Five years Integrated M.Sc. Mathematics (Semester – 9)
Assessment Policy
060090904: Advanced Operation Research (Theory – 4 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. Unit Test – 2: After completion of Sub Units 2.3, 2.4 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	1.75 x 4 = 7	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	Presentation	1 hour	1	40	5 x 1 = 5	Cover all units.

Assessment Type Classification:

Assessment Code:	A1	Coverage of Content:	Unit Test – 1: Covers Unit-1 and Sub Units 2.1, 2.2 Unit Test – 2: Covers Sub Units 2.3, 2.4 and Unit – 3.
Assessment Type:	Unit Test-1 and Unit Test -2	Tentative Date:	Unit Test – 1: 09/08/2019 Unit Test – 2: 16/09/2019
Kind of Question Format:	Que. 1) Long Questions (Any three out of four, each of 5 marks) Que. 2) [A] Long Question (5 marks) [B] Long Question (Any one out of two, 10 marks)		
Assessment:	Formative		

DEPARTMENT OF MATHEMATICS — 2019-20

Assessment Code:	A2	Coverage of Content:	All Units
Assessment Type:	Internal Examination	Tentative Date:	11/10/2019
Kind of Question Format:	Que. 1) Long Questions (Any three out of four, each of 5 marks) Que. 2) [A] Long Question (5 marks) 　　　　[B] Long Question (Any one out of two, 10 marks) Que. 3) [A] Long Question (5 marks) 　　　　[B] Long Question (Any one out of two, 10 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: 15/07/2019 Assignment - 2: 26/08/2019 Assignment - 3: 16/09/2019 Assignment - 4: 10/10/2019
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 on given date. 4. Zero mark will be given for submission after given deadline.		
Assessment:	Formative		

Assessment Code:	A4	Coverage of Content:	All Units
Assessment Type:	Presentation	Tentative Date:	10/10/2019
Kind of Question Format:	1. Student has to select any one of advanced operation research from any of the units and has to present its application in real world situation. 2. The presentation will be evaluated on the basis of four parameters viz. (i) Level of Content, (ii) Clarity, (iii) Teaching, Methodology, (iv) Overall Impact of presentation (v) Viva 3. Each parameter has weighted of 10 marks. 4. Zero marks will be given, if students remain absent on the day of presentation without taking prior permission of leave or students not give the presentation		
Assessment:	Summative		

Assessment Type Mapping with Course Outcomes and Program Outcomes:

Course outcomes (CO): Upon completion of the course, students shall be able to

CO1: define and formulate non-linear programming problems for one and several variables.

CO2: develop mathematical skills to analyse and solve dynamic programming and models arising from a wide range of applications.

CO3: solve queening theory and inventory models using appropriate techniques and optimization solvers, interpret the results obtained and translate solutions into directives for action.

CO4: recognize the applications of, basic methods for, and challenges for goal programming and geometric programming.

CO5: formulate a real-world problem as a mathematical programming model.

CO6: know principles of construction of mathematical models of conflicting situations and mathematical analysis methods of operations research.

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 centres.

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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓