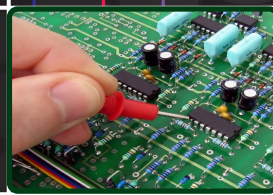


SANGAI INTERNATIONAL UNIVERSITY



Syllabus B.Sc. (Hons.) Applied Mathematics

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Proposed Syllabus and Scheme of Examination

for

B.Sc. (Hons.) Applied 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.) Applied 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				
	C7 PDE and Systems of ODE (P)				
4	C8 Multivariate Calculus		SEC2		GE4
	C9 Complex Analysis				
	C10 Rings and Linear Algebra				
5	C11 Mechanics			DSE-1	
	C12 Numerical Methods and Programming (P)			DSE-2	

6	C13 Integral Equations and Calculus of Variation			DSE-3	
	C14 Laplace Transform (P)			DSE-4	

(P) means course with practicals

Note: Institutions opting for both B.Sc. (Hons.) Mathematics and B.Sc. (Hons.) Applied Mathematics shall have first two semesters common.

Discipline Specific Electives (DSE)

Choices for DSE 1 (choose one)

1. Number Theory
2. Graph Theory
3. Linear Programming

Choices for DSE 2 (choose one)

1. Control Theory
2. Approximation Theory
3. Combinatorial Optimization

Choices for DSE 3 (choose one)

1. Mathematical Modeling
2. Coding Theory
3. Wavelet Theory

Choices for DSE 4 (choose one)

1. Bio-Mathematics
2. Stochastic Processes
3. Difference Equations

Skill Enhancement Course (SEC)

Choices for SEC 1 (choose one)

1. Electronic Commerce
2. Computer Graphics (P)
3. Operating Systems

Choices for SEC 2 (choose one)

1. Latex and Web Designing (P)
2. Transportation and Game Theory
3. Fuzzy Sets and Logics

Generic Electives (GE)**Choices for GE 1 (choose one)**

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

Choices for GE 2 (choose one)

1. Mathematical Finance
2. Econometrics

Choices for GE 3 (choose one)

1. Digital Signal Processing
2. Neural Networks
3. Dynamical Systems

Choices for GE 4 (choose one)

1. Industrial Mathematics
2. Statistical Techniques
3. Modeling and Simulation

Details of courses under B.Sc. (Hons.) Applied 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 Papers)		$14 \times 2 = 28$	$14 \times 1 = 14$
II. Elective Course (8 Papers)			
A.1. Discipline Specific Elective (4 Papers)		$4 \times 4 = 16$	$4 \times 5 = 20$
A.2. Discipline Specific Elective Practical/ Tutorial* (4 Papers)		$4 \times 2 = 8$	$4 \times 1 = 4$
B.1. Generic Elective/ Interdisciplinary (4 Papers)		$4 \times 4 = 16$	$4 \times 5 = 20$
B.2. Generic Elective Practical/ Tutorial* (4 Papers)		$4 \times 2 = 8$	$4 \times 1 = 4$

- 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

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