

**Course offered (B.Sc)****Choice Based Credit System in B. Sc. (Hons.) Mathematics**

Semester	Core Course (14 Credits)	Ability Enhancement Compulsory Course(AECC) (2 Credits)	Skill Enhancement Course (SEC) (2 Credits)	Discipline Specific Elective (DSE) (6)	Generic Elective( GE) (6)
I	C1 Calculus (P)	AECC-1 Communicative English			GE-1 (Paper from Physics/ Chemistry/ Zoology/ Botany)
	C2 Algebra	AECC-2 MIL/ Communicative Hindi/Alternative English			

II	C3 Real Analysis	AECC-3 Environmental Science			GE-2 (Paper from Physics/ Chemistry/ Zoology/ Botany)
	C4 Differential Equations (P)				
III	C5 Theory of Real Functions		SEC-1 (Any one) 1. Logic and Sets  2. Computer Graphic		GE-3 (Paper from Physics/ Chemistry/ Zoology/ Botany)
	C6 Group Theory I				
	C7 PDE and Systems of ODE (P)				
IV	C8 Numerical Methods(P)		SEC-2 (Any one) 1. Graph Theory 2. Operating System: Linux		GE-4 (Paper from Physics/ Chemistry/ Zoology/ Botany)
	C9 Riemann Integration and Series of Functions				
	C10 Ring Theory and Linear Algebra I				
V	C11 Multivariate Calculus			DSE-I (Any One) 1. Analytical Geometry 2. Portfolio Optimization 3. Financial Mathematics	

				DSE-2 (Any one) 1. Mathematical Modelling 2. Mechanics 3. Number Theory 4. Bio-Mathematics 5. Industrial Mathematics	
VI	CI3 Metric Spaces and Complex Analysis			DSE- 3 (Any one) 1. Hydro-mechanics 2. Linear Programming 3. Discrete Mathematics 4. Theory of Equations 5. Dynamical Systems	
	CI4 Ring Theory and Linear Algebra II			DSE- 4 (Any one) 1. Mathematical Methods 2. Boolean Algebra and Automata Theory 3. Probability and Statistics 4. Differential Geometry	

(P) means course with Practicals

Discipline Specific Electives (DSE): Options will be offered subject to availability of resource persons

**Generic Electives (GE) (to be offered to students of other disciplines)**

Semester	
1st	<b>Choices for GE-1 (choose one)</b> 1. Differential Calculus 2. Object Oriented Programming in C++(P) 3. Finite Element Methods
2nd	<b>Choices for GE-2 (choose one)</b> 1. Differential Equations 2. Econometrics
3rd	<b>Choices for GE-3 (choose one)</b> 1. Real Analysis 2. Cryptography and Network Security 3. Information Security
4th	<b>Choices for GE-4 (choose one)</b> 1. Algebra 2. Applications of Algebra 3. Combinatorial Mathematics

**Choice Based Credit System in B.Sc. with Mathematics (Non-honours)**

Semester	Core Course (12 Credits)	Ability Enhancement Compulsory Course (AECC) (2 Credits)	Skill Enhancement Course (SEC) (2 Credits)	Discipline Specific Elective (DSE) (6 Credits)
I	DSC-1A (6C) Differential Calculus	<b>AECC-1</b> Communicative English (2C)		
	DSC-2A(6C)	<b>AECC-2</b> Communicative Hindi/MIL/ Alternative English (2C)		
	DSC-3A(6C)			
	DSC-1B(6C) Differential Equations	<b>AECC-3</b> Environmental Science/ Studies (2C)		
	DSC-2B(6C)			
	DSC-3B(6C)			

III	DSC-IC Real Analysis		SEC-1.1(2C)	
	DSC-2C(6C)			
	DSC-3C(6C)			
IV	DSC-ID(6C) Algebra		SEC-2.1(2C)	
	DSC-2D(6C)			
	DSC-3D(6C)			
V			SEC-1.1(2C)	DSE-1A(6C)
				DSE-2A(6C)
				DSE-3A(6C)
VI			SEC-2.2(2C)	DSE-1B(6C)
				DSE-2B(6C)
				DSE-3B(6C)

### Discipline Specific Electives (DSE)

#### DSE-1A (choose one)

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|-------------|--------------|-------------------|
| 1. Matrices | 2. Mechanics | 3. Linear Algebra |
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#### DSE-1B (choose one)

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|----------------------|---------------------|-----------------------|
| 1. Numerical Methods | 2. Complex Analysis | 3. Linear Programming |
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### Skill Enhancement Course (SEC)

#### SEC 1 (choose one)

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|-------------------|------------------------|----------------------|
| 1. Logic and Sets | 2. Analytical Geometry | 3. Integral Calculus |
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#### SEC 2 (choose one)

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|--------------------|------------------------|------------------|
| 1. Vector Calculus | 2. Theory of Equations | 3. Number Theory |
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#### SEC 3 (choose one)

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|-------------------------------|---------------------------|
| 1. Probability and Statistics | 2. Portfolio Optimization |
| 3. Mathematical Modeling      |                           |

#### SEC 4 (choose one)

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|--------------------|-----------------------------------|
| 1. Boolean Algebra | 2. Transportation and Game Theory |
| 3. Graph Theory    |                                   |