



Five Years Integrated M.Sc. Mathematics (Semester - 9)

Assessment Policy

060090903: Advanced Mathematical Modeling

| 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 | $7 \times 2 = 14$ | Unit Test 1: -After the completion of whole unit 1 and Unit 2 (i.e. 2.1, 2.2) Unit Test 2: -After the completion of Unit 2 (2.3, 2.4) and whole Unit 3 |
| A2 | Internal Examination | 3 hours | 1 | 60 | $14 \times 1 = 14$ | After completion of Unit-4, which covers all units. |
| A3 | Assignment | 7 Days | 4 | 10 | $1.75 \times 4 = 7$ | 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 | 30 Minutes | 1 | 5 | $1 \times 5 = 5$ | Based on concept of Advanced Mathematical Modeling |

Assessment Type Classification:

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|--------------------------|--|-----------------------|--|
| Assessment Code : | A1 | Coverage of Content : | From whole unit 1 and unit 2 (i.e. 2.1, 2.2) |
| Assessment Type : | Unit Test 1 | Tentative Date : | 13/08/2019 |
| Kind of Question Format: | Q1 Answer the following [any three] [15 marks] Q2 Answer the following [any three] [15 marks] | | |
| Assessment : | Formative | | |



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|---------------------------------|--|------------------------------|---|
| Assessment Code : | A1 | Coverage of Content : | From Unit 2 (2.3, 2.4) and whole Unit 3 |
| Assessment Type : | Unit Test 2 | Tentative Date : | 17/09/2019 |
| Kind of Question Format: | Q1 Answer the following [any three] [15 marks] Q2 Answer the following [any three] [15 marks] | | |
| Assessment : | Formative | | |

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|---------------------------------|--|------------------------------|------------|
| Assessment Code : | A2 | Coverage of Content : | All Units |
| Assessment Type : | Internal Examination | Tentative Date : | 15/10/2019 |
| Kind of Question Format: | Q1 Answer the following [any three] [15 marks] Q2 Answer the following [any three] [15 marks] Q3 Answer the following [any three] [15 marks] Q4 Answer the following [any three] [15 marks] | | |
| Assessment : | Summative | | |

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|--------------------------|--|------------------------------|-----------|
| Assessment Code : | A3 | Coverage of Content : | All Units |
| Assessment Type : | Assignment | | |
| Rules : | 1. 20 (10 question+ 10 question given in each tutorial) questions from each unit will be given as assignment. 2. Questions will be given in every tutorial lecture. 3. 7 days will be given for assignment submission. 4. Zero marks will be given for submission after given deadline | | |
| Assessment : | Formative | | |

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|--------------------------|--|------------------------------|-----------|
| Assessment Code : | A4 | Coverage of Content : | All Units |
| Assessment Type : | Presentation | | |
| Rules : | 1. Topic should be submitted by students before 30 days of the presentation based on application of Discrete Mathematics and Graph Theory. | | |



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|---------------------|--|
| | <ol style="list-style-type: none">2. 15 minutes should be given for presentation.3. Viva should be taken after completion of presentation.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 of given topic. |
| Assessment : | Summative |

Assessment Type Mapping with Course Outcomes and Program Outcomes:

Course outcomes:

Upon completion of the course, students shall be able to

C01: be familiar with terms of the basic of mathematical modelling.

C02: understand the latest development, merits and demerits of mathematical modelling.

C03: design difference equation based mathematical model and resolve the problem of field population, pollution, econometrics, and cooling system etc.

C04: apply the difference equation based mathematical model to resolve the problems related to Epidemic model, compartment model, inflection model etc.

C05: make the mathematical model of partial differential equation to resolve various problems.

C06: establish the connection of applicability of mathematical models to resolve the real problems arise in the fields of science and engineering.

Programme Outcomes (PO)

PO1: 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.

PO2: Core Competence

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

PO3: Breadth

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



PO4: 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 | | | |
|-----------------|-----------------|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|
| | C01 | C02 | C03 | C04 | C05 | C06 | P01 | P02 | P03 | P04 |
| A1 | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ |
| A2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| A3 | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | |
| A4 | ✓ | | | | | ✓ | ✓ | | | ✓ |