

Code No: 137SR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

CAD/CAM

(Automobile 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) List out the computer peripherals for CAD. [2]
- b) What is GUI? Why GUI's are popular? [3]
- c) What is blending function? [2]
- d) Write the mathematical equation of B-spline surface. [3]
- e) What are M03 and M06 codes in a CNC system? [2]
- f) Explain any three motion statements in APT language. [3]
- g) What is the need for CAPP? [2]
- h) What is the need of part analysis? [3]
- i) State the objectives of quality control. [2]
- j) What are the benefits of FMS? [3]

PART – B**(50 Marks)**

- 2.a) What is CAD? What are the benefits of CAD?
 - b) What is workstation? What are the components of it? Explain with a block diagram. [5+5]
- OR**
- 3.a) Discuss various CAD input devices with suitable diagrams.
 - b) What is the most commonly used graphic terminal? Explain its working. [5+5]
- 4.a) Define B-spline surface. State various characteristics of it.
 - b) Briefly explain the term B- rep modelling with suitable example. [5+5]
- OR**
- 5.a) Explain the subdividing of a surface.
 - b) Explain the cell decomposition and spatial occupancy enumeration. [5+5]
- 6.a) What are major components of NC? Explain in detail.
 - b) What are the features of CNC machining centre. [5+5]
- OR**
- 7.a) What are the different types of DNC? Explain them schematically?
 - b) What are the various communication channels in the DAPP- based post processor. [5+5]

- 8.a) Discuss how part classification is done in the context of GT.
b) Explain Retrieval type CAPP system with the help of a block diagram. [5+5]

OR

- 9.a) What is production flow analysis? Discuss various step involved in PFA.
b) Define MRP-II. What are the benefits of MRP-II? [5+5]

- 10.a) What are the different FMS layout configurations. Give brief note on each.
b) Explain the method of part inspection using a CMM. [5+5]

OR

- 11.a) Sketch and explain elements of machine vision system.
b) What are the benefits of CIM? [5+5]

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Used papers 2023