**M.Tech Odd Semester (CBCS) Exam., December—2017**

COMPUTER SCIENCE AND ENGINEERING

**( 1st Semester )**

Course No. : MCSEEL–35

**( MATLAB )**

*Full Marks* : 50
*Pass Marks* : 15

*Time* : 2 hours

*Note* : 1. Answer *any* **five** questions.
2. Begin each answer in a new page.
3. Answer parts of a question at a place.
4. Assume reasonable data wherever required.
5. The figures in the margin indicate full marks for the questions.

**1.** *(a)* What is MATLAB? Where can MATLAB be applicable? What does MATLAB consist of? 1+2+2=5

*(b)* Discuss some of the commands/ functions used for logical operations. 5





**2.** Briefly explain the three types of loop available in MATLAB to handle the looping requirements with examples. 10

**3.** *(a)* What are the types of program file that MATLAB allows to write? Explain with examples. 5

*(b)* Is it possible to enter multiple statements per line in MATLAB? If yes, how? 2

*(c)* Find a short MATLAB expression to build the matrix

$$B = \begin{matrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 9 & 7 & 5 & 3 & 1 & 1 & 3 \\ 4 & 8 & 16 & 32 & 64 & 128 & 256 \end{matrix}$$ 3

**4.** *(a)* Briefly explain the ways of controlling the appearance of floating-point number in MATLAB. 3

*(b)* Write down some functions available in MATLAB to generate elementary matrices with examples. 3

*(c)* How to concatenate two matrices in MATLAB? Briefly discuss the two procedures. 4

**5.** *(a)* How can polynomials be represented in MATLAB? Briefly discuss with examples the procedure to evaluate polynomials in MATLAB. 2+4=6

*(b)* Write short notes on the following with examples : 4

*(i)* Vector dot product

*(ii)* Vectors with uniformly spaced elements

**6.** *(a)* Briefly explain the procedure to store more than one-dimensional textual data in MATLAB program with example. 6

*(b)* Describe anonymous functions and nested functions. 4

**7.** *(a)* Briefly discuss the five forms of 'importdata' functions of MATLAB. 6

*(b)* How to find indefinite integral and definite integral using MATLAB? Show with examples. 4

**8.** Briefly explain the procedure to plot the graph of a function in MATLAB. 10

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