Five years Integrated M.Sc. Mathematics (Semester - 4)
Assessment Policy
060090404: SEC 2 Combinatorial Mathematics (Theory – 2 Credits)

Assessment Code	Assessment Type	Duration of each	Occurrence	Each of marks	Weightage in CIE of 40 marks	Remarks
A1	Unit Test	90 minutes	2	30	7 x 2 = 14	Unit Test – 1: After completion of Unit-1 and Sub Units 2.1, 2.2 and 2.3 Unit Test – 2: After completion of Sub Units 2.4, 2.5, 2.6 and Unit – 3.
A2	Internal Examination	180 minutes	1	60	14 x 1 = 14	After completion of Unit-4, which covers all units.
A3	Assignment	10 days	4	10	2 x 4 = 8	Assignment - 1 : After completion of Unit-1 Assignment - 2 : After completion of Unit-2 Assignment - 3 : After completion of Unit-3 Assignment - 4 : After completion of Unit-4
A4	Class Participation	---	1	4	4 x 1 = 4	Based on the performance of student in regular and tutorial lectures.

Assessment Type Classification:

Assessment Code :	A1	**Coverage of Content :**	Unit Test – 1: Covers Unit-1 and Sub Units 2.1, 2.2 and 2.3 Unit Test – 2: Covers Sub Units 2.4, 2.5, 2.6 and Unit – 3.
Assessment Type :	Unit Test-1 and Unit Test -2	**Tentative Date :**	Unit Test – 1: 23/01/2019 Unit Test – 2: 08/03/2019
Kind of Question Format:	Que. 1) Short Questions (Five Questions, each of 3 marks) Que. 2) Long Questions (Any three out of four, each of 5 marks)		
Assessment :	Formative		

Assessment Code :	A2	**Coverage of Content :**	All Units
Assessment Type :	Internal Examination	**Tentative Date :**	01/04/2019
Kind of Question Format:	Que. 1) Short Questions (Five Questions, each of 3 marks) Que. 2) Long Questions (Any three out of four, each of 5 marks) Que. 3) Long Questions (Any three out of four, each of 5 marks) Que. 4) Long Questions (Any three out of four, , each of 5 marks)		
Assessment :	Summative		

Assessment Code :	A3	**Coverage of Content :**	Assignment - 1 : After completion of Unit-1 Assignment - 2 : After completion of Unit-2 Assignment - 3 : After completion of Unit-3 Assignment - 4 : After completion of Unit-4
Assessment Type :	Assignment	**Tentative Date :**	Assignment - 1 : 01/01/2019 Assignment - 2 : 01/02/2019 Assignment - 3 : 01/03/2019 Assignment - 4 : 25/03/2019
Kind of Question Format:	1. Per method two examples have to solve. 2. Questions will be given on regular bases of completion of particular method. 3. Assignment has to be submitted after two days of completion of whole unit. 4. Zero mark will be given for submission after given deadline.		
Assessment :	Formative		

Assessment Code :	A4	**Coverage of Content :**	All Units
Assessment Type :	Class Participation	**Tentative Date :**	During Semester
Kind of Question Format:	1. Student will be evaluated during the regular lecture through oral or written question to be solved in class. 2. In the tutorial lectures, the performance of students is measured on the bases of problem resolved by applying the concept of mathematical techniques they have understood.		
Assessment :	Summative		

Assessment Type Mapping with Course Outcomes and Program Outcomes:

Course outcomes:

Upon completion of the course, students shall be able to

CO1: to know the types of permutations and combinations.

CO2: generate permutations and combinations using various algorithms.

CO3: understand the applicability of Binomial and Multinomial theorem to generate combinations.

CO4: apply the principles of inclusion-exclusion to generate permutations and combinations.

CO5: solve some counting problems using recurrence relation and generating functions.

CO6: develop a method for generating a sequence of random number, text or combination that can be further utilized for security purpose especially in Information Communication Technology (ICT).

Programme Outcomes (PO)

PO 1: Knowledge

Provides knowledge about the fundamentals of pure, applied and computing mathematics and its applications to students that creates the opportunities in industries and research centers.

PO 2: Core Competence

Creates competency in science and mathematics to formulate, analyses and solve problem and/or also to pursue advanced study or research.

PO 3: Breadth

Trains students having good knowledge in unearth core of academia and industry by the roots of mathematics.

PO 4: Evaluation

Imparts in students to raise trial and error based curiosity and problem solving functionality with research based advanced tutorial for higher level decision makings tools.

Assessment Code	Course Outcomes						Programme Outcomes			
	CO1	CO2	CO3	CO4	CO5	CO6	PO1	PO2	PO3	PO4
A1	✓	✓	✓	✓			✓	✓		✓
A2	✓	✓	✓	✓		✓		✓	✓	✓
A3	✓	✓	✓	✓	✓	✓		✓	✓	✓
A4		✓	✓	✓		✓	✓	✓	✓	✓