

B.Sc. Syllabus:

B.Sc. First Year:

<u>Subject</u>	<u>Semester 1</u>	<u>Semester 2</u>
Botany	● Microbiology & Plant Pathology — Theory ● Techniques in Microbiology & Plant Pathology — Practical	● Archegoniate & Plant Architecture / Land Plants Architecture — Theory ● Land Plants Architecture — Practical
Chemistry	● Fundamentals of Chemistry — Theory ● Quantitative Analysis — Practical	● Bioorganic and Medicinal Chemistry — Theory ● Biochemical Analysis — Practical
Mathematics	● Differential Calculus & Integral Calculus — Theory ● Practical	● Matrices and Differential Equations & Geometry — Theory
Zoology	● Cytology, Genetics and Infectious Diseases — Theory ● Cell Biology and Cytogenetics Lab — Practical	● Biochemistry and Physiology — Theory ● Physiological, Biochemical & Haematology Lab — Practical / Field work
Physics	● Mathematical Physics & Newtonian Mechanics — Theory ● Mechanical Properties of Matter — Practical	● Thermal Physics & Semiconductor Devices — Theory ● Thermal Properties of Matter & Electronic Circuits — Practical

Note: In both first and second semester, there is one vocational paper and one co-curricular paper and minor paper in any one semester.

B.Sc. Second Year

<u>Subject</u>	<u>Semester 3</u>	<u>Semester 4</u>
Botany	● Flowering Plants Identification & Aesthetic Characteristics — Theory ● Plant Identification Technology — Practical	● Economic Botany, Ethnomedicine & Phytochemistry — Theory ● Commercial Botany & Phytochemical Analysis — Practical
Chemistry	● Chemical Dynamics & Coordination Chemistry — Theory ● Physical Analysis — Practical	● Quantum Mechanics and Analytical Techniques — Theory ● Instrumental Analysis — Practical
Mathematics	● Algebra & Mathematical Methods — Theory	● Differential Equation & Mechanics — Theory
Zoology	● Molecular Biology, Bioinstrumentation & Biotechniques — Theory ● Bioinstrumentation & Molecular Biology Lab — Practical	● Gene Technology, Immunology and Computational Biology — Theory ● Genetic Engineering and Counselling Lab — Practical / Field work
Physics	● Electromagnetic Theory & Modern Optics — Theory ● Demonstrative Aspects of Electricity & Magnetism — Practical	● Perspectives of Modern Physics & Basic Electronics — Theory ● Basic Electronics Instrumentation — Practical

Note: In both third and fourth semester, there is one vocational paper and one co-curricular paper and one minor paper in any one semester.

B.Sc. Third Year

<u>Subject</u>	<u>Semester 5</u>	<u>Semester 6</u>
Botany	● Paper 1 : Plant Physiology, Metabolism & Biochemistry — Theory ● Paper 2 :Molecular Biology & Bioinformatics — Theory ● Botany Practical Vol. II — Practical ● *Project -I	● Paper 1 :Cytogenetics, Plant Breeding & Nanotechnology — Theory ● Paper 2 :Ecology & Environment — Theory ● Lab on Cytology, Conservation & Environment Management — Practical ● *Project-II
Chemistry	● Paper 1 : Organic Synthesis-A — Theory ● Paper 2 :Rearrangements and Chemistry of Group Elements — Theory ● Qualitative Analysis — Practical ● Research Project	● Paper 1 : Organic Synthesis-B — Theory ● Paper 2 :Chemical Energetics and Radiochemistry — Theory ● Analytical Methods — Practical ● Research Project
Mathematics	● Paper 1 : Group and Ring Theory & Linear Algebra — Theory ● Paper 2 :Any One of the Following — Theory (i) Number Theory & Game Theory (ii) Graph Theory & Discrete Mathematics (iii) Differential Geometry & Tensor Analysis	● Paper 1 : Metric Space & Complex Analysis — Theory ● Paper 2: Numerical Analysis & Operations Research — Theory ● Practical
Zoology	● Paper 1 :Diversity of Non-Chordates, Parasitology and Economic Zoology — Theory ● Paper 2: Diversity of Chordates and Comparative Anatomy — Theory ● Lab on Virtual Dissection, Anatomy, Economic Zoology and Parasitology — Practical	● Paper 1 : Evolutionary and Developmental Biology — Theory ● Paper 2 : Ecology, Ethology, Environmental Science and Wildlife — Theory ● Lab on Ecology, Environmental Science, Behavioural Ecology and Wildlife — Practical

Physics	● Paper 1 : Classical & Statistical Mechanics — Theory ● Paper 2 : Quantum Mechanics & Spectroscopy — Theory ● Demonstrative Aspects of Optics & Lasers — Practical	● Paper 1 : Solid State & Nuclear Physics — Theory ● Paper 2 : Analog & Digital Principles & Applications — Theory ● Analog & Digital Circuits — Practical

Note: In both fifth and sixth semester, there is one co-curricular paper