Code No.: ME604PC | R20 | H.T.No. [ ][ ][8][R][ ][ ][ ]

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - June- 2024
CAD & CAM
(MECH)

[Time: 3 Hours]   [Max. Marks: 70]

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

Part A is compulsory which carries 20 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   (20 Marks)

1. a) List out input and output devices of CAD.   [2M]
   b) Differentiate between implicit and explicit functions.   [2M]
   c) Explain the key characteristic of solid modeling.   [2M]
   d) Write short notes on Spatial occupancy enumeration related to solid modeling. [2M]
   e) Distinguish between the NC, CNC and DNC.   [2M]
   f) Outline the role of CNC Part Programmer.   [2M]
   g) What is the need of Group Technology?   [2M]
   h) Enumerate the different approaches for Computer-Aided Process Planning (CAPP). [2M]
   i) What are the benefits of MRP?   [2M]
   j) State the objectives of Quality control.   [2M]

PART-B   (50 Marks)

2. Define CAD. Explain the reasons for adapting CAD in an engineering organization. [10M]

OR

3. Derive the parametric form of following:
   a) Bezier curve.   [5M]
   b) B-Spline curve.   [5M]

4. a) Define blending function. Explain the significance of blending function in surface modeling. [5M]
   b) Explain the parametric properties of Ruled surface and its Industrial Applications. [5M]

OR

5. Explain the process of creating 3D models using Constructive Solid Geometry (CSG). [10M]

6. Differentiate Manual part programming and computer assisted part programming. [10M]

OR

7. a) Explain the basic Elements of Numerical control system.   [5M]
   b) List out various G and M codes functions.   [5M]

8. What types of benefits are associated with using "GT" in the following functional areas?
   a) Manufacturing.   [5M]
   b) Quality Control.   [5M]

OR

9. a) Distinguish between MRP and ERP with suitable examples.   [5M]
   b) Briefly explain the need of CAPP (Computer Aided Process Planning). [5M]

10. Explain various FMS layout configurations.   [10M]

OR

11. a) With a neat sketch, explain the working principle of Coordinate Measuring Machine (CMM) used for contact inspection of machine parts. [5M]
    b) What are the benefits of CIM?   [5M]

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