

B.Sc Physics (Hons), Chemistry, Mathematics

| Semester I | | | | | | | | |
|------------|--------------|------|---|-----------|----------|----------|-----------|-----------|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | core | | Mechanics | 3 | 1 | 0 | 4 | 4 |
| 2 | core | | Differential Calculus | 3 | 1 | 0 | 4 | 4 |
| 3 | core | | Inorganic Chemistry | 3 | 1 | 0 | 4 | 4 |
| 4 | skill | | Introduction to Computer & C programming | 3 | 1 | 0 | 4 | 4 |
| 5 | core | | Physics lab | 0 | 0 | 2 | 1 | 2 |
| 6 | core | | Inorganic Chemistry lab | 0 | 0 | 2 | 1 | 2 |
| 7 | skill | | C programming | 0 | 0 | 4 | 2 | 4 |
| | | | core: 14, skill based: 6 | 12 | 4 | 8 | 20 | 24 |

| Semester II | | | | | | | | |
|-------------|--------------|------|--|-----------|----------|-----------|-----------|-----------|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | core | | Electricity and Magnetism | 3 | 1 | 0 | 4 | 4 |
| 2 | core | | Differential Equations | 3 | 1 | 0 | 4 | 4 |
| 3 | core | | Physical Chemistry | 3 | 1 | 0 | 4 | 4 |
| 4 | core | | Physics lab | 0 | 0 | 2 | 1 | 2 |
| 5 | core | | Physical Chemistry lab | 0 | 0 | 2 | 1 | 2 |
| 6 | core | | Numerical Analysis | 3 | 1 | 0 | 4 | 4 |
| 7 | skill | | Technical writing and communication skill | 1 | 1 | 0 | 2 | 2 |
| 8 | skill | | Computational skills (application software) | 0 | 0 | 2 | 1 | 2 |
| 9 | skill | | Electronic measurements | 0 | 0 | 2 | 1 | 2 |
| 10 | skill | | Language lab | 0 | 0 | 2 | 1 | 2 |
| | | | core: 18, skill based: 5 | 13 | 5 | 10 | 23 | 28 |

| Semester III | | | | | | | | |
|--------------|-------------------------|------|--|-----------|----------|-----------|-----------|-----------|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | core | | Thermal Physics & Statistical Mechanics | 3 | 1 | 0 | 4 | 4 |
| 2 | core | | Linear Algebra | 3 | 1 | 0 | 4 | 4 |
| 3 | core | | Organic Chemistry | 3 | 1 | 0 | 4 | 4 |
| 4 | core | | Quantum Mechanics | 3 | 1 | 0 | 4 | 4 |
| 5 | skill | | Environmental Science | 3 | 0 | 0 | 3 | 3 |
| 6 | core | | Physics lab | 0 | 0 | 2 | 1 | 2 |
| 7 | core | | Organic Chemistry lab | 0 | 0 | 2 | 1 | 2 |
| 8 | skill | | Environmental lab | 0 | 0 | 2 | 1 | 2 |
| 9 | skill | | MATLAB programming | 0 | 0 | 2 | 1 | 2 |
| 10 | Elective (skill) | | Competitive examination preparation | 0 | 0 | 4 | 2 | 4 |
| | | | Workshop practice/Engineering Drawing | | | | | |
| | | | core: 18, skill based: 7 | 15 | 4 | 12 | 25 | 31 |

| Semester IV | | | | | | | | |
|-------------|--------|------|----------------------------------|---|---|---|---|---|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | core | | Wave & Optics | 3 | 1 | 0 | 4 | 4 |
| 2 | core | | Real Analysis | 3 | 1 | 0 | 4 | 4 |
| 3 | core | | Solid state physics | 3 | 1 | 0 | 4 | 4 |
| 4 | core | | Industrial Organic Synthesis | 3 | 1 | 0 | 4 | 4 |
| 5 | core | | Electromagnetic Theory | 3 | 1 | 0 | 4 | 4 |
| 6 | core | | Industrial organic synthesis lab | 0 | 0 | 2 | 1 | 2 |

| | | | | | | | | |
|---|------------------|--|---|----|---|---|----|----|
| 7 | core | | Physics lab | 0 | 0 | 2 | 1 | 2 |
| 8 | Elective (skill) | | Renewable energy & Energy Harvesting | 2 | 0 | 0 | 2 | 2 |
| | | | Entrepreneurship | | | | | |
| | | | core: 22, skill based: 2 | 17 | 5 | 4 | 24 | 26 |

| Semester V | | | | | | | | |
|------------|------------------|------|----------------------------------|----|---|---|----|----|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | core | | Nuclear Physics | 3 | 1 | 0 | 4 | 4 |
| 2 | core | | Digital and Analogue Electronics | 3 | 1 | 0 | 4 | 4 |
| 3 | Elective-1 | | Nano-materials and applications | 3 | 0 | 0 | 3 | 3 |
| | | | Properties of Solids | | | | | |
| 4 | Elective-2 | | Elementary particle physics | 3 | 0 | 0 | 3 | 3 |
| | | | | | | | | |
| 5 | Elective-3 | | Introduction to spectroscopy | 3 | 0 | 0 | 3 | 3 |
| | | | | | | | | |
| 6 | Elective-4 | | Microprocessor & Microcontroller | 3 | 0 | 0 | 3 | 3 |
| | | | | | | | | |
| 7 | Generic Elective | | Mathematics/Chemistry/HSS | 3 | 0 | 0 | 3 | 3 |
| 8 | core | | Physics Lab | 0 | 0 | 4 | 2 | 4 |
| | | | core: 10, Elective: 15 | 21 | 2 | 4 | 25 | 27 |

| Semester VI | | | | | | | | |
|-------------|------------------|------|-------------------------------------|----|---|----|----|----|
| S.N | Course | Code | Title | L | T | P | C | H |
| 1 | Elective-5 | | Characterization techniques | 3 | 0 | 0 | 3 | 3 |
| | | | Energy generation & storage devices | | | | | |
| 2 | Elective-6 | | Quantum computing | 3 | 0 | 0 | 3 | 3 |
| | | | Nuclear reactor and safety | | | | | |
| 3 | Elective-8 | | Laser physics and Applications | 3 | 0 | 0 | 3 | 3 |
| | | | | | | | | |
| 4 | Elective-9 | | Electronic communications | 3 | 0 | 0 | 3 | 3 |
| | | | Electronic Instrumentations | | | | | |
| 5 | Generic Elective | | Medical Physics | 3 | 0 | 0 | 3 | 3 |
| | | | Biological Physics | | | | | |
| | | | Digital signal processing | | | | | |
| 6 | | | Physics Lab | 0 | 0 | 2 | 1 | 2 |
| 7 | Skill | | Java programming | 0 | 0 | 4 | 2 | 4 |
| 8 | | | Project | 0 | 0 | 10 | 5 | 10 |
| | | | Elective: 21, Skill based: 2 | 15 | 0 | 16 | 23 | 31 |

| | |
|-------------------------------|------------|
| Total credit | 140 |
| Core | 82 |
| Elective | 36 |
| skill-based (comp) | 18 |
| skill-based (elective) | 4 |
| Total | 140 |