

## Engineering Physics

### Semester- I (Common for all B.Tech Courses)

| S.No                         | C. Code     | Course   | L | T | P | C     |
|------------------------------|-------------|--|---|---|---|-------|
| 1                            | MA 101      | Calculus   | 3 | 1 | 0 | 8     |
| 2                            | PH 101      | Quantum Physics and Applications                   | 2 | 1 | 0 | 6     |
| 3                            | CH 102      | Fundamental Concepts and Applications of Chemistry | 3 | 0 | 0 | 6     |
| 4                            | BB 103      | Introduction to Modern biology                     | 3 | 0 | 0 | 6     |
| 5                            | PH 113      | Hands on Science Laboratory - I                    | 0 | 0 | 3 | 3     |
| 6                            | CS 103      | Introduction to Programming                        | 3 | 0 | 2 | 8     |
| 7                            | HS 103      | Introduction to Fine Arts                          | 0 | 0 | 1 | PP/NP |
| 8                            | HS 106      | Design Thinking and Creativity                     | 1 | 0 | 0 | PP/NP |
| 9                            | NO107/NO105 | NSO/NSS  | 0 | 0 | 2 | 2     |
| First Semester Total Credits |             |  |   |   |   | 39    |

### Semester - II

| Sl. No.                                 | Course Code | Course Name  | L | T | P | C  |
|---|-------------|--|---|---|---|----|
| 1                                       | CS 201      | Data Structure & Algorithms                        | 3 | 0 | 0 | 6  |
| 2                                       | EE 101      | Introduction to Electrical Systems and Electronics | 3 | 0 | 0 | 6  |
| 3                                       | MA 102      | Linear Algebra                                     | 3 | 1 | 0 | 4  |
| 4                                       | MA 103      | Differential Equations – I                         | 3 | 1 | 0 | 4  |
| 5                                       | PH 102      | Electricity and Magnetism                          | 2 | 1 | 0 | 6  |
| 6                                       | ME 113      | Hands on Engineering Laboratory                    | 0 | 0 | 3 | 3  |
| 7                                       | ME 111      | Engineering Graphics Laboratory                    | 1 | 0 | 3 | 5  |
| 8                                       | CS 211      | Data Structure & Algorithms Lab                    | 0 | 0 | 3 | 3  |
| 9                                       | NO107/NO105 | NSO/NSS  | 0 | 0 | 2 | 2  |
| Second Semester Total Credits           |             |  |   |   |   | 39 |
| Total Cumulative Credits after 1st Year |             |  |   |   |   | 78 |

### Semester - III

| Sl. No. | Course Code | Course Name                               | L | T | P | C |
|---------|-------------|---|---|---|---|---|
| 1       | PH 201      | Electrodynamics                           | 2 | 1 | 0 | 6 |
| 2       | HS 201      | Economics                                 | 2 | 1 |   | 6 |
| 3       | ME 207      | Thermodynamics                            | 2 | 1 | 0 | 6 |
| 4       | EE 210      | Signals and Systems                       | 2 | 1 | 0 | 6 |
| 5       | EE 221      | Introduction to Probability (Pre mid-sem) | 3 | 0 | 0 | 3 |

|                              |        |   |   |   |   |    |
|------------------------------|--------|---|---|---|---|----|
| 6                            | EE 229 | Electronic Devices (Pre mid-sem)              | 3 | 0 | 0 | 3  |
| 7                            | EE 202 | Introduction to Analog Circuits (Post midsem) | 3 | 0 | 0 | 3  |
| 8                            | PH 211 | Introductory Physics Laboratory               | 0 | 0 | 3 | 3  |
| Third Semester Total Credits |        |   |   |   |   | 36 |
| Second Year Total Credits    |        |   |   |   |   | 72 |

### Semester - IV

| Sl. No.                                 | Course Code | Course Name                     | L | T | P | C   |
|---|-------------|---------------------------------|---|---|---|-----|
| 1                                       | PH 304      | Statistical Physics             | 2 | 1 | 0 | 6   |
| 2                                       | PH 312      | General Physics Laboratory      | 0 | 0 | 3 | 3   |
| 3                                       | EE 204      | Digital Systems                 | 2 | 1 | 0 | 6   |
| 4                                       | CS 301      | Computer Architecture           | 2 | 1 | 0 | 6   |
| 5                                       | ME 201      | Engineering Mechanics           | 2 | 1 | 0 | 6   |
| 6                                       | EE 212      | Devices and Circuits Laboratory | 0 | 0 | 3 | 3   |
| 7                                       | EE 214      | Digital Circuits Laboratory     | 0 | 0 | 3 | 3   |
| 8                                       | CS 311      | Computer Architecture Lab       | 0 | 0 | 3 | 3   |
| Fourth Semester Total Credits           |             |                                 |   |   |   | 36  |
| Total Cumulative Credits after 2nd Year |             |                                 |   |   |   | 150 |

### Semester - V

| Sl. No.                      | Course Code | Course Name                                  | L | T | P | C  |
|------------------------------|-------------|--|---|---|---|----|
| 1                            | PH 323      | Classical Mechanics                          | 2 | 1 | 0 | 6  |
| 2                            | PH 310      | Quantum Mechanics-I                          | 2 | 1 | 0 | 6  |
| 3                            | EE 321      | Digital Signal Processing (Pre mid-sem)      | 3 | 0 | 0 | 3  |
| 4                            | EE 227      | Data Analysis (Post mid-sem)                 | 2 | 1 | 0 | 3  |
| 5                            | ME 203      | Fluid Mechanics                              | 2 | 1 | 0 | 6  |
| 6                            | EE 315      | Digital Signal Processing Lab (Post mid-sem) | 0 | 0 | 2 | 2  |
| 7                            | PH 411      | Advance Physics Laboratory                   | 0 | 0 | 3 | 3  |
| Fifth Semester Total Credits |             |  |   |   |   | 29 |
| Third Year Total Credits     |             |  |   |   |   | 64 |

### Semester - VI

| Sl. No. | Course Code | Course Name              | L | T | P | C |
|---------|-------------|--------------------------|---|---|---|---|
| 1       | PH 434      | Condensed Matter Physics | 2 | 1 | 0 | 6 |
| 2       | CE 301      | Environmental Studies    | 3 | 0 | 0 | 6 |

|   |   |                                      |   |   |   |     |
|---|---|--------------------------------------|---|---|---|-----|
| 3 |   | HSS Elective - I                     | 3 | 0 | 0 | 6   |
| 4 | PH 405                                  | Quantum Mechanics - II               | 2 | 1 | 0 | 6   |
| 5 |   | Institute Elective – 1 / RnD Project | 2 | 1 | 0 | 6   |
| 6 | ME 330                                  | Mechanics and Measurement Lab        | 1 | 0 | 3 | 5   |
| 7 | PH 307                                  | Seminar – 1                          | 0 | 0 | 3 | 3   |
|   |   |                                      |   |   |   | 38  |
|   | Total Cumulative Credits after 3rd Year |                                      |   |   |   | 217 |

### Semester- VII

| Sl. No. | Course Code                    | Course Name                   | L | T | P | C  |
|---------|--------------------------------|-------------------------------|---|---|---|----|
| 1       |                                | HSS Elective - II             | 3 | 0 | 0 | 6  |
| 2       | PH 308                         | Seminar – 2                   | 0 | 0 | 4 | 4  |
| 3       |                                | Institute Elective – 2        | 2 | 1 | 0 | 6  |
| 4       |                                | Institute Elective – 3/ BTP-I | 2 | 1 | 0 | 6  |
|         | Seventh Semester Total Credits |                               |   |   |   | 21 |

### SEMESTER -VIII

| Sl. No. | Course Code                        | Course Name                    | L | T | P | C   |
|---------|------------------------------------|--------------------------------|---|---|---|-----|
| 1       |                                    | Institute Elective – 4         | 2 | 1 | 0 | 6   |
| 2       |                                    | Institute Elective – 5         | 2 | 1 | 0 | 6   |
| 3       |                                    | Institute Elective – 6/ BTP-II | 2 | 1 | 0 | 6   |
|         | Eighth Semester Total Credits      |                                |   |   |   | 18  |
|         | Overall Credits Required (Minimum) |                                |   |   |   | 256 |