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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(CSE) (2011 Onwards) (Sem.–5)

COMPUTER GRAPHICS

Subject Code : BTCS-504

M.Code : 70537

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

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SECTION-A

Answer briefly :

1. Write a general function for Resterization.
2. Explain the role of pixel and frame buffer in graphics devices.
3. How much time is spent scanning across each row of pixels during screen refresh on a raster system with resolution and refresh rate of 60 frames per second?
4. What is the meaning of aspect ratio?
5. Explain how to display file structure and control test.
6. Compare the computation done in Digital Difference Analyzer (DDA) algorithm with Bresenham's line drawing algorithm.
7. What is the difference between pointing and positioning devices?
8. How a character is formed in graphics.
9. What is the need for a graphics device driver?
10. How world coordinate system is converted to screen coordinate system.

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SECTION-B

11. The sum of a point and a vector is well defined, but is it a point or a vector. Explain with proper sketches.

12. What is a curve interpolation? As far as Splines are concerned, what do Hermite, Bezier and B-Splines curves indicate?

13. a) Explain parametric representation of geometry with examples.

    b) List the different input and output components that are typically used with virtual reality system.

14. Explain in detail different illumination methods and different Rendering methods.

15. What is event handling enchoing? Explain in details with examples.

SECTION-C

16. Derive simple illumination model. Include the contribution of Diffuse, ambient and specular reflection. What are the various logical graphics input primitives?

17. Define vanishing points. Is the location of vanishing point directly related to the giving point? Explain how?

18. a) What is Segmentation? Give an example of a Segmentation table.

    b) Write the algorithm for filling polygons and explain it with a suitable example.

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NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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