

Code: 19ME4501C

**III B.Tech - I Semester – Regular Examinations – JANUARY 2022****CAD / CAM  
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.  
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.  
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.  
4. All parts of Question paper must be answered in one place
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**PART – A**

1. a) Explain the important parameters to be considered while selecting a CAD system.
- b) Outline the surface blending operation.
- c) What are the four statements used in APT language?
- d) What is Group Technology?
- e) Summarize the advantages of CIMS.

**PART – B****UNIT – I**

2. a) What are the types of plotters? Explain their working. 6 M
- b) Explain the CAD/CAM Hardware, basic structure and CPU functions by make use of a neat diagram. 6 M

OR

3. a) Explain the method of hidden surface removal. List its advantages and limitations. 6 M
- b) Explain about raster scan graphics coordinate system. 6 M

## UNIT – II

4. a) What are the three modelling modes used in the geometric modelling? Explain their relative merits and demerits. 6 M
- b) Explain Bezier curve by make use of a neat sketch. Explain its advantages and limitations. 6 M

OR

5. a) What are the basic geometric commands used in drafting system? Explain with examples. 6 M
- b) Explain the following commands. 6 M
- (i) Zoom (ii) Pan (iii) Redraw and Regen

## UNIT-III

6. Explain various components and motion control systems of NC systems with neat sketch. 12 M

OR

7. a) Compare the manual part programming and Computer Aided Part Programming. 6 M
- b) Explain the different types of NC words used in part programming technique. 6 M

## UNIT – IV

8. a) Explain the retrieval type and generative type system of CAPP. 6 M
- b) Explain the types of classification and coding systems used in Group Technology. 6 M

OR

9. a) Explain the various activities related to computer aided quality control by make use of a block diagram. 6 M
- b) Explain the different types of coordinate measuring machines that are used in the industry. 6 M

### UNIT – V

10. a) Summarize the following types of layouts in the design of FMS: 6 M
- (i) Circular layer (ii) Linear layers (iii) Loop layers
- b) Explain in detail about the equipment of FMS. 6 M

OR

11. a) What are the major elements of CIM system and explain them. 6 M
- b) How does the computer integration manufacturing technique reduce the lead time and enhance the quality of manufacturing of a product? 6 M