Code No: 156AG

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, February - 2023
CAD AND 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)	Explain the benefits of CAD in an industry.	[2]
b)	Differentiate job production, batch production and mass production.	[3]
c)	Define the term surface patching.	[2]
d)	List out different types of solid modelling representation schemes.	[3]
e)	What are the applications of Numerical control system?	[2]
f)	Differentiate absolute positioning and incremental positioning.	[3]
g)	Discuss importance of Enterprise Resource Planning.	[2]
h)	What is the need of part analysis?	[3]
i)	What is the role of computers in quality control functions?	[2]
j)	State the objectives of CIM system.	[3]

PART – B
(50 Marks)

2.a) Explain the role of CAD/CAM in the design process with a neat sketch.
  b) List out the benefits and applications of CAD in an industry. [6+4]
OR
3.a) Compare 2-D and 3-D wireframe models.
  b) Explain the concepts of parametric representation of curves. [5+5]

4.a) Define blending function. Explain the significance of blending function in surface modelling.
  b) Write about Bezier surface modeling with a neat sketch. [5+5]
OR
5.a) Explain the procedure for constructing a solid modeling.
  b) Define the term boundary representation and explain the different entities in B-rep with a neat sketch. [5+5]

6.a) Differentiate Manual part programming and Computer assisted part programming.
  b) List out and explain about basic components of a CNC system with a neat sketch. [5+5]
OR
7.a) Explain different types of numerical control system.
  b) Differentiate between CNC and DNC machines. [5+5]

8.a) Explain about Production Flow Analysis (PFA) with a neat sketch.
  b) List the out functions and benefits of Group Technology. [6+4]

OR

9.a) Write a short note on Machinability data systems.
  b) Define capacity requirement planning and its implementation in a current manufacturing industry. [5+5]

10.a) Define FMS and explain different types of layout configurations with a neat sketch.
   b) Explain the differences between offline and online automated inspection. [6+4]

OR

11.a) Define CMM? Explain different types of CMM with neat sketches.
   b) Write the advantages and disadvantages of CIM in manufacturing industry. [5+5]

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