CO4 | calculus   |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1P3S | Mathematics practicals III    | CO1 | Specify the characteristics of basics in group theory                  |
|      | B.Sc (Computer science/ Electronics/ |        | · ·                           |     | Identify in details with application, if applicable, sequences of real |
| 5274 | Mathematics)                         | SM1P3S | Mathematics practicals III    | CO2 | numbers  |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C4S | Mathematics IV                | CO1 | Deliberate the characteristics of groups, normal subgroups             |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C4S | Mathematics IV                | CO2 | Write down the classification and characteristics of fourier series    |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C4S | Mathematics IV                | CO3 | Understand in details with examples differential calculus              |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C4S | Mathematics IV                | CO4 | Write down in depth laplace transforms                                 |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1C4S | Mathematics IV                | CO5 | Deliberate in depth differential equations-II                          |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     | Understand in details with application, if applicable,                 |
|      | Mathematics)                         | SE104S | Digital Electronics & Verilog | CO2 | Combinational logic circuits   |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SE104S | Digital Electronics & Verilog | CO3 | Write down the details of sequential logic circuits                    |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SE104S | Digital Electronics & Verilog | CO4 | Deliberate the characteristics of Introduction to Verilog              |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     | Understand the classification of verilog modeling and the              |
|      | Mathematics)                         | SE104S | Digital Electronics & Verilog | CO5 | characteristics of Dataflow and behavioural modeling                   |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SE104S | Digital Electronics & Verilog | CO1 | Learn the characteristics of Boolean algebra and logic gates           |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SM1P4S | Mathematics practicals IV     | CO1 | Learn in depth groups, normal subgroups                                |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
|      | Mathematics)                         | SM1P4S | Mathematics practicals IV     | CO2 | Specify the details of differential equations                          |
|      | B.Sc (Computer science/ Electronics/ |        |                               |     |  |
| 5274 | Mathematics)                         | SM1P4S | Mathematics practicals IV     | CO3 | Understand the classification and characteristics of fourier series    |

|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
|---------|--|--------|---------------------------|-----|---|
| 5274    | Mathematics)   | SM1P4S | Mathematics practicals IV | CO4 | Learn in details with examples differential calculus                              |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
| 5274    | Mathematics)   | SM1P4S | Mathematics practicals IV | CO5 | Deliberate the characteristics of laplace transforms                              |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
| 5274    | Mathematics)   | SE1C51 | Communication I           | CO1 | Learn in details with examples noise and transmission lines                       |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
| 5274    | Mathematics)   | SE1C51 | Communication I           | CO2 | Write down the characteristics of analog modulation techniques                    |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
| 5274    | Mathematics)   | SE1C51 | Communication I           | CO3 | Write down in details with examples radio receivers                               |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
| 5274    | Mathematics)   | SE1C51 | Communication I           | CO4 | Deliberate in depth antennas  |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     |   |
|         | Mathematics)   | SE1C51 | Communication I           | CO5 | Learn the details of television   |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     |   |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO1 | Specify the characteristics of microprocessor and its classifications             |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     | Understand the detailed architecture and pin configuaration of                    |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO2 | 8085  |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     |   |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO3 | Deliberate the characteristics of instruction set in 8085                         |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     | The detail study of stack operation, microprograming, IO operation                |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO4 | and interfacing in 8085   |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     |   |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO5 | Understand the details of Measurment systems and Transducers                      |
|         | B.Sc (Computer science/ Electronics/                 |        | Microprocessors &         |     | Deliberate the classification and characteristics of charectaristics of           |
| 5274    | Mathematics)   | SE1C52 | Instrumentation           | CO6 | Biomedical instruments  |
|         | B.Sc (Computer science/ Electronics/                 |        | Object Oriented           |     |   |
| 5274    | Mathematics)   | SC2C51 | Programming using JAVA    | CO1 | Understand in depth Introduction to java  |
|         | B.Sc (Computer science/ Electronics/                 |        | Object Oriented           |     | Learn in details with examples Classes, Arrays, Strings, Vectors and              |
| 5274    | Mathematics)   | SC2C51 | Programming using JAVA    | CO2 | Interfaces  |
|         | B.Sc (Computer science/ Electronics/                 |        | Object Oriented           |     | Deliberate in details with examples Packages, and Multithreaded                   |
| 5274    | Mathematics)   | SC2C51 | Programming using JAVA    | CO3 | Programming   |
|         | B.Sc (Computer science/ Electronics/                 |        | Object Oriented           |     | Understand the details of Applet Programming, Graphics                            |
| 5274    | Mathematics)   | SC2C51 | Programming using JAVA    | CO4 | Programming, Input/Output   |
|         | B.Sc (Computer science/ Electronics/                 |        |                           |     | Specify in details with application, if applicable, Interfacing other             |
| F 7 7 4 |  | 602052 |                           | COL |   |
| 5274    | Mathematics)<br>B.Sc (Computer science/ Electronics/ | SC2C52 | Visual Programming        | CO5 | application,MDI,splitter windows,exception handling<br>Understand in depth Visual |
| E 2 7 4 | Mathematics)   | SCOCEO | Vieual Drogramming        | c01 |   |
| 5274    |  | SC2C52 | Visual Programming        | CO1 | Programming, Events, methods, properties, controls                                |

|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
|------|--------------------------------------|----------|--------------------|-----|--|
| 5274 | Mathematics)                         | SC2C52   | Visual Programming | CO2 | Understand in depth Data types, functions, procedures, arrays        |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     | Identify in depth OOPs methods and properties, class                 |
| 5274 | Mathematics)                         | SC2C52   | Visual Programming | CO3 | modules,DLL's  |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     | Write down the characteristics of Visual C++ programming,vc++        |
|      | Mathematics)                         | SC2C52   | Visual Programming | CO4 | components, resources, MFC file handling                             |
|      | B.Sc (Computer science/ Electronics/ | 362632   | Visual rogramming  | 004 | Understand the classification and characteristics of Rings, Integral |
|      | Mathematics)                         | SM1C51   | Mathematics V      | CO1 | Domain,Fields  |
|      | B.Sc (Computer science/ Electronics/ | 01112001 |                    |     |  |
|      | Mathematics)                         | SM1C51   | Mathematics V      | CO3 | Learn in depth Numerical Methods                                     |
| 5274 | B.Sc (Computer science/ Electronics/ | 5111251  |                    | 205 |  |
| 5274 | Mathematics)                         | SM1C51   | Mathematics V      | CO2 | Understand the characteristics of vector differential calculus       |
|      | B.Sc (Computer science/ Electronics/ | 01112001 |                    |     |  |
|      | Mathematics)                         | SM1C52   | Mathematics VI     | CO3 | Specify the characteristics of calculus of variation                 |
|      | B.Sc (Computer science/ Electronics/ | 5111652  |                    |     |  |
|      | Mathematics)                         | SM1C52   | Mathematics VI     | CO1 | Specify the details of line and multiple integrals                   |
|      | B.Sc (Computer science/ Electronics/ | 01112002 |                    |     |  |
|      | Mathematics)                         | SM1C52   | Mathematics VI     | CO2 | Write down in depth Integral Theorems                                |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
| 5274 | Mathematics)                         | SE1P51   | Communication I    | CO1 | Introduction to noise and transmission line                          |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
|      | Mathematics)                         | SE1P51   | Communication I    | CO2 | Analog modulation techniques   |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
|      | Mathematics)                         | SE1P51   | Communication I    | CO3 | Structural study of Radio recievers and its Applications             |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
|      | Mathematics)                         | SE1P51   | Communication I    | CO4 | Deliberating the functioning of Antennas and its charectaristics     |
|      | B.Sc (Computer science/ Electronics/ |          |                    |     |  |
| 5274 | Mathematics)                         | SE1P51   | Communication I    | CO5 | Identify in depth of Television                                      |
|      | B.Sc (Computer science/ Electronics/ |          | Microprocessors &  |     |  |
| 5274 | Mathematics)                         | SE1P52   | Instrumentation    | CO1 | Write down in depth Introduction to minmax kit 8085                  |
|      | B.Sc (Computer science/ Electronics/ |          | Microprocessors &  |     | Understand in details with examples Write a assembly language        |
|      | Mathematics)                         | SE1P52   | Instrumentation    | CO2 | programm to transfer a data from one location to another location    |
| 5274 |                                      | JLIFJZ   |                    |     | Write down in depth Write a assembly language programm to            |
|      | B.Sc (Computer science/ Electronics/ |          | Microprocessors &  |     | Perform Addition, subtraction, multiplication and division           |
|      | Mathematics)                         | SE1P52   | Instrumentation    | CO3 | operation in 8085  |
| 5274 | B.Sc (Computer science/ Electronics/ | JLIFJZ   | Microprocessors &  |     | Identify the characteristics of Program to find number of ones and   |
| 5274 | Mathematics)                         | SE1P52   | Instrumentation    | CO4 | zeroes, factorial of numbers   |
| 5274 | ivialite illalits)                   | 361635   | instrumentation    | 04  |  |

|      | B.Sc (Computer science/ Electronics/                 |        | Microprocessors & |            | Identify the classification and characteristics of Programm to  |
|------|--|--------|-------------------|------------|---|
| 5274 | Mathematics)   | SE1P52 | Instrumentation   | CO5        | interface 8085 with stepper motor and DAC   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
| 5274 | Mathematics)   | SE1C61 | Communication II  | CO1        | Deliberate the details of Digital communication   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SE1C61 | Communication II  | CO2        | Specify in details with examples RADAR system   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            | Understand the classification and characteristics of Satellite  |
|      | Mathematics)   | SE1C61 | Communication II  | CO3        | communication   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SE1C61 | Communication II  | CO4        | Learn the characteristics of Optical fiber communication  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            | Learn the characteristics of Cellular communication and wireless  |
|      | Mathematics)   | SE1C61 | Communication II  | CO5        | LANs  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SW1C62 | Microcontrollers  | CO1        | Introduction to Microcontroller, stuctural study of 8051  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SW1C62 | Microcontrollers  | CO2        | Addressing mode, Instruction set and Interrupts in 8051   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SW1C62 | Microcontrollers  | CO3        | 8051 programming in C   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            | Configuring the Timer/Counter and interfacing of pheripheral  |
|      | Mathematics)   | SW1C62 | Microcontrollers  | CO4        | devices with 8051   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SW1C62 | Microcontrollers  | CO5        | Introduction to PIC microcontrollers and its interfacing with LCD   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SC2C61 | Web Programming   | CO1        | Learn the characteristics and Fundamentals of web   |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SC2C61 | Web Programming   | CO2        | Identify in details with application, if applicable, Java Script  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SC2C61 | Web Programming   | CO3        | Identify in depth Java Script and HTML documents  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            |   |
|      | Mathematics)   | SC2C61 | Web Programming   | CO4        | Learn in details with examples about CSS and XML  |
|      | B.Sc (Computer science/ Electronics/                 | 662662 |                   | 664        | Leave the shows to static after a first state of the  |
|      | Mathematics)   | SC2C62 | Computer Networks | CO4        | Learn the characteristics of Internetworking<br>Understand the characteristics of Packets, frames and error |
|      | B.Sc (Computer science/ Electronics/                 | 502002 | Computer Networks | 602        |   |
|      | Mathematics)<br>B.Sc (Computer science/ Electronics/ | SC2C62 | Computer Networks | CO2        | detection, hardware identification  |
|      |  | scacea | Computer Networks | <b>CO3</b> | Understand in details with application, if applicable, Extending  |
| 5274 | Mathematics)   | SC2C62 | Computer Networks | CO3        | LANs, WAN technology and routing  |
|      | B.Sc (Computer science/ Electronics/                 |        |                   |            | Learn in depth Introduction to computer networks, Transmission  |
|      | Mathematics)   | SC2C62 | Computer Networks | CO1        | media, long distance communication  |
| 5274 | iviatite mattes                                      | 362602 |                   | 01         |   |

|      | B.Sc (Computer science/ Electronics/ |          |                          |     |  |
|------|--------------------------------------|----------|--------------------------|-----|--|
|      | Mathematics)                         | SM1C61   | Mathematics VII          | CO1 | Write down the characteristics of Linear Algebra                       |
|      | B.Sc (Computer science/ Electronics/ |          |                          |     | Understand in details with application, if applicable, Orthogonal      |
|      | Mathematics)                         | SM1C61   | Mathematics VII          | CO2 | Curvilinear coordinates  |
|      | B.Sc (Computer science/ Electronics/ |          |                          |     | Learn in details with application, if applicable, Partial Differential |
|      | Mathematics)                         | SM1C61   | Mathematics VII          | CO3 | Equations  |
|      | B.Sc (Computer science/ Electronics/ |          |                          |     | Understand the classification and characteristics of Complex           |
|      | Mathematics)                         | SM1C62   | Mathematics VII          | CO1 | Analysis   |
|      | B.Sc (Computer science/ Electronics/ |          |                          |     |  |
|      | Mathematics)                         | SM1C62   | Mathematics VII          | CO2 | Understand in details with examples Numerical Methods-II               |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO1 | Unit 1:Learn the Basic characteristics of the cell.                    |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO2 | Unit 2: Learn the details of cytoskeleton                              |
|      |                                      |          |                          |     | Unit 3: Deliberate the classification and characteristics of           |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO3 | Membrane transport   |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO4 | Unit 4: Learn the details of Cell Signalling                           |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO5 | Unit 5: Identify the classification and characteristics of Cell cycle  |
|      |                                      |          |                          |     | Unit 6: Write down the characteristics of Specialized cells(Muscle     |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO6 | and Nerves)  |
|      |                                      |          |                          |     | Unit 7: Deliberate in details with examples Antioxidant defence        |
| 5275 | M.Sc Biotechnology                   | BTH-101  | Cell Biology             | CO7 | system and senescence  |
| 5275 | M.Sc Biotechnology                   | BTS- 205 | Bioinformatics           | CO1 | Deliberate the details of Introduction to Computer                     |
|      |                                      |          |                          |     | Specify the characteristics of Computer Network and Programmin         |
| 5275 | M.Sc Biotechnology                   | BTS- 205 | Bioinformatics           | CO2 | Languages  |
| 5275 | M.Sc Biotechnology                   | BTS- 205 | Bioinformatics           | CO3 | Learn in depth Databases   |
|      |                                      |          |                          |     | Write down in details with application, if applicable, Biological      |
| 5275 | M.Sc Biotechnology                   | BTS- 205 | Bioinformatics           | CO4 | Databases and sequence analysis methods                                |
| 5275 | M.Sc Biotechnology                   | BTS- 205 | Bioinformatics           | CO5 | Learn in depth Protein Structure and Molecular Interaction             |
|      |                                      |          |                          |     | Student is introduced to Microbiology, the classification and          |
|      |                                      |          |                          |     | recent trends in taxonomy. The concepts of bacterial phylogeny         |
| 5276 | M.Sc Microbiology                    | MBH101   | Bacteriology and Viology | CO1 | and construction of phylogenetic trees.                                |
|      |                                      |          |                          |     | The details of morphology and ultrastructure of bacteria. The          |
| 5276 | M.Sc Microbiology                    | MBH101   | Bacteriology and Viology | CO2 | characteristics, ultrastructure and significance of Cyanobacteria.     |
|      |                                      |          |                          |     | Morphological characteristics of different groups of bacteria such     |
|      | M.Sc Microbiology                    | MBH101   | Bacteriology and Viology | CO3 | as Mycoplasma, Archaebacteria, Actinomycetes, Rickettsia.              |

|      |                     |           |                          | T   |  |
|------|---------------------|-----------|--------------------------|-----|--|
|      |                     |           |                          |     | Learn in details with examples the nutritional requirements,         |
|      |                     |           |                          |     | cultivation media for microbes. Microbial growth kinetics and        |
| 5276 | M.Sc Microbiology   | MBH101    | Bacteriology and Viology | CO4 | factors affecting growth, mechanism of cell cycle in bacteria.       |
|      |                     |           |                          |     | Deliberate the details of the discovery, origin, nomenclature,       |
| 5276 | M.Sc Microbiology   | MBH101    | Bacteriology and Viology | CO5 | classification and ultrastructure of viruses, viriods and prions.    |
| 01/0 |                     |           |                          |     | Write down in depth the various methods of cultivation of            |
| 5276 | M.Sc Microbiology   | MBH101    | Bacteriology and Viology | CO6 | bacterial and animal viruses and their assay methods.                |
|      |                     |           |                          |     | Understand the classification and characteristics of Protozoa with   |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO2 | few examples and cultivation methods                                 |
|      |                     |           | , 0,                     |     | Deliberate the details of Fungal cell, spores, mechanism of growth,  |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO3 | cultivation and prevention of fungal growth                          |
|      |                     |           |                          |     |  |
| l.   |                     |           |                          |     | Write down the characteristics of General features, diversity,       |
|      |                     |           |                          |     | Ainsworth system of classification, structure, reproduction and      |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO4 | significance of Allomyces, Claviceps, Puccinia, Fusarium             |
|      |                     |           |                          |     | understand the different Substrate groups: saprophytic, parasitic,   |
|      |                     |           |                          |     | keratinophilic, coprophilous; substrate successions, parasitism,     |
|      |                     |           |                          |     | predation, mutualism and symbiosis with plants and animals.          |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO5 | Diversity of aquatic fungi.Economic importance of fungi.             |
| 5270 | Wi.Se Wile Obiology | IVIDIT102 |                          | 005 | Write down in depth Isolation and cultivation of algae invitro and   |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO6 | mass production of algae   |
| 5270 | Wise Wiciobiology   | WIDITIO2  |                          |     | Understand the details of Role of algae as Food, theraputics,        |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO7 | biofuels, heavy metals removal                                       |
| 01/0 |                     |           |                          |     | Understand in detail the general feature, classification, diversity, |
| 5276 | M.Sc Microbiology   | MBH102    | Eukaryotic Microbiology  | CO1 | stucture, reproduction and significance of Algae.                    |
|      |                     | -         | Microbial Phyosology &   |     |  |
| 5276 | M.Sc Microbiology   | MBH103    | Biochemistry             | CO1 | Metabolism and Bioenergetics   |
|      |                     |           | Microbial & Biochemical  |     |  |
| 5276 | M.Sc Microbiology   | MBH104    | Techniques               | CO1 |  |
|      |                     |           | Bacteriology , Viology   |     | understand the mechanisism of Growth in fungi-linear and             |
| 5276 | M.Sc Microbiology   | MBP106    | &Eukaryotic Microbiology | CO9 | biomass  |
|      |                     |           | ,                        |     |  |
|      |                     |           | Bacteriology, Viology    |     | Specify in depth Isolation of microorganism:Serial dilution, pure    |
| 5276 | M.Sc Microbiology   | MBP106    | &Eukaryotic Microbiology | CO1 | culture techniques   |

| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO10 | Understand in depth effect of pH, temperature, and nutritional factor on growth of fungi   |
|------------------------|--------|--|------|--|
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO12 | Learn the details of Isolation of algae from soil and water  |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO12 | Learn the details of Isolation of Protozoa from soil and water   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO2  | Understand the characteristics of Culturing and cultural characteristics of microorganisms   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO3  | Specify the classification and characteristics of Staining<br>techniques:Simple, Differential:acid-fast, endospore, capsule, cel<br>wall, cytoplasmic inculsionvital stains: flagella, spore and nuclear<br>staining |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO4  | Deliberate in details with examples Biochemical tests for identification of Bacteria, Identification of bacteria by API system   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO5  | Specify the details of Bacterial growth measurement(cell count, turbidometry, plate count)   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | CO6  | Delibrate the technique of Isolation of bacteriophages from sewage and flies   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology                           | C07  | Learn in detail the different methods of Isolation of fungi from soil:Dilution plate method, Warcup method, stamping method.   |
| 5276 M.Sc Microbiology | MBP106 | Bacteriology , Viology<br>&Eukaryotic Microbiology<br>Microbial Phyosology & | CO8  | Learn the different methods of Isolation of fungi from plant material  |
| 5276 M.Sc Microbiology | MBT401 | Biochemistry,<br>MicrobialTechniques<br>Microbial Phyosology &               | CO2  | learn in detail of isolation, characterisation and preservation of purecultures  |
| 5276 M.Sc Microbiology | MBT401 | Biochemistry,<br>MicrobialTechniques<br>Microbial Phyosology &               | CO2  | study principle and application of different types of microscopes  |
| 5276 M.Sc Microbiology | MBT401 | Biochemistry,<br>MicrobialTechniques   | CO3  | Learn about direct and indirect methods of measurement of microbial growth.  |

|      |                       |         | Microbial Phyosology & |     |   |
|------|-----------------------|---------|------------------------|-----|---|
|      |                       |         | Biochemistry,          |     |   |
| 5276 | M.Sc Microbiology     | MBT401  | MicrobialTechniques    | CO4 | analysis of metagenomics  |
|      |                       |         | Microbial Phyosology & |     |   |
|      |                       |         | Biochemistry,          |     |   |
| 5276 | M.Sc Microbiology     | MBT401  | MicrobialTechniques    | CO5 | Understand the principle and application of spectroscopy.                                       |
|      |                       |         | Microbial Phyosology & |     |   |
|      |                       |         | Biochemistry,          |     |   |
| 5276 | M.Sc Microbiology     | MBT401  | MicrobialTechniques    | CO6 | learn indetail principle and application of chromatography.                                     |
|      |                       |         | Microbial Phyosology & |     |   |
|      |                       |         | Biochemistry,          |     |   |
| 5276 | M.Sc Microbiology     | MBT401  | MicrobialTechniques    | CO7 | study isotope techniques  |
|      |                       |         |                        |     | Specify in depth the structure of prokaryotic genome and E.coli                                 |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO1 | chromosome.   |
|      |                       |         |                        |     | Deliberate in details the structure and organization of eukaryotic                              |
|      |                       |         |                        |     | genome. Histone modifications and their effects on chromosome                                   |
|      |                       |         |                        |     | structure and function. The different types of DNA sequences, law                               |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO2 | of DNA constancy, genome size and C-value paradox.  |
| 5270 | initial third biology | WIBH201 |                        | 02  | Understand in depth Molecular basis of spontaneous and induced                                  |
|      |                       |         |                        |     | mutations and their role in evolution; mutagens, types of                                       |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO3 | mutations, Ames and other toxicity testing.   |
|      |                       |         |                        |     |   |
|      |                       |         |                        |     | Understand in detail Genetic recombination in bacteriophages and                                |
|      |                       |         |                        |     | E. coli. Homologous recombination, role of RecA and other                                       |
| 5276 |                       | 1000    |                        | 604 | recombinases, generalized & specialized transduction,   |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO4 | transformation and conjugation.<br>Deliberate in depth mechanisms and applications of bacterial |
|      |                       |         |                        |     | transformation; Host cell restriction; Transduction;  |
|      |                       |         |                        |     | complementation; conjugation and transfection. Genetics of fungi-                               |
|      |                       |         |                        |     | alteration of generation, induction of mutation in Neurospora                                   |
|      |                       |         |                        |     | crassa and yeast, cytoplasmic inheritance and biochemical                                       |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO5 | mutants.  |
|      |                       |         |                        |     |   |
|      |                       |         |                        |     | Deliberate in details with application, Plasmids- description, types                            |
|      |                       |         |                        |     | and their uses in genetic analysis. Bacteriophages, Lysogeny and                                |
| 5276 | M.Sc Microbiology     | MBH201  | Microbial Genetics     | CO6 | lytic cycle in bacteriophages, and their uses in microbial genetics.                            |
|      |                       |         |                        |     | Learn in details with examples Control of gene expression at                                    |
| 5276 | M.Sc Microbiology     | MBH202  | Molecular Biology      | CO6 | transcription and translation level, gene silencing   |

| 5276 M.Sc Microbiology | MBH202 | Molecular Biology        | CO5 | Specify in details with examples regulation of gene expression and operon concepts  |
|------------------------|--------|--------------------------|-----|---|
| 5276 M.Sc Microbiology | MBH202 | Molecular Biology        | CO3 | Deliberate in depth Transcription in prokaryotes and eukaryotes   |
| 5276 M.Sc Microbiology | MBH202 | Molecular Biology        | CO4 | Deliberate the classification and characteristics of Translation in<br>prokaryotes and eukaryotes and post translational modifications<br>Write down in depth DNA replication in prokaryotes and  |
| 5276 M.Sc Microbiology | MBH202 | Molecular Biology        | CO2 | eukaryotes  |
| 5276 M.Sc Microbiology | MBH202 | Molecular Biology        | CO1 | Structure DNA & RNA . Mechanisms of DNA damage and repair<br>Aerobiology- Air spora in different layers of atmosphere,  |
| 5276 M.Sc Microbiology | MBH203 | Environment Microbiology | C01 | <ul> <li>bioaerosol, assessment of air quality using principles of</li> <li>sedimentation, impaction, impingement, suction and filtration.</li> <li>Brief account of transmission of airborne microbes; Microbiology of indoor and outdoor. Allergy: Causes and tests for detection of allergy.</li> </ul>  |
| 5276 M.Sc Microbiology | MBH203 | Environment Microbiology | CO2 | Aquatic Microbiology: Fresh and marine ecosystem (estuaries,<br>mangroves, deep sea, hydrothermal vents, salt pans, coral reefs).<br>Zonation of water ecosystem; upwelling, eutrophication; food<br>chain in aquatic ecosystems. Role of methanotrophs in ecosystem.<br>Potability of water, microbial assessment of water, water<br>purification. Ground water types and their contamination. Biofilm.<br>Waste treatment: sewage and effluent treatment; primary,<br>secondary and tertiary treatment, Solid waste treatment. Solid<br>wastes as sources of energy and food. |
|                        |        |                          |     | Soil Microbiology: Biotic and abiotic interactions, concepts of<br>habitat and niche. Microbial communities; nature, structure and<br>attributes, levels of species diversity, succession and stability, r an<br>K selection, genetic exchange between communities. Biodiversity<br>management and conservation. Role of microbes in organic solid<br>waste treatment matter in various soil types, subterranean<br>microbes. Biogeochemical cycles of carbon, nitrogen, phosphorou   |
| 5276 M.Sc Microbiology | MBH203 | Environment Microbiology | CO3 | and sulphur.<br>Diversity in anoxic eco system: Methanogens-reduction of carbon<br>monoxide- reduction of iron, sulphur, manganese, nitrate and<br>oxygen. Microbial transformations of Carbon, Phosphorus,   |
| 5276 M.Sc Microbiology | MBH203 | Environment Microbiology | CO4 | Sulphur, Nitrogen and Mercury.  |

| 5276 M.Sc Microbiology<br>5276 M.Sc Microbiology | MBH203<br>MBH204 | Environment Microbiology<br>Food Microbiology | CO5<br>CO7 | Extremophiles: The domain Archaea, acidophilic, alkalophilic,<br>thermophilc, barophilic and osmophilic and radiodurant microbes-<br>mechanisms and adaptation. Halophilic- membrane variation-<br>electron transport- application of thermophiles and extremophiles.<br>Extremozymes. 6hrs Unit 6 Biodegradation: Role of microbes in<br>degradation, Biodegradation of Xenobioticshydrocarbons,<br>pesticides and plastics. Biodeterioration of wood, pulp and paper;<br>Biosorption/bioaccumulation of heavy metals. Bioremediation of<br>soil, air and water: various methods, advantages and<br>disadvantages. Bioleaching of iron, copper, gold and uranium. |
|--|------------------|---|------------|--|
| 5276 M.Sc Microbiology                           | MBH204           | Food Microbiology                             | CO1        | Write down the details of Introduction: Development of food<br>microbiology as a science, scope of food microbiology. Food as<br>substrate for microorganisms, intrinsic and extrinsic factors<br>affecting the growth of microbes, important microorganisms in<br>food (molds, yeasts and bacteria) and their source (air, soil, water,<br>plants and animals).   |
| 5276 M.Sc Microbiology                           | MBH204           | Food Microbiology                             | CO2        | Write down in depth Food contamination and spoilage: Sources of<br>food contamination. Principles of food spoilage; spoilage of<br>cereals, sugar products, vegetables, fruits, meat and meat<br>products, milk and milk products, fish and sea foods, poultry;<br>spoilage of canned foods; conventional and modern methods for<br>detection of spoilage and characterization   |
| 5276 M.Sc Microbiology                           | MBH204           | Food Microbiology                             | CO3        | Write down the details of Food-borne infections and intoxication:<br>Bacterial- Brucella, Bacillus, Clostridium, Escherichia, Listeria; Food<br>intoxication- Botulism, Staphylococcal. Mycotoxins & their types –<br>aflatoxins, ochratoxins, fuminosins, trichothecenes, zealenone,<br>ergot alkaloids; food borne outbreaks and lab testing procedures.<br>Preventive measures. Molds, Algae, Protozoa, Viruses.  |

| 5276 M.Sc Microbiolog | Y | MBH204 | Food Microbiology                              | CO4             | Specify in depth Food preservation: Principles and methods of<br>food preservation- Physical (temperature, irradiation, drying,<br>canning, processing for heat treatment-D, Z and F values) Chemical<br>(Organic acids, food additives. Class I and Class II preservatives),<br>Biopreservation (Lactic acid bacteria). Food Packaging- Types of<br>packaging materials, properties and benefits.   |
|-----------------------|---|--------|--|-----------------|--|
| 5276 M.Sc Microbiolog | Y | MBH204 | Food Microbiology                              | CO5             | Learn in depth Microbial and Fermented foods: SCP- Nutritional &<br>therapeutic importance, Quorn and SCO and their Industrial<br>production. Fermented Vegetables (olives, cucumbers), Meat<br>(sausages), Beverage (cocoa and coffee); Bread, Idli, Dairy foods<br>(cheese, srikhand). production methods of Kefir, Yogurt,<br>Acidophilus milk; Probiotics, Prebiotics and Synbiotics,<br>Nutraceuticals (Cr/Se yeast), functional foods and their quality<br>standards. Application of fungal pigments in food industry. |
| 5276 M.Sc Microbiolog | v | MBH204 | Food Microbiology                              | CO6             | Deliberate in details with examples Food and sanitation: Good<br>Hygiene Practices, Sanitation in manufacture and retail trade; food<br>control agencies and their regulation, hazard analysis and critical<br>control points (HACCP); GMP, plant sanitation – employees" health<br>standard, waste treatment, disposal, quality control. Recent trends<br>and development in food technologies in India.  |
| 5276 M.Sc Microbiolog | • |        | BioInformatics                                 | CO1             | Specify the details of Introduction to computer  |
| 5276 M.Sc Microbiolog | Y | MBS205 | BioInformatics                                 | CO2             | Specify in depth Computer Network and Programming Languages<br>Deliberate the characteristics of Relational Databases  |
| 5276 M.Sc Microbiolog | ÿ | MBS205 | BioInformatics                                 | CO3             | Management   |
| 5276 M.Sc Microbiolog | ÿ | MBS205 | BioInformatics                                 | CO4             | Identify the classification and characteristics of biological<br>databases, sequence analysis methods<br>Understand the characteristics of Protein Structure and Molecular   |
| 5276 M.Sc Microbiolog | ÿ | MBS205 | BioInformatics                                 | CO5             | Interaction  |
| 5276 M.Sc Microbiolog | Ÿ | MBP206 | Microbial Genetics &<br>Molecular Biology      | CO1             | Learn the details of Basic techniques of microbial genetics and molecular biology  |
| 5276 M.Sc Microbiolog | ÿ | MBP207 | Environment Microbiology<br>&Food Microbiology | CO1<br>MBH303UN | Various techniques and methods of microbial analysis of food and environment   |
| 5276 M.Sc Microbiolog | ÿ | MBH303 | Immunology                                     | IT1             | Immune system and Immunity   |

|      |                   |        |                             | MBH303UN |  |
|------|-------------------|--------|-----------------------------|----------|--|
| 5276 | M.Sc Microbiology | MBH303 | Immunology                  | IT2      | Antigen and Antibodies   |
|      |                   |        | = -                         | MBH303UN |  |
| 5276 | M.Sc Microbiology | MBH303 | Immunology                  | IT3      | Antigen Antibody reactions   |
|      |                   |        |                             | MBH303UN |  |
| 5276 | M.Sc Microbiology | MBH303 | Immunology                  | IT4      | Hypersensitivity reactions   |
|      |                   |        |                             | MBH303UN |  |
| 5276 | M.Sc Microbiology | MBH303 | 0,                          |          | Major histocompatibility complex                                     |
|      |                   |        |                             | MBH303UN |  |
| 5276 | M.Sc Microbiology |        | 07                          | IT6      | Immunization   |
|      |                   |        | Recombanent DNA             |          | methods of cloning in prokaryotes and eukaryotes and DNA             |
| 5276 | M.Sc Microbiology | MBH303 | 0,                          | CO3      | libraries  |
|      |                   |        | Recombanent DNA             |          | Understand the principles of molecular techniques and                |
| 5276 | M.Sc Microbiology | MBH303 | 61                          | CO4      | applications   |
|      |                   |        | Recombanent DNA             |          |  |
| 5276 | M.Sc Microbiology | MBH303 | 0,                          | CO5      | Learn the methods of DNA sequencing and mapping of genes             |
|      |                   |        | Recombanent DNA             |          | learn the principles of chemical and enzymatic synthesis of genes    |
| 5276 | M.Sc Microbiology | MBH303 | Technology                  | CO6      | with examples  |
|      |                   |        | Recombanent DNA             |          |  |
| 5276 | M.Sc Microbiology | MBH303 | 87                          | CO7      | Applications of recombinant DNA technology in various field          |
|      |                   |        | Recombanent DNA             |          |  |
| 5276 | M.Sc Microbiology | MBH303 | Technology                  | CO2      | tools of genetic engineering and different types of vectors          |
|      |                   |        |                             |          |  |
|      |                   |        | Recombanent DNA             |          | Understand in depth basic techniques of recombinant DNA              |
| 5276 | M.Sc Microbiology | MBP306 | Technology & BioInformatics | CO1      | technology   |
|      |                   |        |                             |          | Write down the characteristics of Biological Nitrogen Fixation-      |
|      |                   |        |                             |          | Symbotic, nonsymbiotic, Associative nitrogen fixation mechanisms,    |
|      |                   |        |                             |          | genes involved, Nif gene, Nod factor, noduline genes, Genetic        |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology   | CO2      | engineering of Biological Nitrogen Fixation                          |
| 5270 |                   |        |                             | 02       | כווקוווככוווא טו סוטוטאוכמו זיונו טאַכוו דוגמנוטוו                   |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology   | CO3      | Understand in depth Plant-Microbes interactions                      |
|      |                   |        |                             |          | Deliberate in depth Bioinoculants: Biopesticides and Biofertilizer - |
|      |                   |        |                             |          | types, production and quality control. Cultivation and mass          |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology   | CO4      | production of bioinoculants-   |

|      |                   |        |                           |     | Identify in depth Molecular Plant Pathology- Recognition of host,<br>entry, role of enzymes, toxins, R and r genes, phytotoxins, |
|------|-------------------|--------|---------------------------|-----|--|
|      |                   |        |                           |     | Phytoalexins, PR proteins, plant defense mechanisms against  |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology | CO5 | pathogens, Transgenic approaches for crop protection   |
| 01/0 |                   |        |                           |     | Learn the characteristics of Plant diseases-Symptomatology,  |
|      |                   |        |                           |     | etiology & control of Fungal, viral, Bacterial, mycoplasma, viroidal   |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology | CO6 | diseases   |
|      |                   |        |                           |     | Identify the characteristics of Microbes in Soil fertility,  |
| 5276 | M.Sc Microbiology | MBH401 | Agricultural Microbiology | CO1 | decompositon, effect of pesticides on soil   |
|      |                   |        |                           |     | Write down in details with application, if applicable, Microbial   |
|      |                   |        |                           |     | transformation and organic synthesis: Transformation of steroids   |
|      |                   |        |                           |     | and sterols, over production of glutathione by genetically   |
|      |                   |        |                           |     | engineered cells. Metabolic engineering for vitamin C production,  |
|      |                   |        |                           |     | synthesis of acrylamide by nitrile hydratase, synthesis of optically   |
| 5276 | M.Sc Microbiology | MBH403 | Microbial Biotechnology   | CO4 | pure drugs.  |
|      |                   |        |                           |     | Identify the details of Nanotechnology: Introduction, Tools of   |
|      |                   |        |                           |     | nanosciences, Synthesis of Nanomaterials using microbes.   |
|      |                   |        |                           |     | Biopolymeric nanoparticles; nanosensors, biomedical applications,  |
| 5276 | M.Sc Microbiology | MBH403 | Microbial Biotechnology   | CO5 | antimicrobial nanoparticles.   |
|      |                   |        |                           |     | Identify the characteristics of Bioethics and biosafety:   |
|      |                   |        |                           |     | Introduction, Human genome project and its ethical, legal and  |
|      |                   |        |                           |     | social implications. Biosafety guidelines and regulations for GMOs.  |
|      |                   |        |                           |     | GLP and GMP. Labelling of GM products. Ethics and safety of GM   |
| 5276 | M.Sc Microbiology | MBH403 | Microbial Biotechnology   | CO6 | food. Testing of drugs on human volunteers.  |
|      |                   |        |                           |     | Understand the classification and characteristics of Microbial   |
|      |                   |        |                           |     | products for commercial use: Industrial production of organic acids  |
|      |                   |        |                           |     | (acetic acid, lactic acid). Amino acids (lysine, glutamic acid),   |
|      |                   |        |                           |     | Solvents (acetone, ethanol), Antibiotics (Cephalosporin,   |
|      |                   |        |                           |     | Streptomycin), Microbial polysaccharides (xanthan) and polyesters  |
|      |                   |        |                           |     | (PHB). Hormones (insulin), anticholesterol compound (Lovastatin).  |
|      |                   |        |                           |     | Vaccines (recombinant). Microbial insecticides. Secondary  |
|      |                   |        |                           |     | metabolites in bacteria and fungi (anti-cancer and antidiabetic  |
| 5276 | M.Sc Microbiology | MBH403 | Microbial Biotechnology   | CO2 | compounds).  |

| 5276 | M.Sc Microbiology                      | MBH403             | Microbial Biotechnology                      | CO3        | Deliberate in details with examples Microbial enzymes: Industrial<br>production of lipase, protease & asparaginase. Enzymes in - starch<br>processing, food, textile, detergent, leather, breweries,<br>pharmaceuticals, therapeutics, and diagnostics. Recombinant<br>enzymes. Immobilized enzymes and cells: Techniques and types of<br>immobilization, industrial applications of immobilization: merits<br>and demerits. |
|------|--|--------------------|--|------------|--|
| 5276 | M.Sc Microbiology                      | MBH403             | Microbial Biotechnology                      | C01        | Specify the characteristics of Introduction: Principle, applications, economics and milestones in microbial technology   |
|      | M.Sc Microbiology<br>M.Sc Microbiology | MBH-301<br>MBH-301 | Medical Microbiology<br>Medical Microbiology | CO4<br>CO5 | understand indetail the etiology, clinical symptoms, laboratory<br>diagnosis and treatment of bacterial and protozoan diseases.<br>study in detail the etiology, clinical symptoms, laboratory diagnosis<br>and treatment of fungal diseases.  |
|      | M.Sc Microbiology<br>M.Sc Microbiology | MBH-301<br>MBH-301 | Medical Microbiology<br>Medical Microbiology | CO6<br>CO2 | understand classification and mechanism of antimicrobial<br>agents,study of vaccins and probotics as therapeutic agents<br>Deliberate in detail the etiology, clinical symptoms, laboratory<br>diagnosis and treatment of viral diseases.  |
|      | M.Sc Microbiology                      | MBH-301            | Medical Microbiology                         | СОЗ        | Understand the details of principles and applications of various immuno and molecular diagnostic methods in microbiology   |
| 5276 | M.Sc Microbiology                      | MBH-301            | Medical Microbiology                         | CO1        | Specify the characteristics of normal microflora of the human body<br>and its significance. The detailed mechanism of infection,<br>pathogenesis and mode of transmission of pathogens in diseases.  |
| 5277 | M.Sc Biochemistry                      | BCT-205            | Microbiology                                 | CO1        | Deliberate in details different approaches for the classification of<br>Bacteria – Conventional and molecular methods and brief study of<br>important groups of bacteria with examples.  |
| 5277 | M.Sc Biochemistry                      | BCT-205            | Microbiology                                 | CO2        | Detailed study of the classification, cultivation and morphology of<br>fungi, algae and protozoa. Methods of Control of fungal growth<br>and mycotoxins and their mode of actions.<br>Specify in detail the principles of microbial nutrition, pure culture<br>techniques and cultivation of microbes. Detailed study of bacterial   |
| 5277 | M.Sc Biochemistry                      | BCT-205            | Microbiology                                 | CO4        | growth, reproduction and adaptations.  |

|         |                   |            |                             |          | Write down in details with application- Sterilization methods,                                   |
|---------|-------------------|------------|-----------------------------|----------|--|
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO5      | sterility testing and mode of action of antibiotics.   |
|         |                   |            |                             |          | Learn in details with examples Food spoilage, preservation                                       |
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO6      | methods, fermented foods and exotoxins.  |
|         |                   |            |                             |          | Specify the sources and contamination of milk by micro-organisms.                                |
|         |                   |            |                             |          | Bacterial count, reactions occurring in milk, Pasteurization,                                    |
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO7      | sterilization and fermented milk products.   |
|         |                   |            |                             |          | Identify the characteristics of normal microflora of the human                                   |
|         |                   |            |                             |          | body and its significance. mechanism of pathogen control,  |
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO8      | antibiotic assay and endotoxins.   |
|         |                   |            |                             |          | Identity in details with significance- Classification and General                                |
|         |                   |            |                             |          | Properties and structure of plant, animal and bacterial viruses. The                             |
|         |                   |            |                             |          | cultivation, enumeration and control of viruses. Production and                                  |
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO9      | mode of action of Interferons.   |
|         |                   |            |                             |          | Learne the anti-state and an end and the time of Christian                                       |
|         |                   |            |                             |          | Learn the principle, procedure and applications of Staining                                      |
| 5277    | M.Sc Biochemistry | BCT-205    | Microbiology                | CO3      | techniques, ultrastructure of bacteria and mechanism of motility.                                |
|         |                   |            |                             |          | Students gained experiential training of titrimetry, qualitative,                                |
| 5277    | M.Sc Biochemistry | BCP-206    | GENERAL BIOCHEMISTRY -1     | BCP206   | quantitative, purification methods<br>This chapter gives insights of carbohydrate metabolism how |
|         |                   |            |                             |          | glucose molecule converted into pyruvate and then generates ATP                                  |
|         |                   |            |                             |          | (ENERGY SOURCE). It also gives knowledge on what alternative                                     |
|         |                   |            |                             |          | pathways are available for cellsto make energy when glucose is not                               |
| F 7 7 7 | M So Diochomictry | BCHT – 102 | Metabolism-I                | M1       | available  |
| 5277    | M.Sc Biochemistry | BCHT - 102 |                             |          | Lipid metabolism gives knowledge of Importance of lipids in our                                  |
|         |                   |            |                             |          | body and how they generate energy in our body. It also explains                                  |
| E 2 7 7 | M.Sc Biochemistry | BCHT – 102 | Metabolism-I                | M2       | how lipids are metabolised in our body   |
| 5277    |                   | BCH1 - 102 |                             | 1012     | 5. Students learnt about Radioisotopic methods and Statistical                                   |
| 5277    | M.Sc Biochemistry | BCHT – 103 | Analytical Biochemistry – I | BCT104 5 | methods in biochemical measurements  |
| 5277    |                   |            |                             | DC1104_5 |  |
|         |                   |            |                             |          | 2. Students learnt about principles of different microscopes,                                    |
| 5277    | M.Sc Biochemistry | BCHT – 103 | Analytical Biochemistry – I | BCT103_2 | Fluorescence Microscopes and their applications  |
|         |                   |            |                             | 1        |  |
|         |                   |            |                             |          | 3. Students got knowledge about Types of Centrifugation  |
| 5277    | M.Sc Biochemistry | BCHT – 103 | Analytical Biochemistry – I | BCT103_3 | techniques, Ultrafiltration, Dialysis, Precipitation, Flow cytometry                             |
|         |                   |            |                             |          | 4. Students got knowledge about Biocalorimetry, ITC , DSC -                                      |
|         |                   |            |                             |          | principle, design and applications; Manometry - Warburg, Gilson -                                |
| 5277    | M.Sc Biochemistry | BCHT – 103 | Analytical Biochemistry – I | BCT103_4 | principle, design and applications   |

| 5277 | M.Sc Biochemistry | BCHT – 103   | Analytical Biochemistry – I         | BCT-103_1       | <ol> <li>Students got knowledge about Overview of Biochemical<br/>Investigations, Experimental model organisms and extraction<br/>methods</li> </ol>                             |
|------|-------------------|--------------|-------------------------------------|-----------------|--|
|      | M.Sc Biochemistry | BCHT – 104   | General Physiology                  | BCT104          | 1. Students gained knowledge on Nervous system   |
|      | M.Sc Biochemistry | BCHT – 104   | General Physiology                  | BCT104          | 2. students gained knowledge on muscular system  |
| 5277 |                   | Bern 104     | General Hysiology                   | DC1104          | 3. Students gamed knowledge on muscular system   |
| 5277 | M.Sc Biochemistry | BCHT – 104   | General Physiology                  | BCT104          | dynamics   |
| 5277 | M.Sc Biochemistry | BCHT – 104   | General Physiology                  | BCT104          | 4. Students got insights into digestive and cardio-vascular system   |
|      |                   |              |                                     |                 | 5. students acquired knowledge on excretory and endocrine  |
| 5277 | M.Sc Biochemistry | BCHT – 104   | General Physiology                  | BCT104          | system   |
|      |                   |              | Clinical Biochemistry and           |                 | 1. Students learnt about basic biochemistry of Carbohydrates,  |
| 5277 | M.Sc Biochemistry | BCHSCT – 105 | Nutrition                           | BCT105_1        | Lipids, Proteins   |
|      |                   |              | Clinical Biochemistry and           |                 | 2. Students learnt about biochemistry of Macro-minerals, Micro-  |
| 5277 | M.Sc Biochemistry | BCHSCT – 105 | Nutrition                           | BCT105_2        | minerals and Ultra trace minerals  |
|      |                   |              | Clinical Biochemistry and           |                 | 3. Student got knowledge about Vitamins - fat and water soluble  |
| 5277 | M.Sc Biochemistry | BCHSCT – 105 | Nutrition                           | BCT105_3        | forms, their roles and pathology   |
|      |                   |              |                                     |                 | 4. Students learnt about Energy metabolism - BMR,  |
|      |                   |              | Clinical Biochemistry and           |                 | thermoregulation, and importance of nutrition in different age   |
| 5277 | M.Sc Biochemistry | BCHSCT – 105 | Nutrition                           | BCT105_4        | groups   |
|      |                   |              | Clinical Biochemistry and           |                 |  |
| 5277 | M.Sc Biochemistry | BCHSCT – 105 | Nutrition                           | BCT1055         | 5. Students got knowledge of Oxidative stress and Antioxidants   |
|      |                   |              |                                     |                 | 1. Students acquired experiential learning on titrimetry,  |
|      |                   |              |                                     |                 | reagent/buffer preparations, qualitative and quantitative  |
| 5277 | M.Sc Biochemistry | BCHP – 106   | General Biochemistry                | BCP_106         | estimations of general biochemistry  |
| 5277 | M.Sc Biochemistry | BCHT – 201   | Protein Structure and<br>Enzymology | BCT405          | Students learnt about active site structure and enzyme catalysis, protein enzyme assays; DNA amplification, Restriction digestion and other experiments of Genetic engineering , |
| 5277 | M.Sc Biochemistry | BCHT – 202   | Analytical Biochemistry – II        | BCHT_202_<br>5  | 5. Knowledge on Bioinformatics   |
| 5277 | M.Sc Biochemistry | BCHT – 202   | Analytical Biochemistry – II        | BCHT-202_1      | 1. Knowledge on Chromatoragraphy   |
| 5277 | M.Sc Biochemistry | BCHT – 202   | Analytical Biochemistry – II        | BCHT-202 2      | 2. Knowledge on TLC, GLC, Electrophoresis &<br>Immunoelectrophoresis   |
|      | M.Sc Biochemistry | BCHT – 202   | Analytical Biochemistry – II        | BCHT -<br>202_3 | 3. Knowledge on Mass Spectrometry, UV, Fluorescece, IR, Raman, FTIR, Mass spec   |
| 5277 | M.Sc Biochemistry | BCHT – 202   | Analytical Biochemistry – II        | BCHT _<br>202_4 | 4. Knowledge on Proteomics   |

| 5277    | M.Sc Biochemistry | BCHT – 204 | Metabolism-II                      | CO1       | Deliberate in details with application, if applicable, Metabolism  |
|---------|-------------------|------------|------------------------------------|-----------|--|
| 5277    | M.Sc Biochemistry | BCHT – 204 | Metabolism-II                      | CO2       | Learn in details with application, if applicable, Metabolism   |
|         | M.Sc Biochemistry | BCHT – 204 | Metabolism-II                      | CO3       | Understand in details with examples Metabolism   |
|         |                   |            |                                    |           | -  |
|         | M.Sc Biochemistry | BCHT – 204 | Metabolism-II                      | CO4       | Understand in details with examples Metabolism   |
| 5277    | M.Sc Biochemistry | BCHT – 204 | Metabolism-II                      | CO5       | Understand in details with examples Metabolism   |
| F 2 7 7 | M So Diochomistry |            | Immunochemistry and                |           | 1. Students have got experiential training in Immunochemical   |
| 5277    | M.Sc Biochemistry | BCHP – 206 | Informatics                        | BCP_206_1 | 2. Students have acquired hands-on training on basic   |
| 5077    | M.Sc Biochemistry | BCHP – 206 | Immunochemistry and<br>Informatics | BCP206_2  | chromatography techniques  |
| 5277    |                   | вспр – 200 | Immunochemistry and                | BCP200_2  | 3. Students got experiential training in Electrophoresis, 2D gel   |
| 5277    | M.Sc Biochemistry | BCHP – 206 | Informatics                        | BCP206 3  | elctrophoresis, etc  |
|         |                   | BCHP – 207 |                                    | CO1       | Determination of Enzyme activity   |
|         | M.Sc Biochemistry |            | Enzymology                         |           |  |
|         | M.Sc Biochemistry | BCHP – 207 | Enzymology                         | CO2       | Determination of KM and Vmax   |
| 5277    | M.Sc Biochemistry | BCHP – 207 | Enzymology                         | CO3       | Determination of optimum pH and Temperature  |
| 5277    | M.Sc Biochemistry | BCHP – 207 | Enzymology                         | CO4       | Determination of type of inhibition  |
|         |                   |            |                                    |           | 2. Students gained knowledge on Prokaryotic DNA replication and  |
| 5277    | M.Sc Biochemistry | BCT – 301  | Molecular Biology – I              | BCT301_2  | Extra chromosomal replication  |
| 5277    | M.Sc Biochemistry | BCT – 301  | Molecular Biology – I              | BCT302_3  | 3. Students gained knowledge on DNA repair   |
|         |                   |            |                                    |           | 4. Students learnt about transcription in prokaryotes and  |
| 5277    | M.Sc Biochemistry | BCT – 301  | Molecular Biology – I              | BCT302_4  | eukaryotes   |
|         |                   |            |                                    |           |  |
|         |                   |            |                                    |           | 1. Students gained knowledge on Introductoory molecular biology  |
|         | M.Sc Biochemistry | BCT – 301  | Molecular Biology – I              | =         | including Clusters and repeats, topologiccal problems  |
| 5277    | M.Sc Biochemistry | BCT – 302  | Molecular Physiology               | BCT-302_1 | 1. Student gained knowledge about Nerve Signaling  |
|         |                   |            |                                    |           | 2. Students gained knowledge about Endocrine Signaling and   |
| 5277    | M.Sc Biochemistry | BCT – 302  | Molecular Physiology               | BCT302_2  | Nuclear signaling  |
| 5277    | M.Sc Biochemistry | BCT – 302  | Molecular Physiology               | BCT302 3  | 3. Students gained knowledge about Cell cycle and Apoptosis  |
| 5277    |                   | BC1 - 302  |                                    | BC1302_3  | 5. Students gamed knowledge about cell cycle and Apoptosis   |
| 5277    | M.Sc Biochemistry | BCT – 302  | Molecular Physiology               | BCT302_4  | 4. Students gained knowledge about Cancer and signaling in plants  |
| F 2     |                   | DOT 202    |                                    | 601       |  |
| 5277    | M.Sc Biochemistry | BCT – 303  | Metabolism – II                    | CO1       | Learn in details with application, if applicable, Metabolism – II<br>Students acquired experiential training on DNA isolation from |
|         |                   |            |                                    |           | different sources including bacteria, plant, animal tissues, etc; PCR  |
|         |                   |            |                                    |           | RAPD; RNA isolation; Phage titration; Southern hybridization;  |
| 5377    | M Sc Piochomistry | BCP – 306  | Molocular Piology                  | BCP306    |  |
| 5277    | M.Sc Biochemistry | DCP - 300  | Molecular Biology                  | DCP300    | Plasmid Isolation techniques   |

| 5277 | M.Sc Biochemistry | BCT – 401  | Molecular Biology – II      | BCT401_2 | 2. Students got knowledge on Transcriptional activatorys            |
|------|-------------------|------------|-----------------------------|----------|---|
|      |                   |            |                             |          | 3. Students learnt about molecular biology of drosophila            |
| 5277 | M.Sc Biochemistry | BCT – 401  | Molecular Biology – II      | BCT401_3 | development   |
|      |                   |            |                             |          | 4. Students got knowledge about Ribosomes, types and its roles in   |
| 5277 | M.Sc Biochemistry | BCT – 401  | Molecular Biology – II      | BCT401_4 | cell  |
| 5277 | M.Sc Biochemistry | BCT – 401  | Molecular Biology – II      | BCT401_5 | 5. Students got knowledge on Translation                            |
|      |                   |            |                             |          | 1. Students acquired knowledge on Gene expression in                |
|      | M.Sc Biochemistry | BCT – 401  | Molecular Biology – II      | BCT401_1 | prokaryotes and eukaryotes  |
| 5277 | M.Sc Biochemistry | BCT – 402  | Biochemical Genetics        | CO1      | learn about Human Genetics  |
| 5277 | M.Sc Biochemistry | BCT – 402  | Biochemical Genetics        | CO2      | History of Classical Genetics                                       |
| 5277 | M.Sc Biochemistry | BCT – 402  | <b>Biochemical Genetics</b> | CO3      | How works Bacterial Genetics  |
| 5277 | M.Sc Biochemistry | BCT – 402  | Biochemical Genetics        | CO3      | Learn about Viral Genetics  |
|      |                   |            |                             |          | know about Restriction endonucleases and DNA modifying              |
| 5277 | M.Sc Biochemistry | BCT – 403  | Biotechnology               | CO1      | enzymes   |
| 5277 | M.Sc Biochemistry | BCT – 403  | Biotechnology               | CO2      | Learn about Cloning Vectors   |
| 5277 | M.Sc Biochemistry | BCT – 403  | Biotechnology               | CO3      | How works PCR, Genomic and cDNA libraries                           |
| 5277 | M.Sc Biochemistry | BCT – 403  | Biotechnology               | CO4      | Sequencing and mutagenesis concept                                  |
| 5277 | M.Sc Biochemistry | BCT – 403  | Biotechnology               | CO5      | Gene transfer to animals cells and plants                           |
| 5277 | M.Sc Biochemistry | BCT – 404  | Immunology and Toxicology   | BCT404_1 | 1. Knowledge on Infection, Compliment fixation and Immunity         |
| 5277 | M.Sc Biochemistry | BCT – 404  | Immunology and Toxicology   | BCT404_2 | 2. Knowledge on Immunoglobulins, types and their roles              |
|      |                   |            |                             |          | 3. Knowledge on Immune system, HLA typing, B and T cell             |
| 5277 | M.Sc Biochemistry | BCT – 404  | Immunology and Toxicology   | BCT404_3 | differentiation   |
|      |                   |            |                             |          | 4. Knowledge on Molecular Immunology, Antibody Diversity, MHC       |
| 5277 | M.Sc Biochemistry | BCT – 404  | Immunology and Toxicology   | BCT404_4 | Class switching   |
|      |                   | D.CT. 404  |                             |          | 5. Knowledge on Clinical Immunology, Immuno assay methods,          |
| 5277 | M.Sc Biochemistry | BCT – 404  | Immunology and Toxicology   | BCT404_5 | Toxicology  |
|      |                   |            | Genetic Engineering and     |          | The lab practicals involves mainly molecular Biology techniques     |
| 5277 | M.Sc Biochemistry | BCP – 405  | Protein chemistry           | MBP1     | such as PCR, Gel electrophoresis and DNA extraction.                |
|      |                   |            |                             |          | This project work involves complete research work i.e wet lab with  |
|      |                   |            |                             |          | detailed research topic, Design of experiments and result analysis. |
|      |                   |            |                             |          | Finally all results will be analyzed and thesis writing with        |
| 5277 | M.Sc Biochemistry | BCPR – 406 | Project work                | PW1      | interpretation of outcome of project work                           |
|      |                   |            |                             |          | Students attained the detail knowledge of biomolecules like         |
| 5278 | M.Sc Chemistry    | C-102      | Organic Chemistry I         | C-102-4  | carbohydrates & vitamins .  |

| 5278 M.Sc Chemistry | C-102    | Organic Chemistry I    | CO3     |   |
|---------------------|----------|------------------------|---------|---|
|                     |          |                        |         | student attained the knowledge of synthesis of heterocyclic         |
| 5278 M.Sc Chemistry | C-102    | Organic Chemistry I    | C-102-5 | compounds and their biological uses                                 |
|                     |          |                        |         | Electronic spectra of coordination compunds; students gained        |
|                     |          |                        |         | knowledge about spectroscopic gound state, orgel diagrams,          |
|                     |          |                        |         | Tanaube-Sugano diagrams, spectral properties of Lanthanides and     |
| 5278 M.Sc Chemistry | C-201    | InorganicChemistry-II  | C201    | actinides metal complexes   |
|                     |          |                        |         | Magnetic properties of coordination compounds; students gained      |
|                     |          |                        |         | knowledge about types of magnetic behaviour, susceptibility and     |
|                     |          |                        |         | its determination, photochemical reactions of transition metal      |
| 5278 M.Sc Chemistry | C-201    | InorganicChemistry-II  | C201    | complexes   |
|                     |          |                        |         | Students gained detailed knowledge on reaarrangement reaction       |
| 5278 M.Sc Chemistry | C-202    | Organic Chemistry II   | C202_1  | of organic compounds and their mechanism                            |
|                     |          |                        |         | Students gained knowledge on Vitamines, synthesis and their         |
| 5278 M.Sc Chemistry | C-202    | Organic Chemistry II   | C202_3  | biological roles  |
|                     |          |                        |         | Students gained detailed knowledge on Amino acids and peptides      |
| 5278 M.Sc Chemistry | C-202    | Organic Chemistry II   | C202_2  | synthesis   |
|                     |          |                        |         |   |
|                     |          |                        |         | 1. Students gained knowledge in thermodynamics-I: partial molar     |
| 5278 M.Sc Chemistry | C-203    | Physical Chemistry II  | C203_1  | properties, phase rule, introduction to statistical thermodynamics  |
|                     |          |                        |         |   |
|                     |          |                        |         | 2. Students are able to understand concept of distribution laws of  |
| 5278 M.Sc Chemistry | C-203    | Physical Chemistry II  | C203_2  | statistical thermodynamics and non equilibrium thermodynamics       |
|                     |          |                        |         | 3. Students gained knowledge in Electrochemistry: Debye-Huckel      |
|                     |          |                        |         | theory of strong electrolytes, Thermodynamics of electrified        |
| 5278 M.Sc Chemistry | C-203    | Physical Chemistry II  | C203_3  | interfaces  |
|                     |          |                        |         | 4. Students gained knowledge in Electrochemistry-II; Structure of   |
| 5278 M.Sc Chemistry | C-203    | Physical Chemistry II  | C203_4  | electrical double layers, overpotential, polarography               |
|                     | C-205    | Filysical Chemistry II | C203_4  |   |
|                     |          |                        |         | Organic Reaction Mechanism- Offers aliphatic substitution           |
|                     |          |                        |         | reactions, free radical chemistry, photochemistry and pericyclic    |
|                     |          |                        |         | chemistry and structural, mechanistic, functional and regulatory    |
|                     |          |                        |         | aspects of enzymes and coenzymes. Students are getting exposed      |
|                     |          |                        |         | to various sort of reactionswith different mechanistic approach. Al |
|                     |          |                        |         | these preliminary concepts will be continued through Organic        |
|                     |          |                        |         | reaction paper-II. This paper gives the knowledge of advanced       |
|                     |          | Organic Reaction       |         | biochemical reaction, photochemistry and pericyclic chemistry to    |
| 5278 M.Sc Chemistry | C-301-OC | Mechanisms             |         | students by the end of the course                                   |

|         |                  |          | Chemistry of Natural          |           |  |
|---------|------------------|----------|-------------------------------|-----------|--|
| 5278    | M.Sc Chemistry   | C-302-OC | Products                      | C-302 -1  | Students attained the knowledge of Terpenoids and carotenoids        |
|         |                  |          |                               |           | Students attained the knowledge of Alkaloids                         |
|         |                  |          | Chemistry of Natural          |           | i.e.nomenclature, Isolation, structure elucidation, synthesis and    |
| 5278    | M.Sc Chemistry   | C-302-OC | Products                      | C-302-2   | biosynthesis.  |
|         |                  |          | Chemistry of Natural          |           | Students attained the Detailed knowledge of porphyrins-haemin        |
| 5278    | M.Sc Chemistry   | C-302-OC | Products                      | C-302-3   | and chlorophyll and vit B12  |
|         |                  |          | Chemistry of Natural          |           | student learned the detailed knowledge of synthesis of               |
| 5278    | M.Sc Chemistry   | C-302-OC | Products                      | C-302-4   | oligonucleotides   |
|         |                  |          | Chemistry of Natural          |           | Students attained the detail knowledge of synthesis of               |
| 5278    | M.Sc Chemistry   | C-302-OC | Products                      | C-302-5   | prostaglandins and Insect Pheromones                                 |
|         |                  |          |                               |           | Organic Spectroscopy- Offers UV- VIS spectroscopy, Infrared          |
|         |                  |          |                               |           | Spectroscopy, NMR spectroscopy and Mass Spectroscopy.                |
|         |                  |          |                               |           | Students are getting exposed to various spectroscopic techniques     |
|         |                  |          |                               |           | which are essential for structural elucidation. This paper gives the |
|         |                  |          |                               |           | knowledge of organic spectroscopy to students by the end of the      |
| 5278    | M.Sc Chemistry   | C-303-OC | Organic Spectroscopy          | CO1       | course   |
|         |                  |          | Organic Chemistry Practicals- |           | Organic chemistry practicals I- At the end of the course students    |
| 5278    | M.Sc Chemistry   | C-305-OC | I                             | CO1       | are able to carryout single step synthesis.                          |
|         |                  |          |                               |           |  |
|         |                  |          | Organic Chemistry Practicals- |           | Organic chemistry practicals II- At the end of the course students   |
| 5278    | M.Sc Chemistry   | C-306-OC | 11                            | CO1       | are able to identify the functional group by qualitative analysis    |
|         |                  |          | Organic Chemistry Practicals- |           | Organic chemistry practicals III- At the end of the course students  |
| 5278    | M.Sc Chemistry   | C-307-OC | 111                           | CO1       | are able to carryout Multi-step synthesis.                           |
|         |                  |          |                               |           | Organic chemistry practicals IV- At the end of the course students   |
|         |                  |          | Organic Chemistry Practicals- |           | are able to estimate the functional group quantitatively by various  |
| 5278    | M.Sc Chemistry   | C-308-OC | IV                            | CO1       | methods.   |
|         |                  |          |                               |           | Students attained the detail knowledge of use of reagents in         |
| 5278    | M.Sc Chemistry   | C-403-OC | Organic Synthesis             | C-403-III | Oxidation reactions  |
|         |                  |          |                               |           | Students attained the detail knowledge of use of the reagents in     |
| 5278    | M.Sc Chemistry   | C-403-OC | Organic Synthesis             | C-403-II  | organic synthesis.   |
|         |                  |          |                               |           | Students attained the detail knowledge of use of reagents in         |
| 5278    | M.Sc Chemistry   | C-403-OC | Organic Synthesis             | C-403-IV  | Reduction reactions.   |
| F 3 7 9 | M Sa Chamistry   | C 404 OC | Madiainal Organia Chamistry   | CO1       | Students attained the datail knowledge on staroids                   |
| 5278    | M.Sc Chemistry   | C-404-OC | Medicinal Organic Chemistry   | 01        | Students attained the detail knowledge on steroids                   |
| 5278    | M.Sc Chemistry   | C-404-OC | Medicinal Organic Chemistry   | (0)       | Students attained the detail knowledge on antibiotics                |
| J270    |                  | 0-404-00 |                               | 02        | Students attained the detail knowledge on synthesis of drugs and     |
| 5070    | M.Sc Chemistry   | C-404-OC | Medicinal Organic Chemistry   | 603       | their mode of action   |
| 5270    | ivi.oc chemistry | C-404-0C | inicultural Organic Chemistry | 03        |  |

| 5279 | BCA – Bachelor of Computer Applications | ENG11S | English                               | C01  | Develop English language skills in listening, speaking, reading and writing by having learners engage in a range of communicative tasks and activities suiting Indian context  |
|------|---|--------|---------------------------------------|------|--|
| 5279 | BCA – Bachelor of Computer Applications | ENG11S | English                               | CO2  | Encourage the use of strategies, such as contextualization of new vocabulary, use of previewing, skimming and scanning techniques, and knowledge of text organization and discourse markers, to aid the comprehension of written and spoken language.            |
| 5279 | BCA – Bachelor of Computer Applications | ENG11S | English                               | СОЗ  | Demonstrate an awareness of the significance of literature and of literary form by being conversant about the functions of texts and their relations with historical, social and political contexts.   |
| 5279 | BCA – Bachelor of Computer Applications | ENG11S | English                               | CO4  | Create awareness about the new learning styles to comprehend<br>the theme and genre and the relevance of it in a better and deeper<br>way and also to increase the competence in the use of ICT so that<br>learners may more effectively achieve academic goals. |
|      |   |        |                                       |      | Learn and practice academic paragraph and essay elements including a central idea supported by relevant details and  |
| 5279 | BCA – Bachelor of Computer Applications | ENG11S | English                               | CO5  | transitions, with unity and organization.  |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Problem Solving Techniques<br>using C | C01  | Understand in details with application, if applicable, : Introduction to Programming Concepts and overview of C  |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Problem Solving Techniques<br>using C | CO3  | Learn in detail about Managing input and output operations,<br>Decision making, branching and looping and function concept   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Problem Solving Techniques<br>using C | CO6  | Specify the classification and characteristics of Arrays, Strings and its operations   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Problem Solving Techniques<br>using C | CO9  | Deliberate the details of Structures and unions, Pointer concept   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Problem Solving Techniques<br>using C | CO11 | Identify in details with examples about Files concept in C   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Computer Organization                 | CO1  | Deliberate the classification and characteristics of number<br>system,Basic conversion,complements,weighted and non-<br>weighted codes.  |
| 52.5 |   |        | Sector Statistics                     |      | Understand the classification and characteristics of logic gates,flip-   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Computer Organization                 | CO2  | flops,k-map,combinational circuit  |
|      |   |        |                                       |      | Understand the characteristics of Computer   |
| 5270 | DCA Dechalar of Computer Applications   | 607104 | Computer Oregination                  | 601  | Organization, Instruction format, types of instruction   |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Computer Organization                 | CO3  | format, instruction cycle, interrupts  |

|      |   |        |                       |     | Delibrate ALU, one address, two address and three address   |
|------|---|--------|-----------------------|-----|---|
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Computer Organization | CO4 | instruction format, data transfer and data manipulation instruction   |
|      |   |        |                       |     | Understand in details with examples Memory management, input  |
| 5279 | BCA – Bachelor of Computer Applications | SB7104 | Computer Organization | CO5 | devices, output devices, storage devices  |
| 5279 | BCA – Bachelor of Computer Applications | SB7105 | Discrete Mathematics  | CO1 | Understand the characteristics of Matrices  |
| 5279 | BCA – Bachelor of Computer Applications | SB7105 | Discrete Mathematics  | CO4 | Understand the details of groups and vectors  |
| 5279 | BCA – Bachelor of Computer Applications | SB7105 | Discrete Mathematics  | CO5 | Identify the classification and characteristics of analytical geometry  |
| 5279 | BCA – Bachelor of Computer Applications | SB7105 | Discrete Mathematics  | CO2 | Understand in details with examples sets, functions and logic   |
| 5279 | BCA – Bachelor of Computer Applications | SB7105 | Discrete Mathematics  | CO3 | Identify in details with application, if applicable, logarithms, permutation and combination  |
| 5279 | BCA – Bachelor of Computer Applications | SB7103 | DIGITAL ELECTRONICS   | C01 | Learn the details of Introduction to network theorems and AC<br>fundamentals: Ohm's law: Statement, explanation. Kirchhoff's law:<br>Statement & explanation of KCL and KVL. Mesh/loop analysis   |
| 5279 | BCA – Bachelor of Computer Applications | SB7103 | DIGITAL ELECTRONICS   | CO2 | Understand in depth Semiconductor Devices: Introduction, atomic<br>structure, energy level, energy band diagram in solids,<br>classification of conductors, insulators and semiconductors.<br>Semiconductor, properties, crystal structure of semiconductor,<br>types – intrinsic and extrinsic semiconductor |
| 5279 | BCA – Bachelor of Computer Applications | SB7103 | DIGITAL ELECTRONICS   | CO3 | Deliberate in details with application, if applicable, Number<br>Systems: Introduction to number systems – positional and non-<br>positional, Base /Radix. Decimal number system-Definition, digits,<br>radix/base, Binary number system – Bit Byte, Conversions: Binary<br>to Decimal and Decimal to Binary  |
|      |   |        |                       |     | Learn in depth Logic Gates: AND Gate: Definition, symbol truth  |
| 5279 | BCA – Bachelor of Computer Applications | SB7103 | DIGITAL ELECTRONICS   | CO4 | table, timing diagram   |
| 5279 | BCA – Bachelor of Computer Applications | SB7103 | DIGITAL ELECTRONICS   | CO5 | Specify in details with application, if applicable, Sequential Circuits:<br>Importance of clock in digital circuit and introduction to flip flop.<br>Flip –flop-difference between latch and flip-flop.   |

|         |   |        |                           |     | Specify the classification and characteristics of Linked list:       |
|---------|---|--------|---------------------------|-----|--|
|         |   |        |                           |     | Definition, Representation of Singly linked list in memory,          |
|         |   |        |                           |     | Traversing a Singly linked list, Searching a Singly linked list,     |
|         |   |        |                           |     | Memory allocation, Garbage collection, Insertion into a singly       |
| 5279    | BCA – Bachelor of Computer Applications | SB7106 | Data structures           | CO3 | linked list  |
| 5275    |   | 307100 |                           | 005 |  |
|         |   |        |                           |     | Identify in details with application, if applicable, Stacks –        |
|         |   |        |                           |     | Definition, Array representation of stacks, Linked representation of |
|         |   |        |                           |     | stacks, Stack as ADT. Queues – Definition, Array representation of   |
| 5279    | BCA – Bachelor of Computer Applications | SB7106 | Data structures           | CO4 | queue, Linked list representation of queues Types of queue.          |
| 5275    | ber bachelor of computer Applications   | 307100 |                           | 04  | Write down in details with application, if applicable, Graphs: Graph |
|         |   |        |                           |     | theory terminology, Sequential representation of Graphs:             |
|         |   |        |                           |     | Adjacency matrix, traversing a Graph. Tree – Definitions, Binary     |
|         |   |        |                           |     | trees, Representing binary trees in memory, Traversing Binary        |
| 5 2 7 0 | PCA Pashalar of Computer Applications   | 507106 | Data structures           | CO5 |  |
| 5279    | BCA – Bachelor of Computer Applications | SB7106 | Data structures           | COS | Trees.   |
|         |   |        |                           |     | Learn in details with examples Data Structures, data structures      |
|         |   |        |                           |     | operations, Abstract data types, algorithms complexity, time-space   |
|         |   |        |                           |     | tradeoff. Preliminaries: Mathematical notations and functions,       |
| 5270    |   | 607406 |                           | 601 |  |
| 5279    | BCA – Bachelor of Computer Applications | SB7106 | Data structures           | CO1 | Algorithmic notations  |
|         |   |        |                           |     | Deliberate the classification and characteristics of Arrays:         |
|         |   |        |                           |     | Definition, Linear arrays, arrays as ADT, Representation of Linear   |
|         |   |        |                           |     |  |
| 5270    |   | 607406 |                           | 600 | Arrays in Memory, Traversing Linear arrays, Inserting and deleting,  |
| 5279    | BCA – Bachelor of Computer Applications | SB7106 | Data structures           | CO2 | Sorting: Bubble sort, Insertion sort, Selection sort, Searching      |
|         |   |        | Database Management       |     | Understand in details with application, if applicable, Relational    |
| 5279    | BCA – Bachelor of Computer Applications | SB7107 | System                    | CO4 | Database Language:   |
|         |   |        | Database Management       |     |  |
| 5279    | BCA – Bachelor of Computer Applications | SB7107 | System                    | CO5 | Identify the details of Transaction Processing Concepts:             |
|         |   |        | Database Management       |     | Specify in details with examples Functional Dependencies and         |
| 5279    | BCA – Bachelor of Computer Applications | SB7107 | System                    | CO3 | Normalization for Relational Database:                               |
|         |   |        | Database Management       |     | Learn in details with application, if applicable, Introduction:      |
| 5279    | BCA – Bachelor of Computer Applications | SB7107 | System                    | CO1 | Database, DBMS   |
|         |   |        | Database Management       |     | Write down the classification and characteristics of Data Modeling   |
| 5279    | BCA – Bachelor of Computer Applications | SB7107 | System                    | CO2 | Using the Entity-Relationship Model:                                 |
|         |   |        | Numerical and Statistical |     | Understand in details with examples Floating Points and roots of     |
| 5279    | BCA – Bachelor of Computer Applications | SB7108 | Methods                   | CO1 | equations  |
|         |   |        | Numerical and Statistical |     |  |
| 5279    | BCA – Bachelor of Computer Applications | SB7108 | Methods                   | CO2 | Write down in details with examples statistics                       |

|      |   |         | Numerical and Statistical |      |   |
|------|---|---------|---------------------------|------|---|
| 5279 | BCA – Bachelor of Computer Applications | SB7108  | Methods                   | CO3  | Identify in depth probability                                       |
|      |   |         | Numerical and Statistical |      |   |
| 5279 | BCA – Bachelor of Computer Applications | SB7108  | Methods                   | CO4  | Understand in depth Interpolation and numerical differentiation     |
|      |   |         | Numerical and Statistical |      | Write down the classification and characteristics of System of      |
| 5279 | BCA – Bachelor of Computer Applications | SB7108  | Methods                   | CO5  | linear equations  |
|      |   |         |                           |      | Develop English language skills in listening, speaking, reading and |
|      |   |         |                           |      | writing by having learners engage in a range of communicative       |
| 5279 | BCA – Bachelor of Computer Applications | ENGC3S  | English                   | CO1  | tasks and activities suiting Indian context.                        |
|      |   |         |                           |      | Encourage the use of strategies, such as contextualization of new   |
|      |   |         |                           |      | vocabulary, use of previewing, skimming and scanning techniques,    |
|      |   |         |                           |      | and knowledge of text organization and discourse markers, to aid    |
| 5270 | BCA – Bachelor of Computer Applications | ENGC3S  | English                   | CO-2 | the comprehension of written and spoken language.                   |
| 5215 | bea – bachelor of computer applications | LINGCSS |                           | 0-2  |   |
|      |   |         |                           |      | Demonstrate an awareness of the significance of literature and of   |
|      |   |         |                           |      | literary form by being conversant about the functions of texts and  |
| 5279 | BCA – Bachelor of Computer Applications | ENGC3S  | English                   | CO-3 | their relations with historical, social and political contexts.     |
|      |   |         |                           |      |   |
|      |   |         |                           |      | Create awareness about the new learning styles to comprehend        |
|      |   |         |                           |      | the theme and genre and the relevance of it in a better and deeper  |
|      |   |         |                           |      | way and also to increase the competence in the use of ICT so that   |
| 5279 | BCA – Bachelor of Computer Applications | ENGC3S  | English                   | CO-4 | learners may more effectively achieve academic goals.               |
|      |   |         |                           |      | Learn and practice academic paragraph and essay elements            |
|      |   |         |                           |      | including a central idea supported by relevant details and          |
| 5279 | BCA – Bachelor of Computer Applications | ENGC3S  | English                   | CO-5 | transitions, with unity and organization.                           |
|      |   |         | Object Oriented           |      |   |
| 5279 | BCA – Bachelor of Computer Applications | SB7109  | Programming using C++     | CO1  | understand the c++ features, functions                              |
|      |   |         | Object Oriented           |      |   |
| 5279 | BCA – Bachelor of Computer Applications | SB7109  | Programming using C++     | CO3  | Specify characteristics of Operator overloading                     |
|      |   |         | Object Oriented           |      | Learn in details with examples about Template concept and           |
| 5279 | BCA – Bachelor of Computer Applications | SB7109  | Programming using C++     | CO5  | Exception handling methods  |
|      |   |         | Object Oriented           |      |   |
| 5279 | BCA – Bachelor of Computer Applications | SB7109  | Programming using C++     | CO4  | Identify the purpose of Virtual functions, friend function          |
|      |   |         | Object Oriented           |      | learn in depth about Objects and Classes, Constructors &            |
| 5279 | BCA – Bachelor of Computer Applications | SB7109  | Programming using C++     | CO2  | destructors   |
|      |   | 007440  | Financial Accounting and  |      | Write down the classification and characteristics of History and    |
| 5279 | BCA – Bachelor of Computer Applications | SB7110  | Management                | CO1  | Development of Acounting  |

|         |   |        | Financial Accounting and               |             | Learn in details with application, if applicable, Financial Accounti |
|---------|---|--------|--|-------------|--|
| 5279    | BCA – Bachelor of Computer Applications | SB7110 | Management                             | CO2         | Process  |
| F 2 7 0 |   | 607110 | Financial Accounting and               | <b>CO</b> 2 | Constitution of Association of Association for hills of Fuchance     |
| 5279    | BCA – Bachelor of Computer Applications | SB7110 | Management<br>Financial Accounting and | CO3         | Specify the characteristics of Accounting for bills of Exchange      |
| 5279    | BCA – Bachelor of Computer Applications | SB7110 | Management                             | CO4         | Understand the details of Preparation of Final Accounts              |
| 5275    | bea bachelor of computer applications   | 557110 | Financial Accounting and               |             |  |
| 5279    | BCA – Bachelor of Computer Applications | SB7110 | Management                             | CO5         | Learn in details with examples Accounting package like tally         |
| 5279    | BCA – Bachelor of Computer Applications | SB7111 | Operating System                       | CO5         | Deliberate in details with examples Protection and Security          |
| 5279    | BCA – Bachelor of Computer Applications | SB7111 | Operating System                       | CO4         | Learn the details of File management                                 |
| 5279    | BCA – Bachelor of Computer Applications | SB7111 | Operating System                       | CO3         | Learn the details of Memory Management                               |
|         |   |        |  |             | Identify in details with application, if applicable, Process         |
| 5279    | BCA – Bachelor of Computer Applications | SB7111 | Operating System                       | CO2         | Synchronization and deadlocks  |
|         |   |        |  |             | Deliberate in details with application, if applicable, Batch System  |
| 5279    | BCA – Bachelor of Computer Applications | SB7111 | Operating System                       | CO1         | Concepts of Multi programming and Time Sharing                       |
| 5279    | BCA – Bachelor of Computer Applications | SB7112 | Visual Programing                      | CO1         | Understanding Visual programming IDE, events and methods             |
| 5279    | BCA – Bachelor of Computer Applications | SB7112 | Visual Programing                      | CO2         | Write down the details of Arrays, menus and toolbars                 |
|         |   |        |  |             | Specify in details with examples OOPs methods and properties,        |
| 5279    | BCA – Bachelor of Computer Applications | SB7112 | Visual Programing                      | CO3         | handling,Active X  |
|         |   |        |  |             | Identify in details with application, Visual C++ Programming ,VC     |
| 5279    | BCA – Bachelor of Computer Applications | SB7112 | Visual Programing                      | CO4         | components   |
|         |   |        |  |             | Understand the classification and characteristics of Interfacing     |
| 5279    | BCA – Bachelor of Computer Applications | SB7112 | Visual Programing                      | CO5         | other applications,OLE,DLL,ODBC                                      |
|         |   |        |  |             | Deliberate the details of Introduction to Unix system                |
|         | BCA – Bachelor of Computer Applications | SB7113 | Unix Shell programming                 | CO2         | architecture, Unix File System and Process Management                |
| 5279    | BCA – Bachelor of Computer Applications | SB7113 | Unix Shell programming                 | CO2         | Write down in depth Secondary Storage Management                     |
| 5279    | BCA – Bachelor of Computer Applications | SB7113 | Unix Shell programming                 | CO3         | Identify in details with examples Shell Programming                  |
| 5279    | BCA – Bachelor of Computer Applications | SB7113 | Unix Shell programming                 | CO4         | Deliberate in details with examples Conditional Control Structu      |
| 5279    | BCA – Bachelor of Computer Applications | SB7113 | Unix Shell programming                 | CO5         | Specify the details of Unix System Communication                     |
| 5279    | BCA – Bachelor of Computer Applications | SB7114 | Operation Research                     | CO4         | Understand the details of Network Analysis                           |
| 5279    | BCA – Bachelor of Computer Applications | SB7114 | Operation Research                     | CO5         | Write down in details with examples Theory of Games                  |
| 5279    | BCA – Bachelor of Computer Applications | SB7114 | Operation Research                     | CO1         | Identify the details of Linear Programming Problems                  |
|         |   |        |  |             | Specify the classification and characteristics of Transportation     |
| 5279    | BCA – Bachelor of Computer Applications | SB7114 | Operation Research                     | CO2         | Problem  |
| 5279    | BCA – Bachelor of Computer Applications | SB7114 | Operation Research                     | CO3         | Write down in depth Assignment Problem                               |

|      |   |        | Data Communication and |             | Learn the characteristics of Peer –to-Peer Protocols, ARQ protocol     |
|------|---|--------|------------------------|-------------|--|
| 5279 | BCA – Bachelor of Computer Applications | SB7115 | Networks               | CO3         | and types, DLC, HDLC, PPP, Statistical multiplexing                    |
|      |   |        |                        |             | Learn the characteristics of Local Area Networks and Medium            |
|      |   |        | Data Communication and |             | access Control Protocols, ALOHA, CSMA, CSMA/CD, Channelization         |
| 5279 | BCA – Bachelor of Computer Applications | SB7115 | Networks               | CO4         | – FDMA, TDMA, CDMA   |
|      |   |        |                        |             | Identify in details with examples LAN Standard – Ethernet and IEF,     |
|      |   |        | Data Communication and |             | 802.3, LAN Bridges, Routing algorithms, congestion control             |
| 5279 | BCA – Bachelor of Computer Applications | SB7115 | Networks               | CO5         | algorithms   |
|      |   |        |                        |             |  |
|      |   |        |                        |             | Specify in details with examples Transmission Systems:properties,      |
|      |   |        | Data Communication and |             | transmission media, Error detactions and error correction              |
| 5279 | BCA – Bachelor of Computer Applications | SB7115 | Networks               | CO2         | techniques, TDM,FDM, SONET, Cellular Networks                          |
|      |   |        |                        |             |  |
|      |   |        |                        |             | Learn in depth Communication Network and services, Approaches          |
|      |   |        |                        |             | to Network Design, Network Functions and Network Topology,             |
|      |   |        |                        |             | Message ,packet and circuit Switching , Internet, Packet Switching ;   |
|      |   |        |                        |             | Key factors in Communication Network Evolution ; Layered               |
|      |   |        |                        |             | Architecture and Applications – Examples of Layering , OSI             |
|      |   |        |                        |             | Reference Model, TCP/IP Model Telnet FTP and IP Utilities. Digital     |
|      |   |        |                        |             | Transmission: Digital Representation of Information: Properties of     |
|      |   |        |                        |             | digital transmission: Characterization of Communication Channels       |
|      |   |        |                        |             | Frequency Domain and Time Domain : Fundamental limits in               |
|      |   |        | Data Communication and |             | Digital Communication – The Nyquist Signalling rate, The Shannon       |
| 5279 | BCA – Bachelor of Computer Applications | SB7115 | Networks               | CO1         | channel capacity : Line coding , Modems & digital Modulations          |
|      |   | 00/110 |                        | 001         | Identify in details with application, if applicable, Introduction to   |
| 5279 | BCA – Bachelor of Computer Applications | SB7116 | Software Engineering   | CO1         | software products & process  |
| 5275 |   | 00/110 |                        | 001         | Learn the characteristics of Software prototyping:prototyping in       |
| 5279 | BCA – Bachelor of Computer Applications | SB7116 | Software Engineering   | CO2         | software process   |
|      | · · · ·                                 |        |                        |             | Identify the classification and characteristics of Object oriented     |
| 5279 | BCA – Bachelor of Computer Applications | SB7116 | Software Engineering   | CO3         | and function oriented design   |
| 5070 |   | 607446 | Cothursen Frankriski   | <b>60 1</b> |  |
| 52/9 | BCA – Bachelor of Computer Applications | SB7116 | Software Engineering   | CO4         | Deliberate the characteristics of Software reliability and reusability |
|      |   |        |                        |             | Learn the classification and characteristics of Software verification  |
| 5279 | BCA – Bachelor of Computer Applications | SB7116 | Software Engineering   | CO5         | and validation:testing process   |
|      |   |        |                        |             | Understand the asynchronous data transfer techniques, data             |
| 5279 | BCA – Bachelor of Computer Applications | SB7117 | Computer Architecture  | CO5         | transfer modes   |
|      |   |        |                        |             | Understand in details with bus organization, instruction formats,      |
| 5279 | BCA – Bachelor of Computer Applications | SB7117 | Computer Architecture  | CO4         | addressing modes   |

|      |   |        |                       |     | Understand the classification and characteristics of Digital logic |
|------|---|--------|-----------------------|-----|--|
| 5279 | BCA – Bachelor of Computer Applications | SB7117 | Computer Architecture | CO1 | circuits,flip flops,multiplexers, k map                            |
|      |   |        | ·                     |     | Learn in details with number system, binary codes, data transfer   |
| 5279 | BCA – Bachelor of Computer Applications | SB7117 | Computer Architecture | CO2 | operations   |
| 5279 | BCA – Bachelor of Computer Applications | SB7117 | Computer Architecture | CO3 | Learn the complete computer description                            |
| 5279 | BCA – Bachelor of Computer Applications | SB7118 | Java Programming      | CO1 | Write down in details with examples Introduction to JAVAA          |
| 5279 | BCA – Bachelor of Computer Applications | SB7118 | Java Programming      | CO2 | Write down in depth Classes, Arrays, Strings and Vectors           |
|      |   |        |                       |     | Write down the details of Interfaces, Packages, and Multi threaded |
| 5279 | BCA – Bachelor of Computer Applications | SB7118 | Java Programming      | CO3 | Programming  |
|      |   |        |                       |     | Understand the classification and characteristics of Managing      |
| 5279 | BCA – Bachelor of Computer Applications | SB7118 | Java Programming      | CO4 | Exceptions, Applet Programming                                     |
|      |   |        |                       |     | Identify the classification and characteristics of Graphics        |
| 5279 | BCA – Bachelor of Computer Applications | SB7118 | Java Programming      | CO5 | Programming, Input/Output: Graphics programming                    |
|      |   |        | Microprocessor and    |     |  |
| 5279 | BCA – Bachelor of Computer Applications | SB7119 | Assembly Language     | CO2 | Understand the details of programs of 8085                         |
|      |   |        | Microprocessor and    |     | Write down the characteristics of Architecture and operations of   |
| 5279 | BCA – Bachelor of Computer Applications | SB7119 | Assembly Language     | CO1 | 8085   |
|      |   |        | Microprocessor and    |     |  |
| 5279 | BCA – Bachelor of Computer Applications | SB7119 | Assembly Language     | CO5 | Identify in details with examples Interfacing I/o Devices          |
|      |   |        | Microprocessor and    |     | Identify in details with application, if applicable, Interfacing   |
| 5279 | BCA – Bachelor of Computer Applications | SB7119 | Assembly Language     | CO4 | Memory   |
|      |   |        | Microprocessor and    |     |  |
| 5279 | BCA – Bachelor of Computer Applications | SB7119 | Assembly Language     | CO3 | Write down the characteristics of Programming model and looping    |
|      |   |        |                       |     | Identify in depth Introduction to Finite Automata: The central     |
|      |   |        |                       |     | concepts of Automata theory; Deterministic finite automata;        |
|      |   |        |                       |     | Nondeterministic finite automata. An application of finite         |
| 5279 | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation | CO1 | automata, Finite automata with Epsilon transitions                 |
|      |   |        |                       |     |  |
|      |   |        |                       |     | Deliberate the details of Regular Expressions: Finite Automata and |
|      |   |        |                       |     | Regular Expressions Applications of Regular Expressions. Regular   |
|      |   |        |                       |     | languages; Proving languages not to be regular languages; Closure  |
| 5279 | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation | CO2 | properties of regular languages                                    |
|      |   |        |                       |     | Understand the details of Context-free grammars: Parse trees;      |
|      |   |        |                       |     | Applications; Ambiguity in grammars and Languages. Definition of   |
|      |   |        |                       |     | the Pushdown automata; the languages of a PDA; Equivalence of      |
| 5279 | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation | CO3 | PDA's and CFG's  |

|       |   |        |  |             | Specify the classification and characteristics of The Turing  |
|-------|---|--------|--|-------------|---|
|       |   |        |  |             | machine: Programming techniques for Turing Machines.  |
| 5279  | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation                          | CO5         | Undecidability, A Language that is not recursively enumerable   |
|       |   |        |  |             | Specify in details with examples Deterministic Pushdown   |
|       |   |        |  |             | Automata:Normal forms for CFGs; The pumping lemma for CFGs;   |
| 5279  | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation                          | CO4         | Closure properties of CFLs  |
|       |   |        |  |             | the dependence of the end of the second of the end of the second s |
|       |   |        |  |             | Understand the classification and characteristics of The Turing   |
|       |   | 007400 |  |             | machine:Programming techniques for Turing Machines.   |
| 52791 | BCA – Bachelor of Computer Applications | SB7120 | Theory of Computation                          | CO6         | Undecidability, A Language that is not recursively enumerable   |
| 5070  |   | 607424 |  | 604         | Specify in details with examples Introduction of System   |
| 52791 | BCA – Bachelor of Computer Applications | SB7121 | System Programming                             | CO1         | Programming   |
| 5070  |   | 607424 |  | 600         | Specify the classification and characteristics of Assemblers, Pass 1  |
| 52791 | BCA – Bachelor of Computer Applications | SB7121 | System Programming                             | CO2         | and Pass 2, Searching and sorting   |
| 5070  |   | 607424 |  | 602         | Features of Macro Processor, Data structures, databases, Pass1  |
| 52791 | BCA – Bachelor of Computer Applications | SB7121 | System Programming                             | CO3         | and Pass 2 macro processor  |
| 5070  |   | 607424 |  | <b>604</b>  | Specify the characteristics of Loaders, different loader schemes,   |
| 52791 | BCA – Bachelor of Computer Applications | SB7121 | System Programming                             | CO4         | dynamic linking and loading   |
| F 270 | PCA Pashalar of Computer Applications   | SB7121 | Sustan Dragramming                             | CO5         | Understand the details of Compilers, stages of compilers with   |
| 52/91 | BCA – Bachelor of Computer Applications | 38/121 | System Programming<br>Cryptography and Network | 05          | databases<br>Deliberate the details of Encipherment using modern symmetric  |
| F 270 | DCA Dashelar of Computer Applications   | 607100 |  | <b>CO</b> 2 |   |
| 52/91 | BCA – Bachelor of Computer Applications | SB7122 | Security                                       | CO3         | key ciphers   |
|       |   |        | Cryptography and Network                       |             | Specify the classification and characteristics of Cryptography hash   |
| 5279  | BCA – Bachelor of Computer Applications | SB7122 | Security                                       | CO4         | functions,SHA512,digital signatures,Kerberos  |
| 5275  |   | 507122 | Cryptography and Network                       | 04          | Understand in details with examples Smime, PGP, SSL   |
| 5279  | BCA – Bachelor of Computer Applications | SB7122 | Security                                       | CO5         | architecture,SSL Message format   |
| 5275  |   | 567122 | Cryptography and Network                       | 005         | Identify the classification and characteristics of Traditional  |
| 5279  | BCA – Bachelor of Computer Applications | SB7122 | Security                                       | CO2         | symmetric key ciphers, DES, AES   |
| 5275  |   | 507122 | Cryptography and Network                       | 002         | Understand in details security goals, cryptographic attacks, services   |
| 5279  | BCA – Bachelor of Computer Applications | SB7122 | Security                                       | CO1         | and mechanism, techniques   |
|       | BCA – Bachelor of Computer Applications | SB7123 | Web Programming                                | CO1         | Understand the details of Fundamentals of web   |
|       | BCA – Bachelor of Computer Applications | SB7123 | Web Programming                                | CO2         | Identify in depth HTML and XHTML  |
|       | BCA – Bachelor of Computer Applications | SB7123 | Web Programming                                | CO3         | Specify the classification and characteristics of Java Script   |
|       | BCA – Bachelor of Computer Applications | SB7123 | Web Programming                                | CO4         | Deliberate the details of Java Script and HTML documents  |
|       | Bar Bachelor of comparer Applications   | 50,125 |  |             | •   |
|       |   |        |  |             | Deliberate in details with examples Dynamic documents with Java   |