Code No: **R41055** | **R10** | | **Set No. 1** |

IV B.Tech I Semester Supplementary Examinations, February/March - 2018
MATLAB
(Open Elective)

Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1 a) List out and explain the advantages and disadvantages of MATLAB.   [8]
   b) Explain about help and lookfor commands in MATLAB.   [7]

2 a) Write a MATLAB Program to plot the following graphs
      i) $e^{-at}(cosbt+cosbt^2)$
      ii) $e^{-at}sinbt$. A provision is to be given to take the values of a and b as inputs   [8]
   b) Explain the procedure to create a function file.   [7]

3 a) Explain various array and matrix operations in MATLAB.   [8]
   b) What are different logical and relational operators in MATLAB?   [7]

4 a) Discuss about if, if-else, nested if structures in MATLAB.   [8]
   b) Write the MATLAB statements required to calculate and print out the squares of all the even integers between 0 and 50. Create a table consisting of each integer and its square, with appropriate labels over each column.   [7]

5 a) Discuss about sub function, nested function, and private functions.   [8]
   b) Write a function to calculate the cross product of two vectors A and B defined as, $A=ia_x+ja_y+ka_z$, $B=ib_x+jb_y+kb_z$.   [7]

6 a) Explain the following
      (i) plot   (ii) stem   (iii) xlabel   (iv) ylabel
      (v) legend   (vi) title   (vii) plot3   (viii) figure   [8]
   b) Suppose that George, Sam, Betty, Charlie, and Suzie contributed $15, $5, $10, $5, and $15, respectively, to a colleague's going-away present. Create a pie chart of their contributions. What percentage of the cost was paid by Sam?   [7]

7 a) Explain how to change the object properties at the creation time and after creation time.   [8]
   b) Explain the special functions to help find the handles of objects with an example.   [7]

8 a) Enumerate and explain the procedure of creating and displaying a GUI.   [8]
   b) Write a GUI program that plots the equation $y(x)=ax^2+bx+c$ [7]