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**Question Paper Code:U5201**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

Fifth Semester

Computer Science Engineering

21UCS501-GRAPHICS AND MULTIMEDIA

(Regulation 2021)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 2 = 20 Marks)

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|--|-------|
| 1. What is an output primitive?                                | CO1-U |
| 2. Define clipping and explain any Two types of Clipping.      | CO1-U |
| 3. Derive the matrix for pivot point rotation.                 | CO1-U |
| 4. Show that reflection is equivalent to $180^\circ$ rotation. | CO1-U |
| 5. Define Quadratic Surface.                                   | CO1-U |
| 6. How do you represent sphere in three dimensions?            | CO1-U |
| 7. What do you mean by Color Model?                            | CO1-U |
| 8. What is Polygon shading?                                    | CO1-U |
| 9. Define multimedia.  | CO1-U |
| 10. Define MIDI.   | CO1-U |

PART – B (5 x 16= 80Marks)

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|--|---------|------|
| 11. (a) Use and explain the Bresenham's line algorithm to digitize the line with end points (35,40) & (43,45).                                     | CO2-App | (16) |
| Or   |         |      |
| (b) Use and explain the DDA line algorithm to digitize the line with end points (2,3) & (12,8).  | CO2-App | (16) |
| 12. (a) Explain Cohen-Sutherland line clipping algorithm.  | CO1-U   | (16) |
| Or   |         |      |
| (b) Explain the transformation in 2D with the matrix representations for Translation, Scaling and Rotation Give suitable diagram for illustration. | CO1-U   | (16) |

13. (a) Describe in detail about 3D object representations. CO1-U (16)
- Or
- (b) List the properties of the Bezier Curve and also explain Bezier techniques of generating curves. CO1-U (16)
14. (a) Explain shading models in detail. CO1-U (16)
- Or
- (b) Illustrate the basic color models in detail. CO1-U (16)
15. (a) Explain the concepts of images and graphics. CO1-U (16)
- Or
- (b) Explain in detail about various compression technique in detail. CO1-U (16)