

No. of Printed Pages : 03

Roll No. ....

**AA-81**

**M. Tech. EXAMINATION, May 2017**

(First Semester)

(B. Scheme) (Re-appear Only)

(ME)

MEM-501-B

COMPUTER AIDED ENGINEERING

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-01/9) M-AA-81

**P.T.O.**

### **Unit I**

1. (a) Name the different types of graphic display systems. Compare their capabilities, advantages and disadvantages.  
(b) What is Programmable Logic Controller (PLC) ? Discuss its hardware configuration and advantages. **15**
2. What is CAD/CAM database ? What are the benefits of centralized control of the databases ? Explain some of the common database models. **15**

### **Unit II**

3. Describe the methods of representation for the following briefly : **15**
  - (a) Surfaces
  - (b) Solids.
4. Briefly discuss the following solid modelling frameworks : **15**
  - (a) Wire-frame
  - (b) Sweep
  - (c) Boundary representations.

**M-AA-81**

**2**

### **Unit III**

5. Discuss different types of elements used for discretization of three dimensional object models. Illustrate with neat sketches, the use of these elements in discretization of simple objects. **15**
6. Discuss the application of FEM in the design and engineering of mechanical systems with the help of two examples. **15**

### **Unit IV**

7. What is NC technology ? How are CNC different from conventional NC ? Briefly discuss the different elements of a typical NC Machine tool. **15**
8. Name some of the NC part programming languages and briefly discuss the features of one of these. **15**

**(3-01/10)M-AA-81**

**3**

**60**