

Code No: 117BD

**R13**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, November/December - 2017**

**CAD/CAM**

**(Common to AE, AME, MSNT, ME)**

**Time: 3 Hours**

**Max. Marks: 75**

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART- A**

**(25 Marks)**

- 1.a) What are the computer peripherals of CAD? [2]
- b) What are the functions of Geometric Modelling in design? [3]
- c) What are the properties of B-spline curve? [2]
- d) Distinguish between Algebraic and Geometric form of a curve. [3]
- e) What are M03, M30 codes stands for in NC Programming? [2]
- f) What are the elements of NC system? [3]
- g) What are the various approaches available for CAPP? [2]
- h) What factors must be considered in selecting a classification and coding systems? [3]
- i) What are the benefits of CIM? [2]
- j) What are the inputs and outputs of FMS? [3]

**PART-B**

**(50 Marks)**

- 2.a) What are the requirements of geometric modeling?
- b) Describe with the help of neat sketches the major surfaces entities provided by the CAD/CAM systems. [5+5]

**OR**

- 3.a) What is the most commonly used graphics terminal? Explain its working?
  - b) Define the cubic spline and bezier curves? Which of them is more popular in CAD and Why? [5+5]
4. Explain the following terms in detail with respect to surface modelling?
- a) Cylindrical surface
  - b) Ruled Surface and
  - c) Composite surface. [10]

**OR**

- 5.a) Distinguish between surface modelling and wire frame modelling in detail?
- b) What is meant by sweep? Discuss in detail the various types of sweep techniques available for 3Dgeometric construction. [5+5]

- 6.a) Distinguish between ACO (Adaptive Control Optimization) and ACC (Adaptive control constraint) types of adaptive control systems?  
b) With a neat sketch, explain the functioning of a NC machine. State two important differences between NC and CNC? [5+5]
- OR**
- 7.a) Discuss the basic feedback control system used in CNC machine tools.  
b) Write the procedure for writing computer assisted part programming? [5+5]
- 8.a) Discuss how part classification is done in the context of GT. What are the essential attributes such a coding system should take care of?  
b) Explain the various difficulties in traditional process planning in detail. [5+5]
- OR**
- 9.a) Distinguish between MRP and ERP with suitable examples.  
b) Discuss how a company can benefit from a suitable classification and coding systems? [5+5]
- 10.a) Describe the Scheduling and Dispatching issues related to Flexible Manufacturing System.  
b) Does CIM required for Indian industry? Discuss various issues of implementations, challenges in CIM. [5+5]
- OR**
- 11.a) Define computer aided quality control. Explain how it is implemented.  
b) State the advantages of CIM in manufacturing industry in detail. [5+5]

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