

**Code No: 156AG****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**

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- 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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