BSc Honours Syllabus (Popular Subjects)

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1. BSc Honours Computer Science

Semester I & II: - Programming Fundamentals (C/C++/Python/Java) - Mathematics for Computer Science - Digital Logic & Computer Organization - Introduction to Data Structures - Practical Lab Work: Programming & Basic Projects

Semester III & IV: - Database Management Systems (DBMS) - Operating Systems - Object-Oriented Programming - Computer Networks - Web Technologies - Practical Lab Work: Projects and Coding Exercises

Semester V & VI: - Software Engineering & Project Management - Advanced Algorithms - Artificial Intelligence / Machine Learning (Electives) - Mobile & Web Application Development (Electives) - Major Project / Internship

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2. BSc Honours Mathematics

Semester I & II: - Calculus I & II - Linear Algebra I & II - Differential Equations - Vector Calculus - Probability & Statistics Basics

Semester III & IV: - Real Analysis - Abstract Algebra - Complex Analysis - Numerical Methods - Mathematical Modelling

Semester V & VI: - Topology / Functional Analysis (Electives) - Linear Programming / Optimization - Project / Dissertation - Advanced Statistical Methods

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3. BSc Honours Physics

Semester I & II: - Mechanics & Thermodynamics - Electromagnetism Basics - Mathematical Methods in Physics - Laboratory: Mechanics, Heat & Waves

Semester III & IV: - Quantum Mechanics I & II - Electronics & Instrumentation - Classical Electrodynamics - Practical Lab Work

Semester V & VI: - Solid State Physics - Nuclear & Particle Physics - Computational Physics (Elective) - Major Project / Research Work

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4. BSc Honours Chemistry

Semester I & II: - Inorganic Chemistry I & II - Organic Chemistry Basics - Physical Chemistry Basics - Laboratory Techniques & Experiments

Semester III & IV: - Organic Chemistry II & III - Analytical Chemistry - Physical Chemistry II - Laboratory: Advanced Experiments

Semester V & VI: - Industrial & Applied Chemistry - Medicinal / Biochemistry (Electives) - Research Project / Internship

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5. BSc Honours Biology / Biotechnology / Microbiology

Semester I & II: - Cell Biology & Genetics - Biochemistry & Molecular Biology - Microbiology Basics - Practical Lab: Microbial Techniques

Semester III & IV: - Molecular Genetics - Immunology - Plant & Animal Physiology - Biotechnology Techniques Lab

Semester V & VI: - Bioinformatics / Genetic Engineering - Environmental & Applied Microbiology - Dissertation / Research Project

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Notes: - Each university may adjust the syllabus or include different electives. - Practical labs, projects, and internships are emphasized across all subjects. - Skill Enhancement Courses (SEC) and Ability Enhancement Compulsory Courses (AECC) may be included as per UGC guidelines.