# BSMS-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 101 | Computer Programming | 3 | 0 | 2 | 8 |
| 7 | HS 106 | Design Thinking and Creativity | 1 | 0 | 0 | PP/NP |
| 8 | NO107/ NO105/ | NSO/NSS/NCC/NCA | 0 | 0 | 2 | 2 |
| | First Semester Total Credits | | | | | 39 |

| Semester - II | | | | | | |
|---|---|---|---|---|---|---|
| **S. No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | MA 102 | Linear Algebra (1st Half) | 3 | 1 | 0 | 4 |
| 2 | MA 103 | Differential Equations - I (2nd Half) | 3 | 1 | 0 | 4 |
| 3 | CS 201 | Data Structures and Algorithms | 3 | 0 | 0 | 6 |
| 4 | CS 211 | Data Structures and Algorithms Laboratory | 0 | 0 | 3 | 3 |
| 5 | PH 102 | Electricity and Magnetism | 2 | 1 | 0 | 6 |
| 6 | BB 201 | Biomolecules | 2 | 1 | 0 | 6 |
| 7 | CH 203 | States of Matter (2nd Half) | 3 | 0 | 0 | 3 |
| 8 | CH 201 | Organic Chemistry (1st Half) | 3 | 0 | 0 | 3 |
| 9 | CH 113 | Hands On Science Laboratory - II | 0 | 0 | 3 | 3 |
| 10 | NO107/ NO105 | NSO/NSS/NCC/NCA | 0 | 0 | 2 | 2 |
| | | Total Credits | | | | 40 |

| Semester III | | | | | | |
|---|---|---|---|---|---|---|
| **S. No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | HS 201 | Economics | 3 | 0 | 0 | 6 |
| 2 | BB 301 | Basics of Cell Biology and Genetics | 3 | 0 | 0 | 6 |
| 3 | CH 204 | Physical Organic and Bioorganic Chemistry (1st Half) | 3 | 0 | 0 | 3 |
| 4 | CH 202 | Inorganic Chemistry (2nd Half) | 3 | 0 | 0 | 3 |
| 5 | MA 209 | Introduction to Probability Theory | 3 | 1 | 0 | 8 |
| 6 | PH 205 | Waves, Oscillations & Optics | 2 | 1 | 0 | 6 |
| 7 | MA 223 | Mathematics Laboratory | 0 | 0 | 3 | 3 |
| | | Total Credits | | | | 35 |

| Semester - IV | | | | | | |
|---|---|---|---|---|---|---|
| **S. No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | CE301T | Environmental Studies | 3 | 0 | 0 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | PH418T | Experimental Techniques | 2 | 1 | 0 | 6 |
| 3 | PH304T | Mathematical Physics-I | 2 | 1 | 0 | 6 |
| 4 | CS204T | Artificial Intelligence | 2 | 1 | 0 | 6 |
| 5 | CS201L | Artificial Intelligence Lab | 0 | 0 | 3 | 3 |
| 6 | PH301L | General Physics Laboratory | 0 | 0 | 3 | 3 |
| | | Total Credits | | | | 30 |

| **Semester V** | | | | | | |
|---|---|---|---|---|---|---|
| **S.No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | PH301T | Electrodynamics | 2 | 1 | 0 | 6 |
| 2 | PH302T | Classical Mechanics | 2 | 1 | 0 | 6 |
| 3 | PH303T | Quantum Mechanics - I | 2 | 1 | 0 | 6 |
| 4 | PH420T | Electronics | 2 | 1 | 0 | 6 |
| 5 | PH501T | Mathematical Physics - II | 2 | 1 | 0 | 6 |
| 6 | PH402L | Elcetronics Laboratory | 0 | 0 | 3 | 3 |
| | | Total Credits | | | | 33 |

| **Semester VI** | | | | | | |
|---|---|---|---|---|---|---|
| **S.No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | PH401T | Quantum Mechanics - II | 2 | 1 | 0 | 6 |
| 2 | PH305T | Statistical Physics | 2 | 1 | 0 | 6 |
| 3 | PH402T | Condensed Matter Physics | 2 | 1 | 0 | 6 |
| 4 | | Institute Elective-I | 2 | 1 | 0 | 6 |
| 5 | | Program Elective-I | 2 | 1 | 0 | 6 |
| 6 | | Institute Elective-II | 2 | 1 | 0 | 6 |
| | | Total Credits | | | | 36 |

| **Semester VII** | | | | | | |
|---|---|---|---|---|---|---|
| **S.No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | PH501C | Numerical Methods | 2 | 1 | 0 | 6 |
| 2 | PH417T | Nuclear and Particle Physics | 2 | 1 | 0 | 6 |
| 3 | PH401L | Advanced Physics Laboratory | 0 | 0 | 3 | 3 |
| 4 | | Program Elective-II | 2 | 1 | 0 | 6 |
| 5 | | Institute Elective-III/R&D Project-I | 2 | 1 | 0 | 6 |
| | | Total Credits | | | | 31 |

| **Semester VIII** | | | | | | |
|---|---|---|---|---|---|---|
| **S.No** | **Course Code** | **Course Name** | **L** | **T** | **P** | **C** |
| 1 | PH414T | Atomic and Molecular Physics | 2 | 1 | 0 | 6 |
| 2 | | Institute Elective-IV | 2 | 1 | 0 | 6 |
| 3 | | Program Elective-III | 2 | 1 | 0 | 6 |
| 4 | | Institute Elective-5/RnD Project-2 | | | | 6 |
| | | Total Credits | | | | 24 |

| | | | |
|---|---|---|---|
| **Semester IX & X** | | | |
| | | Independent Project | 60 |
| | | Total Credits | 60 |
| | | Overal Credits Required (Minimum) | **328** |