

RA

Code No: 157SA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, January/February - 2023

CAD/CAM

(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A**

**(25 Marks)**

- 1.a) Define CAD. [2]
- b) What is interpolation? [3]
- c) Write two blending functions. [2]
- d) What are pathological conditions? [3]
- e) Expand SPPL. [2]
- f) Write two problems of conventional machining process. [3]
- g) What is MRP? [2]
- h) What are the benefits of CAPP? [3]
- i) What is FMS? [2]
- j) List out types of manufacturing systems. [3]

**PART – B**

**(50 Marks)**

- 2.a) What are the fundamentals requirements of CAD/CAM? Explain with examples.
- b) Write the applications of computers for design. [5+5]

**OR**

- 3.a) Discuss the stages of product life cycle. Write importance of each stage.
- b) Describe the various editing commands available in CAD package. [5+5]

- 4.a) Describe composite surface method of surface modelling in detail.
- b) What is meant by sweep representations in solid modeling? Explain. [5+5]

**OR**

- 5.a) Describe Bezier surface method of surface modelling in detail.
- b) What are boundary representations with respect to solid modeling explain? [5+5]

- 6.a) Define numerical control. What are elements of NC system? Explain.
- b) With the help of suitable sketch, explain the working of principles of CNC. [5+5]

**OR**

- 7.a) What is the difference between manual part programming and computer assisted part programming? Explain.
- b) What is meant by adaptive control system? Explain with suitable sketch. [5+5]

- 8.a) What is production flow analysis of group technology? Explain.  
b) Explain retrieval type of computer aided process planning in detail. [5+5]

**OR**

- 9.a) What is machine cell design of group technology? Explain.  
b) What are the inputs to material resource planning? Explain. [5+5]

- 10.a) What are contact and non-contact type quality control methods? Explain any one each.  
b) What are the advantages, disadvantages, limitations of FMS? [5+5]

**OR**

- 11.a) With the help of neat and suitable sketch, explain working of coordinate measuring machine.  
b) What is CIM system? With the help of suitable sketch explain it. [5+5]

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Used papers 2023