

## B.Sc (MSCs) Course Structure

### 1 Year

SEMESTER - I	SEMESTER - II
English - I	English - I
Second Language:	Second Language:
Human Values and Professional Ethics	Indian Heritage and Culture
Mathematics-I (Differential Calculus) Theory	Mathematics-II:Differential Equations (Theory)
Mathematics-I (Differential Calculus) Practical	Mathematics-II:Differential Equations (Practical)
Statistics-I (Descriptive Statistics, Probability & Random variable) Theory	Statistics-II: Mathematical Expectations & Probability Distributions (Theory)
Statistics-I (Descriptive Statistics, Probability & Random variable) Practical	Statistics-II: Mathematical Expectations & Probability Distributions (Practical)
Computer Science-I (Object Oriented Programming using C++) Theory	Computer Science-II:Data Structures and file processing (Theory)
Computer Science-I (Object Oriented Programming using C++) Practical	Computer Science-II:Data Structures and file processing (Practical)

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### II Year

SEMESTER - III	SEMESTER - IV
English – III	English – IV
Second Language	Second Language
Environmental Studies	Science & Civilization
Mathematics-III:Real Analysis (Theory)	Mathematics-IV: Algebra (Theory)
Mathematics-III:Real Analysis (Practical)	Mathematics-IV: Algebra (Practical)
Statistics-III: Correlation, Regression & Estimation theory (Theory)	Statistics-IV : Statistical Inference (Theory)
Statistics-III: Correlation, Regression & Estimation	Statistics-IV : Statistical Inference (Practical)

theory (Practical)	
Computer Science-III: Numerical Computing (Theory)	Computer Science-IV: Design and Analysis of Algorithms (Theory)
Computer Science-III: Numerical Computing (Practical)	Computer Science-IV: Design and Analysis of Algorithms (Practical)
Choose any one: 1. Vector Calculus(Mathematics) 2.Linear Programming Problems (Mathematics) 3. Index Numbers & Introduction to R – Programming (Stats)	Choose any one: 1. Multiple Integral. (Mathematics) 2. Transportation, Assignment Problems and Job sequencing (Mathematics) 3. Time Series.(Stats)

### Third Year

SEMESTER - V	SEMESTER - VI
Choose any one: Mathematics-V: (Theory) 1. Numerical Analysis 2. Complex Analysis.	Choose any one: Mathematics-VI: (Theory) 1. Linear Algebra 2. Matrices.
Mathematics-V: (Practical) 1. Numerical Analysis 2. Complex Analysis	Mathematics-VI:(Practical) 1. Linear Algebra 2. Matrices.
Choose any one: Statistics-V : (Theory) 1.Sampling Techniques & Vital statistics 2. Operations Research.	Choose any one: Statistics-VI: (Theory) 1.SQC & Designs of Experiment 2. Demand Analysis, Reliability & Official Statistics
Statistics-V : (Practical) 1.Sampling Techniques & Vital Statistics 2. Operations Research.	Statistics-VI : (Practical) 1.SQC & Designs of Experiment 2.Demand Analysis, Reliability & Official Statistics
Choose any one: Computer Science-V (Theory) 1. Operating Systems 2.Data Mining 3. Cryptography	Choose any one: Computer Science-VI (Theory) 1.Information Security 2.Database Applications 3.Computer Networks
Computer Science-V (Practical) 1. Operating Systems 2.Data Mining 3. Cryptography	Computer Science-VI (Practical) 1.Information Security 2.Database Applications 3.Computer Networks
Choose any one: 1. Numerical Methods. (Mathematics) 2. Number Theory (Mathematics) 3. Linear Programming Problems (Stats)	Choose any Subject: Project (Mathematics / Statistics / Computer Science)

4.ComputerGraphics (Computer Science) 5.Electronic Commerce (Computer Science)	
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### *Course Outcome*

At the end of the course, students develop problem solving skills and learn various concepts which help in developing logical tools and models used to solve various real life problems. Also the students learn traditional techniques of solving algebraic, transcendental equations, differential and integral equations, which have applications in many disciplines. They develop skills for probability concepts and statistical models which are basic for statistical inference for application in many natural phenomenon and also students learn applied statistical techniques which can used in industry, IT, engineering and social sciences etc. such as sampling theory, experimental designs, statistical quality control, reliability, optimization techniques, and Indian official statistics and vital statistics which helps students towards the real applications of industry. In computer science, students develop ability to write algorithms for problems ranging from simple to complex, understand the practical implementation of the algorithms using programming languages like C, C++, Java and Web Technologies and develop programs, appreciate the implications of operating systems in development of computing systems to solve the problems in best possible way. The students will be able to find the role of databases for the organization and to apply them to the real world.