

B.Sc. (Maths)

Combination of Physics-Chemistry-Mathematics

- **Subject-1 Physics**
- **Subject-2 Chemistry**
- **Subject-3 Mathematics**

| Semester | COURSE CODE | COURSE TITLE | CREDIT | |
|--|---|---|--------|--|
| Semester- I | | | | |
| (a) Major I – Physics (Subject-1) | | | | |
| First Semester | PHY101 | Basics of Physics | 2+0* | |
| | PHY 102 (B010101T) | Mathematical Physics and Newtonian Mechanics | 4+0 | |
| | PHY 103 (B010102P) | Practical (Mechanical Properties of Matter) | 0+2 | |
| | Major II: Chemistry (Subject-2) | | | |
| | CHE 101 | Basics of Chemistry | 2+0* | |
| | CHE 102 (B020101T) | Fundamentals of Chemistry | 4+0 | |
| | CHE 103 (B020102P) | Qualitative Analysis | 0+2 | |
| | Major III: Mathematics (Subject-3) | | | |
| | MAT 101 | Basics of Mathematics | 2+0* | |
| | MAT 102 (B030101T) | Differential Calculus and Integral Calculus | 4+0 | |
| | MAT 103 (B030102P) | Practical | 0+2 | |
| | (b) Minor Elective | | | |
| | ENG 100 | Basics of English | 2+0 | |
| | URD 100 | Basics of Urdu | 2+0 | |
| | FMV 100 | Basics of Visual Arts | 2+0 | |
| | STAT 100 | Data Science I | 1+1 | |
| | MAT 100 | Foundation of Mathematics I | 2+0 | |
| | HIS 106 | Introduction to Deen Dayal Upadhyaya (Compulsory) | 2+0 | |
| | PHI 100 | Introduction to Nath Panth | 2+0 | |
| | DSS 106 | Understanding Disaster | 2+0 | |
| | (c) Minor Co-Curricular | | | |
| | NCC 100 | National Cadet Corps | 0+2 | |
| | NSS 100 | National Service Scheme | 0+2 | |
| | RR 100 | Rovers & Rangers | 0+2 | |
| | PHED 100 | Sports (any) | 0+2 | |
| | FMV 105 | Cultural Activities | 0+2 | |
| | HSC 100 | Nutrition, Health and Hygiene | 2+0 | |
| | PSY 100 | Communication Skills and Personality Development | 2+0 | |
| (d) Minor Vocational | | | | |
| AEDU 100 | Fashion Designing and Craft Designing | 0+2 | | |
| AEDU 101 | Education Information Technology | 0+2 | | |
| AEDU 102 | Fashion Accessories | 0+2 | | |

- Candidates have to choose one Basic/Introductory Course out of the three major subjects
- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular courses
- Minor/Vocational is qualifying.

| Semester-II | | |
|---|--|---------------|
| (a) Major I: Physics (Subject-1) | | |
| COURSE CODE | PAPER TITLE | CREDIT |
| PHY 103 (B010201T) | Thermal Physics & Semiconductor Devices | 4+0 |
| PHY 104 (B010202P) | Practical (Thermal Properties of Matter & Electronic Circuits) | 0+2 |
| Major II: Chemistry (Subject-2) | | |
| CHE 103 (B020201T) | Bioorganic and Medicinal Chemistry | 4+0 |
| CHE 104 (B020202P) | Biochemical Analysis | 0+2 |
| Major III: Mathematics (Subject-3) | | |
| MAT 103 (B030201T) | Matrices and Differential Equations | 3+0 |
| MAT 104 (B030202T) | Geometry | 3+0 |
| (b) Minor Elective | | |
| ENG 106 | Basics of English Speaking | 2+0 |
| STAT 200 | Data Science II | 1+1 |
| BOT 107 | Resource Management and Zero Waste Campus | 2+0 |
| HND 100 | Rashtra Gaurav (Compulsory) | 2+0 |
| MAT 200 | Foundation of Mathematics II | 2+0 |
| DSS 100 | Concepts of War | 2+0 |
| DSS 200 | Disaster Management Mechanism in India | 2+0 |
| (c) Minor Co-curriculum | | |
| NCC 100 | National Cadet Corps | 0+2 |
| NSS 100 | National Service Scheme | 0+2 |
| RR 100 | Rovers & Rangers | 0+2 |
| PHED 100 | Sports (any) | 0+2 |
| FMV 105 | Cultural Activities | 0+2 |
| HSC 100 | Nutrition, Health and Hygiene | 2+0 |
| PSY 100 | Communication Skills and Personality Development | 2+0 |
| (d) Minor Vocational | | |
| AEDU 101 | Fashion Designing and Craft Designing | 0+2 |
| AEDU 102 | Education Information Technology | 0+2 |
| AEDU 103 | Fashion Accessories | 0+2 |

Second Semester

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular courses
- Minor/Vocational is qualifying.

| Semester-III | | |
|---|--|---------------|
| (a) Major I: Physics (Subject-1) | | |
| COURSE CODE | PAPER TITLE | CREDIT |
| PHY 201 (B010301T) | Electromagnetic Theory & Optics | 4+0 |
| PHY 202 (B010302P) | Practical (Demonstrative Aspects of Electricity & Magnetism) | 0+2 |
| Major II: Chemistry (Subject-2) | | |
| CHE 201 (B020301T) | Chemical Dynamics & Coordination Chemistry | 4+0 |
| CHE 202 (B020302P) | Physical Analysis | 0+2 |
| Major III: Mathematics (Subject-3) | | |
| MAT 201 (B030301T) | Algebra | 3+0 |
| MAT 202 (B030302T) | Mathematical Methods | 3+0 |
| (b) Minor Elective | | |
| ENG 107 | Introduction to English Grammar and Usage | 2+0 |
| ENG 110 | Introduction to French Language | 2+0 |
| STAT 100 | Data Science I | 1+1 |
| HIS 106 | Introduction to Pt. Deen Dayal Upadhyaya | 2+0 |
| MAT 100 | Foundation of Mathematics I | 2+0 |
| PHI 100 | Introduction of Nath panth | 2+0 |
| (c) Minor Co-curriculum | | |
| NCC 100 | National Cadet Corps | 0+2 |
| NSS 100 | National Service Scheme | 0+2 |
| RR 100 | Rovers & Rangers | 0+2 |
| PHED 106 | Physical Education and Yoga | 0+2 |
| PHED 100 | Sports (any) | 0+2 |
| FMV 100 | Cultural Activities | 0+2 |
| HSC 100 | Nutrition, Health and Hygiene | 2+0 |
| PSY 100 | Communication Skills and Personality Development | 2+0 |
| (d) Minor Vocational | | |
| COMP 203 | Animation | 0+2 |
| COMM 203 | Finance & Baking | 0+2 |
| LAW 203 | Cyber Laws | 0+2 |

Third Semester

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular courses
- Minor/Vocational is qualifying.

| Semester-IV | | |
|---|--|---------------|
| (a) Major I: Physics (Subject-1) | | |
| COURSE CODE | PAPER TITLE | CREDIT |
| PHY 203 (B010401T) | Modern Physics& Electronics | 4+0 |
| PHY 204 (B010402P) | Practical (Basic Electronics Instrumentation) | 0+2 |
| Major II: Chemistry (Subject-2) | | |
| CHE 203 (B020401T) | Quantum Mechanics & Analytical Techniques | 4+0 |
| CHE 204 (B020402T) | Instrumental Analysis | 0+2 |
| Major III: Mathematics (Subject-3) | | |
| MAT 203 (B030401T) | Differential Equation | 3+0 |
| MAT 204 (B030402T) | Mechanics | 3+0 |
| (b) Minor Elective | | |
| ENG 108 | Advanced Writing Skills and Critical Thinking | 2+0 |
| STAT 200 | Data Science II | 1+1 |
| BOT 107 | Resource Management and Zero Waste Campus | 2+0 |
| HND 100 | Rashtra Gaurav (Compulsory) | 2+0 |
| MAT 200 | Foundation of Mathematics II | 2+0 |
| DSS 200 | Disaster Management Mechanism in India | 2+0 |
| DSS 100 | Concepts of War | 2+0 |
| (c) Minor Co-curriculum | | |
| NCC 100 | National Cadet Corps | 0+2 |
| NSS 100 | National Service Scheme | 0+2 |
| RR 100 | Rovers & Rangers | 0+2 |
| PHED 100 | Sports (any) | 0+2 |
| FMV 105 | Cultural Activities | 0+2 |
| HSC 100 | Nutrition, Health and Hygiene | 2+0 |
| PSY 100 | Communication Skills and Personality Development | 2+0 |
| (d) Minor Vocational | | |
| COMP 203 | Animation | 0+2 |
| COMM 203 | Finance & Baking | 0+2 |
| LAW 203 | Cyber Laws | 0+2 |

Fourth Semester

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular courses
- Minor/Vocational is qualifying.

| Semester-V | | |
|--|--|---------------|
| (a) Major I: Physics(Subject-1) | | |
| COURSE CODE | PAPER TITLE | CREDIT |
| PHY 301 (B010501T) | Classical Mechanics & Statistical Mechanics | 4+0 |
| PHY 302 (B010502T) | Quantum Mechanics & Spectroscopy | 4+0 |
| PHY 303 (B010503P) | Practical (Demonstrative Aspects of Optics & Lasers) | 0+2 |
| Major II: Chemistry(Subject-2) | | |
| CHE 301 (B020501T) | Organic Synthesis A | 4+0 |
| CHE 302 (B020502T) | Rearrangement and Chemistry of group elements | 4+0 |
| CHE 303 (B020503P) | Qualitative Analysis | 0+2 |
| (c) Minor Co-curriculum | | |
| NCC 100 | National Cadet Corps | 0+2 |
| NSS 100 | National Service Scheme | 0+2 |
| RR 100 | Rovers & Rangers | 0+2 |
| PHED 100 | Sports (any) | 0+2 |
| FMV 100 | Cultural Activities | 0+2 |
| HSC 100 | Nutrition, Health and Hygiene | 2+0 |
| PSY 100 | Communication Skills and Personality Development | 2+0 |
| (d) Minor Vocational | | |
| PLC 101 | Industrial Training/ Project | 0+2 |

Fifth Semester

- Minimum of 2 credits required for Co-Curricular courses
- Minor/Vocational is qualifying.

| Semester-VI | | |
|--|--|---------------|
| (a) Major I: Physics(Subject-1) | | |
| COURSE CODE | PAPER TITLE | CREDIT |
| PHY 304 (B010601T) | Solid State Physics & Nuclear Physics | 4+0 |
| PHY 305 (B010602T) | Analog & Digital - Principles & Applications | 4+0 |
| PHY 306 (B010603P) | Practical (Analog & Digital Circuits) | 0+2 |
| Major II: Chemistry(Subject-2) | | |
| CHE 304 (B020601T) | Organic Synthesis B | 4+0 |
| CHE 305 (B020602T) | Chemical Energetics and Radiochemistry | 4+0 |
| CHE 306 (B020603P) | Analytical Methods | 0+2 |
| (c) Minor Co-curriculum | | |
| NCC 100 | National Cadet Corps | 0+2 |
| NSS 100 | National Service Scheme | 0+2 |
| RR 100 | Rovers & Rangers | 0+2 |
| PHED 100 | Sports (any) | 0+2 |
| FMV 100 | Cultural Activities | 0+2 |
| HSC 100 | Nutrition, Health and Hygiene | 2+0 |
| PSY 100 | Communication Skills and Personality Development | 2+0 |
| (d) Minor Vocational | | |
| PLC 101 | Industrial Training/ Project | 0+2 |

Sixth Semester

- Minimum of 2 credits required for Co-Curricular courses
- Minor/Vocational is qualifying.