



PRATHYUSHA ENGINEERING COLLEGE
DEPARTMENT OF BIOTECHNOLOGY
LIST OF COURSES
(ACADEMIC YEAR 2015-16)

SEMESTER-I

| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|----------|---------|-------------|---------------------------|---|---|---|---|
| I | 1 | HS6151 | Technical English - I | 3 | 1 | 0 | 4 |
| I | 2 | MA6151 | Mathematics - I | 3 | 1 | 0 | 4 |
| I | 3 | PH6151 | Engineering Physics - I | 3 | 0 | 0 | 3 |
| I | 4 | CY6151 | Engineering Chemistry - I | 3 | 0 | 0 | 3 |
| I | 5 | GE6151 | Computer Programming | 3 | 0 | 0 | 3 |
| I | 6 | GE6152 | Engineering Graphics | 2 | 0 | 3 | 4 |

PRACTICALS

| | | | | | | | |
|---|---|--------|--------------------------------------|-----------|----------|-----------|-----------|
| I | 7 | GE6161 | Computer Practices Laboratory | 0 | 0 | 3 | 2 |
| I | 8 | GE6162 | Engineering Practices Laboratory | 0 | 0 | 3 | 2 |
| I | 9 | GE6163 | Physics and Chemistry Laboratory - I | 0 | 0 | 2 | 1 |
| | | | TOTAL | 17 | 2 | 11 | 26 |

SEMESTER-II

| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|----------|---------|-------------|------------------------|---|---|---|---|
| II | 1 | HS6251 | Technical English - II | 3 | 1 | 0 | 4 |
| II | 2 | MA6251 | Mathematics - II | 3 | 1 | 0 | 4 |

| | | | | | | | |
|---------------------|----------------|--------------------|---|-----------|----------|----------|-----------|
| II | 3 | PH6252 | Physics of Materials | 3 | 0 | 0 | 3 |
| II | 4 | CY6252 | Chemistry for Technologists | 3 | 0 | 0 | 3 |
| II | 5 | BT6201 | Biochemistry | 3 | 0 | 0 | 3 |
| II | 6 | BT6202 | Microbiology | 3 | 0 | 0 | 3 |
| PRACTICALS | | | | | | | |
| II | 7 | BT6211 | Biochemistry Laboratory | 0 | 0 | 4 | 2 |
| II | 8 | BT6212 | Microbiology Laboratory | 0 | 0 | 4 | 2 |
| | | | TOTAL | 18 | 2 | 8 | 24 |
| SEMESTER-III | | | | | | | |
| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
| III | 1 | MA6351 | Transforms and Partial Differential Equations | 3 | 1 | 0 | 4 |
| III | 2 | BT6301 | Stoichiometry and Fluid Mechanics | 3 | 0 | 0 | 3 |
| III | 3 | BT6302 | Bioorganic Chemistry | 3 | 0 | 0 | 3 |
| III | 4 | BT6303 | Cell Biology | 3 | 1 | 0 | 4 |
| III | 5 | BT6304 | Basic Industrial Biotechnology | 3 | 0 | 0 | 3 |
| III | 6 | GE6351 | Environmental Science and Engineering | 3 | 0 | 0 | 3 |
| PRACTICALS | | | | | | | |
| III | 7 | BT6311 | Cell Biology Laboratory | 0 | 0 | 4 | 2 |
| III | 8 | BT6312 | Bioorganic Chemistry Laboratory | 0 | 0 | 4 | 2 |
| | | | TOTAL | 18 | 2 | 8 | 24 |
| SEMESTER-IV | | | | | | | |
| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
| IV | 1 | MA6468 | Probability and Statistics | 3 | 1 | 0 | 4 |
| IV | 2 | BT6401 | Analytical Methods and Instrumentation | 3 | 0 | 0 | 3 |
| IV | 3 | BT6402 | Applied Thermodynamics for Biotechnologists | 3 | 0 | 0 | 3 |
| IV | 4 | BT6403 | Heat Transfer Operations | 3 | 1 | 0 | 4 |
| IV | 5 | BT6404 | Enzyme Technology and Biotransformation | 3 | 0 | 0 | 3 |
| IV | 6 | BT6405 | Bioprocess Principles | 3 | 0 | 0 | 3 |
| PRACTICALS | | | | | | | |
| IV | 7 | BT6411 | Chemical Engineering Laboratory | 0 | 0 | 4 | 2 |
| IV | 8 | BT6412 | Instrumental Methods of Analysis Laboratory | 0 | 0 | 4 | 2 |
| | | | TOTAL | 18 | 2 | 8 | 24 |

| SEMESTER V | | | | | | | |
|--------------|---------|-------------|---|-----------|----------|-----------|-----------|
| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
| V | 1 | BT6501 | Protein Structure Function and Proteomics | 3 | 1 | 0 | 4 |
| V | 2 | BT6502 | Bioprocess Engineering | 3 | 0 | 0 | 3 |
| V | 3 | BT6503 | Mass Transfer Operation | 3 | 0 | 0 | 3 |
| V | 4 | BT6504 | Molecular Biology | 3 | 0 | 0 | 3 |
| V | 5 | BT6003 | Principles of Food Processing | 3 | 0 | 0 | 3 |
| V | 6 | BT6006 | Biopharmaceutical Technology | 3 | 0 | 0 | 3 |
| PRACTICALS | | | | | | | |
| V | 7 | BT6511 | Bioprocess Lab – I | 0 | 0 | 4 | 2 |
| V | 8 | BT6512 | Molecular Biology Lab | 0 | 0 | 4 | 2 |
| TOTAL | | | | 18 | 1 | 8 | 23 |
| SEMESTER VI | | | | | | | |
| VI | 1 | BT6601 | Total Quality Management for Biotechnologists | 3 | 0 | 0 | 3 |
| VI | 2 | BT6602 | Immunology | 3 | 0 | 0 | 3 |
| VI | 3 | BT6603 | Genetic Engineering and Genomics | 3 | 1 | 0 | 4 |
| VI | 4 | BT6604 | Chemical Reaction Engineering | 3 | 0 | 0 | 3 |
| VI | 5 | BT6007 | Animal Biotechnology | 3 | 0 | 0 | 3 |
| VI | 6 | BT6010 | Plant Biotechnology | 3 | 0 | 0 | 3 |
| PRACTICALS | | | | | | | |
| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
| VI | 7 | BT6611 | Genetic Engineering Laboratory | 0 | 0 | 4 | 2 |
| VI | 8 | BT6612 | Bioprocess Lab – II | 0 | 0 | 4 | 2 |
| | | GE6562 | Employability Skills | 0 | 0 | 2 | 1 |
| TOTAL | | | | 18 | 1 | 10 | 24 |
| SEMESTER VII | | | | | | | |
| SEMESTER | SL. No. | COURSE CODE | COURSE TITLE | L | T | P | C |
| VII | 1 | GE 2022 | Total Quality Management | 3 | 0 | 0 | 3 |
| VII | 2 | BT 2401 | Downstream processing | 3 | 1 | 0 | 4 |
| VII | 3 | BT 2402 | Protein Engineering | 3 | 0 | 0 | 3 |
| VII | 4 | BT 2030 | Plant Biotechnology | 3 | 0 | 0 | 3 |
| VII | 5 | BT 2036 | Animal Biotechnology | 3 | 0 | 0 | 3 |
| VII | 6 | BT 2040 | Biopharmaceutical Technology | 3 | 0 | 0 | 3 |
| VII | 7 | BT 2046 | Immunotechnology | 3 | 0 | 0 | 3 |

| PRACTICALS | | | | | | | |
|---------------|---|---------|---------------------------|-----------|----------|-----------|-----------|
| VII | 8 | BT 2407 | Downstream processing Lab | 0 | 0 | 4 | 2 |
| VII | 9 | BT 2408 | Immunology Lab | 0 | 0 | 4 | 2 |
| | | | TOTAL | 21 | 1 | 8 | 26 |
| SEMESTER VIII | | | | | | | |
| VIII | 1 | BT 2451 | Project Work* | 0 | 0 | 12 | 6 |
| | | | TOTAL | 0 | 0 | 12 | 6 |

TOTAL CREDITS : 177

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