B.Tech. - VIEP - MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination, 2019

BIMEE-009 : COMPUTER AIDED MANUFACTURING

Time : Three Hours].   [Maximum Marks : 70

Note : Attempt **any five** questions. All questions carry **equal** marks. Standard symbols have their usual meaning.

1. (a) Explain the organization of automated manufacturing system with neat sketch.   [7]

    (b) Explain the concepts and strategies for implementing automation in Manufacturing. [7]

2. (a) Describe the various components of NC machines.   [7]

    (b) What is the function of drives ? Elaborate different drives used for NC machine tools.   [7]

3. (a) What are different NC words used in Part Programming ? Briefly describe their functions.
                                                                          [7]

(b) Explain the principle and operation of a differential integrator with a neat diagram. [7]

4. (a) What are different types of stepper motors ? List the advantages and disadvantages of a stepper motors. [7]

(b) Why are the adaptive control systems easier to be installed on NC machines ? Write the benefits of adaptive control. [7]

5. (a) What is Computer Integrated Manufacturing (CIM) ? Describe its various elements. [7]

(b) Enumerate the advantages and disadvantages of open loop and closed loop NC systems. [7]

6. (a) What do you understand by FMS ? Write the advantages of FMS. [7]

(b) What is Group Technology concept in manufacturing ? Discuss the various stages in Group Technology Planning. [7]

7. (a) Explain the different types of joints and links in a robot ? What are the symbols used ? [7]

(b) Write briefly about various methods for robot programming. [7]

8. Write short notes on the following (**any two**) : [7×2=14]

(a) Artificial Intelligence

(b) Computer Aided Process Planning

(c) Computer Aided Instruction

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