**20ME601**

**Hall Ticket Number:**

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| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **July/August, 2023** | **Mechanical Engineering** | | |
| **Sixth Semester** | **CAD/CAM** | | |
| **Time:** Three Hours | | **Maximum:** 70 Marks | |
| ***Answer question 1 compulsory.*** | | | **(14X1 = 14Marks)** |
| ***Answer one question from each unit.*** | | | **(4X14=56 Marks)** |
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|  |  |  | CO | BL | M |
| 1 | a) | What is the role of CAD/CAM in the product life cycle? | CO1 | L1 | 1 |
|  | b) | Name one input device used in computer graphics. | CO1 | L1 | 1 |
|  | c) | Name a display device that uses a Basic CRT technology. | CO1 | L1 | 1 |
|  | d) | What is the purpose of cubic spline in curve representation? | CO2 | L1 | 1 |
|  | e) | What is wireframe modelling used for? | CO2 | L1 | 1 |
|  | f) | What does CSG stand for in solid modelling? | CO2 | L1 | 1 |
|  | g) | What are the classifications of NC systems? | CO3 | L1 | 1 |
|  | h) | Name one method of manual part programming. | CO3 | L1 | 1 |
|  | i) | Provide an example of part programming using the APT language | CO3 | L1 | 1 |
|  | j) | Give an example of a milling operation in NC part programming. | CO3 | L1 | 1 |
|  | k) | What is the purpose of parts classification and coding in Cellular Manufacturing? | CO4 | L1 | 1 |
|  | l) | What are generative CAPP systems? | CO4 | L1 | 1 |
|  | m) | Define the concept of integration in CIM. | CO4 | L1 | 1 |
|  | n) | State one benefit of implementing an FMS in manufacturing. | CO4 | L1 | 1 |
| **Unit-I** | | | | | |
| 2 | a) | Draw the CAD/CAM product cycle with neat sketch | CO1 | L2 | 7M |
|  | b) | Explain the product cycle and CAD/CAM product cycle? | CO1 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 3 |  | Compare and contrast the characteristics and working principles of basic CRT and DVST display devices. Discuss their advantages, disadvantages, and common applications. | CO1 | L4 | 14M |
| **Unit-II** | | | | | |
| 4 |  | Explain the concept of non-parametric representation of analytical curves. Discuss the advantages and limitations of using non-parametric curves in computer graphics. | CO2 | L2 | 14M |
| **(OR)** | | | | | |
| 5 |  | Discuss the advantages and disadvantages of using B-splines over Bezier curves and cubic splines for curve representation. | CO2 | L2 | 14M |
| **Unit-III** | | | | | |
| 6 | a) | List the differences between NC and CNC. | CO3 | L2 | 7M |
|  | b) | List out and Explain about basic components of an NC system | CO3 | L2 | 7M |
| **(OR)** | | | | | |
| 7 | a) | Differentiate Manual part programming and Computer assisted part programming | CO3 | L2 | 7M |
|  | b) | Briefly explain about NC Coordinate systems. | CO3 | L2 | 7M |
| **Unit-IV** | | | | | |
| 8 | a) | Explain various benefits and limitations of group technology | CO4 | L2 | 7M |
|  | b) | What is CAPP? List out the benefits of CAPP. | CO4 | L2 | 7M |
| **(OR)** | | | | | |
| 9 |  | Explain in detail about Components of FMS | CO4 | L2 | 14M |

