

MSc DEGREE EXAMINATION MAY 2026
(Second Semester)

Branch – MATHEMATICS

MAJOR ELECTIVE COURSE - I MATLAB AND LATEX (THEORY)

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	MATLAB stands for (i) Matrix Laboratory (ii) Mathematical Laboratory (iii) Matrix Language (iv) Mathematical Logic	K1	CO1
	2	The command zeros(3,2) creates (i) 3×2 matrix (ii) 2×3 matrix of zeros (iii) 3×2 matrix of zeros (iv) Vector of 6 zeros	K2	CO1
2	3	Comments in MATLAB begin with (i) // (ii) # (iii) % (iv) **	K1	CO2
	4	The switch statement is used for (i) Multiple conditional selection (ii) Looping (iii) Plotting (iv) Matrix operations	K2	CO2
3	5	The general syntax of a function is (i) function name(input, output) (ii) output = name(function) (iii) name = function(input) (iv) function [output] = name(input)	K1	CO3
	6	The command surf() creates (i) Surface plot (ii) Line graph (iii) Bar chart (iv) Histogram	K2	CO3
4	7	LaTeX is built on which system? (i) HTML (ii) TeX (iii) XML (iv) Python	K1	CO4
	8	Which environment creates a numbered list? (i) enumerate (ii) itemize (iii) numberlist (iv) ordered	K2	CO4
5	9	Cross-referencing works correctly after (i) single compilation (ii) two compilations (iii) no compilation (iv) manual numbering	K1	CO5
	10	Superscripts are written using (i) # (ii) & (iii) * (iv) ^	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain MATLAB variable rules and basic commands.	K2	CO1
		(OR)		
	11.b.	Explain transpose, inverse and determinant with commands.		
2	12.a.	Distinguish between Script Files and Function Files.	K4	CO2
		(OR)		
	12.b.	Analyze MATLAB Program Using Loop and Conditional Statement.		
3	13.a.	Identify how to find roots of a polynomial and construct polynomial from roots.	K3	CO3
		(OR)		
	13.b.	Build a MATLAB program to plot a 3D surface.		
4	14.a.	Explain the basic structure of a LaTeX document.	K5	CO4
		(OR)		
	14.b.	Mark the font size commands in LaTeX.		
5	15.a.	Develop the column alignment and merging in tables.	K6	CO5
		(OR)		
	15.b.	Discuss the difference between manual and automatic bibliography.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Illustrate the different Methods of Creating and Manipulating Arrays in MATLAB.	K2	CO1
2	17	Identify how to plot multiple graphs in the same figure window.	K3	CO2
3	18	Examine User-Defined Functions in MATLAB with Syntax and Example.	K4	CO3
4	19	Explain different types of lists and table creation in LaTeX.	K5	CO4
5	20	Design the different math modes in LaTeX.	K6	CO5

Z-Z-Z

END