



**Five years Integrated M.Sc. Mathematics (Semester - 9)  
Assessment Policy  
060090902: Calculus of Variations and Integral Equations**

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 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 and Unit - 3.
A2	Internal Exam	3 hours	1	60	$14 \times 1 = 14$	Covers Unit- All units
A3	Assignment	7 days	4	10	$1.75 \times 4 = 07$	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	Viva	20 minutes	1	05	$5 \times 1 = 05$	Covers Unit- All units

**Assessment Type Classification:**

<b>Assessment Code :</b>	A1	<b>Coverage of Content :</b>	Unit Test - 1: After completion of Unit-1 and Sub Units 2.1, 2.2, and 2.3.
<b>Assessment Type :</b>	Unit Test 1	<b>Tentative Date :</b>	10/08/2019
<b>Kind of Question Format:</b>	Q-1 Answer the following. (Any 3 out of 4 questions, each of 5 mark) [15 Marks] Q-2 Answer the following. (Any 3 out of 4 questions, each of 5 mark) [15 Marks]		
<b>Assessment :</b>	Formative		

<b>Assessment Code :</b>	A1	<b>Coverage of Content :</b>	Unit Test - 2: After completion of Sub Units 2.4, 2.5 and Unit - 3.
<b>Assessment Type :</b>	Unit Test 2	<b>Tentative Date :</b>	17/09/2019



<b>Kind of Question</b>	Q-1 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]
<b>Format:</b>	Q-2 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]
<b>Assessment :</b>	Formative	

<b>Assessment Code :</b>	A2	<b>Coverage of Content :</b>	Covers Unit- All units
<b>Assessment Type :</b>	Internal Exam	<b>Tentative Date :</b>	14/10/2019
<b>Kind of Question</b>	Q-1 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]	
<b>Format:</b>	Q-2 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]	
	Q-3 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]	
	Q-4 Answer the following. (Any 3 out of 4 questions, each of 5 mark)	[15 Marks]	
<b>Assessment :</b>	Formative		

<b>Assessment Code :</b>	A3	<b>Coverage of Content :</b>	Covers Unit- All units
<b>Assessment Type :</b>	Assignment	<b>Tentative Date :</b>	Assignment 1: 25/07/2019 Assignment 2: 12/08/2019 Assignment 3: 30/08/2019 Assignment 4: 23/09/2019
<b>Kind of Question</b>	1. 8 questions (short questions and long questions) from all units will be given as assignment.		
<b>Format:</b>	2. Questions will be given in the very next lecture once the unit gets over.		
	3. 07 days will be given for assignment submission.		
	4. Zero marks will be given for submission after given deadline.		
<b>Assessment :</b>	Formative		

<b>Assessment Code :</b>	A4	<b>Coverage of Content :</b>	After completion of Syllabus
<b>Assessment Type :</b>	Viva	<b>Tentative Date :</b>	
<b>Kind of Question</b>	1. Viva should be taken after completion of Syllabus.		
<b>Format:</b>	2. Zero marks will be given, if students remain absent on the day of viva without taking prior permission of leave or students not give the viva of given topic.		
<b>Assessment :</b>	Formative		



### Assessment Type Mapping with Course Outcomes and Program Outcomes:

**Course outcomes:** Upon completion of the course, students shall be able to

**C01:** familiar with concept of variations.

**C02:** derive some classical differential equations by using principles of calculus of variations.

**C03:** have acquired sound knowledge of Green's function, fredholm and Volterra integral equations of calculus of variations.

**C04:** solve simple IVP and BVP by using calculus of several variable.

**C05:** reduce the differential equation to integral equations.

**C06:** exposed to the decomposition method.

### 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	PO1	PO2	PO3	PO4
A1	✓	✓	✓	✓	✓	✓	✓		✓
A2	✓	✓	✓	✓	✓	✓	✓	✓	
A3	✓	✓	✓	✓	✓		✓		✓
A4	✓	✓	✓	✓	✓	✓		✓	✓