

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2023 ONLY)

23PMS1E1

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS): POLLACHI
END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2023

COURSE NAME: M.Sc. - MATHEMATICS

MAXIMUM MARKS: 75

SEMESTER: I

TIME: 3 HOURS

MATLAB

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

K1

MULTIPLE CHOICE QUESTIONS.

- _____ can be used to address a range of elements in a vector or a matrix.
a. zeros b. Colon c. ones d. eye
- The ____ command can also be used to assign a string to a variable
a.output b. string c. input d. variable_name
- The _____ command plots a function with the form $y = f(x)$ between specified limits.
a. fplot b. plot c. plot(f(x)) d.fun
- A script file is an _____ file with a set of valid MATLAB commands
a.S file b. M file c. C file d. D file
- The value of a polynomial at a point x can be calculated with the function_____
a.poly b. root c. roots d. polyval

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

K2

- List some elementary math functions available in MATLAB
- What is the form of input command?
- What is the purpose of plot command?
- Write the form of the function definition line.
- What is the MATLAB representation for the polynomial $8x+5$?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K3

- a) What are the windows available in MATLAB? Explain its purpose.

(OR)

- b) Explain about zeros, ones and eye commands with example.

- 12.a) Write a note on fprintf command.

(OR)

- b) Explain about Order of precedence

(CONTD.....2)

13.a) Explain about 2-Dimensional plots.

(OR)

b) Explain about MATLAB in built integration function -trapz command

14.a) How do you create a function file.-Explain.

(OR)

b) Explain the process of saving a function file.

15. a) What are the MATLAB built-in functions for Addition, Multiplication, and Division of Polynomials

(OR)

b) Write a short note on Interpolation function in MATLAB.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K4 & K5

16. a) Examine the Built-in functions for analyzing arrays.

(OR)

b) Explain the various Predefined Variables and Keywords in MATLAB for various purposes, that cannot be used as variable names.

17. a) Explain the output commands in MATLAB.

(OR)

b) Analyze the Logical and Relational operators with example.

18. a) Explain about MATLAB in built integration function -quad command.

(OR)

b) Explain about MATLAB ODE solvers.

19. a) Write a short note on local and global variables.

(OR)

b) Differentiate between script file and function files.

20. a) Explain about Curve fitting with polynomials.

(OR)

b) Write a MATLAB coding for the data given- “An aluminum thin-walled sphere is used as a marker buoy. The sphere has a radius of 60 cm and a wall thickness of 12 mm. The density of aluminum is 2690 kg/m^3 . The buoy is placed in the ocean, where the density of the water is 1030 kg/m^3 ”. Determine the height h between the top of the buoy and the surface of the water.

