**18MED32**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **January, 2022** | **Mechanical Engineering** | | |
| **Seventh Semester** | **COMPUTER AIDED DESIGN** | | |
| **Time:** Three Hours | | **Maximum:** 50 Marks | |
| *Answer Question No.1 compulsorily.* | | | (1X10 = 10 Marks) |
| *Answer ONE question from each unit.* | | | (4X10=40 Marks) |
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| 1. | a) | List input devices used in CAD system. | | CO1 |  |
|  | b) | What is DVST? | | CO1 |  |
|  | c) | Write applications of computer for design process. | | CO1 |  |
|  | d) | Write the equation of a circle in parametric form. | | CO2 |  |
|  | e) | What are the engineering applications of cubic spline? | | CO2 |  |
|  | f) | What is concept of Parametric representation of curve? | | CO2 |  |
|  | g) | What are the limitations in utilizing the sweep method for geometric construction? | | CO3 |  |
|  | h) | What is solid modeling? | | CO3 |  |
|  | i) | Write a 2D Rotation matrix. | | CO4 |  |
|  | j) | What are Homogeneous Coordinates? | | CO4 |  |
| **Unit -I** | | | | | |
| 2. | a) | Explain the working of CRT with neat sketch. | | CO1 | 5M |
|  | b) | Write the benefits of CAD. | | CO1 | 5M |
| **(OR)** | | | | | |
| 3. | a) | What are the computer peripherals used for CAD workstation? | | CO1 | 5M |
|  | b) | Give brief explanation about the input devices used in CAD system. | | CO1 | 5M |
| **Unit -II** | | | | | |
| 4. |  | Explain line drawing algorithm with an example? | | CO2 | 10M |
| **(OR)** | | | | | |
| 5. | a) | Discuss wire frame modeling with neat sketch. | | CO2 | 5M |
|  | b) | Differentiate between the parametric and nonparametric representation of curve. | | CO2 | 5M |
| **Unit -III** | | | | | |
| 6. | a) | How does solid modeling differ from surface modeling? | | CO3 | 5M |
|  | b) | What do you mean by blending function? List some properties of the blending function. | | CO3 | 5M |
| **(OR)** | | | | | |
| 7. |  | Briefly explain CSG and B - Rep of solid modeling techniques. | | CO3 | 10M |
| **Unit -IV** | | | | | |
| 8. |  | | Explain different types of 2D transformations with example. | CO4 | 10M |
| **(OR)** | | | | | |
| 9. |  | A Homogeneous coordinate point P (3, 2, 1) is translated -2, -2, -2 units in x, y, and z directions followed by 600 rotation about x-axis. Find the final position. | | CO4 | 10M |

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