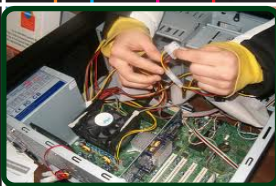
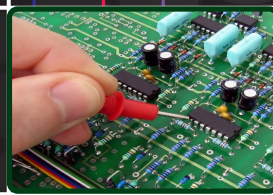


SANGAI INTERNATIONAL UNIVERSITY



Syllabus B.Sc. (Hons.) Mathematics

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Proposed Syllabus and Scheme of Examination

for

B.Sc. (Hons.) Mathematics

submitted to

*University Grants Commission
New Delhi*

under the

Choice Based Credit System

May 2015

Proposed Scheme for Choice Based Credit System in

B.Sc. (Hons.) Mathematics

Semester	Core Course (14)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancem ent Course (SEC) (2)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (4)
1	C1 Calculus (P)	AECC1			GE1
	C2 Algebra				
2	C3 Real Analysis	AECC2			GE2
	C4 Differential Equations (P)				
3	C5 Theory of Real Functions		SEC1		GE3
	C6 Group Theory I				
	C7 PDE and Systems of ODE (P)				
4	C8 Numerical Methods (P)		SEC2		GE4
	C9 Riemann Integration and Series of Functions				
	C10 Ring Theory and Linear Algebra I				
5	C11 Multivariate Calculus			DSE-1	

	C12 Group Theory II			DSE-2	
6	C13 Metric Spaces and Complex Analysis			DSE-3	
	C14 Ring Theory and Linear Algebra II			DSE-4	

(P) means course with practicals

Discipline Specific Electives (DSE)

Choices for DSE 1 (choose one)

1. Portfolio Optimization
2. Number Theory
3. Analytical Geometry

Choices for DSE 2 (choose one)

1. Industrial Mathematics
2. Boolean Algebra and Automata Theory
3. Probability and Statistics

Choices for DSE 3 (choose one)

1. Theory of Equations
2. Bio-Mathematics
3. Linear Programming

Choices for DSE 4 (choose one)

1. Mathematical Modeling
2. Mechanics
3. Differential Geometry

Skill Enhancement Course (SEC)

Choices for SEC 1 (choose one)

1. Logic and Sets
2. Computer Graphics

Choices for SEC 2 (choose one)

1. Graph Theory
2. Operating System: Linux

Generic Electives (GE)

Choices for GE 1 (choose one)

1. Object Oriented Programming in C++ (P)
2. Finite Element Methods

Choices for GE 2 (choose one)

1. Mathematical Finance
2. Econometrics

Choices for GE 3 (choose one)

1. Cryptography and Network Security
2. Information Security

Choices for GE 4 (choose one)

1. Applications of Algebra
2. Combinatorial Mathematics

Details of courses under B.Sc. (Hons.) Mathematics

Course	*Credits		
		Theory + Practical	Theory + Tutorial
I. Core Course			
(14 Papers)		$14 \times 4 = 56$	$14 \times 5 = 70$
Core Course Practical / Tutorial*		$14 \times 2 = 28$	$14 \times 1 = 14$
(14 Papers)			
II. Elective Course (8 Papers)			
A.1. Discipline Specific Elective		$4 \times 4 = 16$	$4 \times 5 = 20$
(4 Papers)			
A.2. Discipline Specific Elective			
Practical/ Tutorial*		$4 \times 2 = 8$	$4 \times 1 = 4$
(4 Papers)			
B.1. Generic Elective/			
Interdisciplinary		$4 \times 4 = 16$	$4 \times 5 = 20$
(4 Papers)			
B.2. Generic Elective			
Practical/ Tutorial*		$4 \times 2 = 8$	$4 \times 1 = 4$
(4 Papers)			

- Optional Dissertation or project work in place of one Discipline Specific Elective Paper (6 credits) in 6th Semester

III. Ability Enhancement Courses

1. Ability Enhancement Compulsory Courses (AECC)

(2 Papers of 2 credit each) $2 \times 2 = 4$ $2 \times 2 = 4$

Environmental Science English/MIL Communication

2. Skill Enhancement Courses (SEC)

(Minimum 2) $2 \times 2 = 4$ $2 \times 2 = 4$

(2 Papers of 2 credit each)

Total credit	140	140
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Institute should evolve a system/ policy about ECA/ General Interest/ Hobby/ Sports/ NCC/ NSS/ related courses on its own.

* wherever there is a practical there will be no tutorial and vice-versa