Code: EE6T6FE-E,CS6T5FE-C,ME6T6FE-F.

III B.Tech-II Semester–Regular/Supplementary Examinations August 2021

INTRODUCTION TO MATLAB
(COMMON TO EEE ,CSE & ME)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer *all* the questions.   All questions carry equal marks

$$11 \text{x } 2 = 22 \text{ M}$$

1.
   a) Expand MATLAB and explain about command window.
   b) Explain the effect of clear command with respect to command, workspace window.
   c) If B is a matrix then the following are refers to
      i) B(n,:)   ii) B(:,p:q)
   d) Write the importance of array operator.
   e) Explain transpose function with necessary example.
   f) What is the importance of hold function?
   g) What is the importance of sublot function?
   h) Write short notes on logical operator.
   i) Write a program to find the value of polynomial $6x^2$-3x+3 at x=1.2.
   j) Explain interpolation with necessary function.
   k) Write a short program to perform integration of Cosx.

PART – B

Answer any *THREE* questions. All questions carry equal marks.

$$3 \times 16 = 48 \text{ M}$$

2. a) With suitable functions, write a short note on arithmetic operations.   5 M

   b) Explain the advantages and applications of MATLAB. 5 M

   c) Pencils are packed in boxes such that a dozen are placed in each box. Determine how many boxes are needed to pack 100 Pencils, using ceil function.   6 M

3. a) Write a short notes on array addressing using a colon operator and adding elements to existing variables.   8 M

   b) Solve the following system of three linear equations.   8 M
$$4x-5y+4z=3$$
$$2x+3y+2z=4$$
$$6x+10y+3z=8$$

4. a) With respect to graphics in MATLAB, write notes on the following functions.   8 M
   i) Plot   ii) Semilog   iii) Stem
   iv) Pie   v) Bar   vi) Hist

   b) Explain how the properties of the plot can be modified by taking an example program.   8 M

5. a) Explain the syntax of switch case, loop, and nested loop structures in MATLAB. 8 M

   b) Write a program in MATLAB to add first 10 even numbers using While-loop. 8 M

6. a) Determine the positive roots of the equation $x^2-5x\sin(3x)+3=0$. 8 M

   b) Determine the solution of the equation $xe^{-x}=0.8$ and explain about the functions used in detail. 8 M