Code No: 156AG

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, August/September - 2021
CAD AND CAM
(Mechanical Engineering)

Time: 3 Hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

1.a) With the help of a neat sketch explain the flow of manufacturing information in the State-of-the-art CAD/CAM/CNC systems.
b) Write briefly on the secondary storage devices used in CAD System along with their importance. [7+8]

2.a) Why do you consider studying geometric modeling is important in relation to CAD in manufacturing industry? Explain with suitable case study.
b) Define, describe and bring out the difference among explicit, implicit and non-parametric form of curves. [7+8]

3.a) Explain the parametric properties of Ruled surface and its Industrial Applications.
b) Describe procedure to ensure convex hull property in Bezier surface. [7+8]

4.a) Discuss the common facilities available in a solid modeling package along with applications.
b) What is boundary representation? What are the basic entities for B-rep? Validate the B-rep model using Euler's law. [7+8]

5.a) With the aid of a neat diagram, explain the structure of a post processor in a NC System.
b) Write down the syntax for defining a geometry in computer assisted part programming. Also name the four types of statements in a complete APT part program. [7+8]

6.a) "Use of canned cycles reduce the length of a manual part program" Justify this statement with suitable example.
b) Describe the concept of DNC and what are the advantages of using DNC on the shop floor. [7+8]

7.a) What do you understand by machinability database system? Explain the different parameters required for machinability database system.
b) Explain the various stages of Manufacturing Resource Planning (MRP-II) with suitable diagram. Also state the benefits of MRP-II. [7+8]

8.a) What are the various layout configurations of FMS? Explain with suitable applications.
b) Explain how Machine Vision system is useful in industrial inspection. [7+8]

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