

(6 pages)

Reg. No. :

Code No. : 30206 E Sub. Code : GMCA 64

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Applications – Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2012-2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Higher the number of pixels, ——— the image quality.
(a) Bad (b) Better
(c) Smaller (d) None of above
2. Raster graphics are composed of
(a) Pixels (b) Paths
(c) Palette (d) None of these

3. Which algorithm is a faster method for calculating pixel positions?
- (a) Bresenham's line algorithm
 - (b) Parallel line algorithm
 - (c) Mid-point algorithm
 - (d) DDA line algorithm
4. If we want to recolor an area that is not defined within a single color boundary is known as
- (a) Boundary-fill algorithm
 - (b) Parallel curve algorithm
 - (c) Flood-fill algorithm
 - (d) None of the above
5. The most basic transformation that are applied in three-dimensional planes are
- (a) Translation (b) Scaling
 - (c) Rotation (d) All of these
6. _____ is a rigid body transformation that moves objects without deformation.
- (a) Rotation
 - (b) Scaling
 - (c) Translation
 - (d) All of the mentioned

7. The process of selecting and viewing the picture with different views is called _____.
- (a) Windowing
 - (b) Clipping
 - (c) Both (a) and (b)
 - (d) Projecting
8. Which surface algorithm is based on perspective depth?
- (a) Depth comparison
 - (b) Z-buffer or depth-buffer algorithm
 - (c) Subdivision method
 - (d) Back-face removal
9. Multimedia elements are typically sewn together into a project using _____.
- (a) authoring tools
 - (b) multimedia tools
 - (c) audio tools
 - (d) video tools
10. A video consists of a sequence of
- (a) Frames
 - (b) Signals
 - (c) Packets
 - (d) Slots

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss briefly about Hard-Copy Devices.
Or
(b) Write about notes on computer graphics.
12. (a) Explain the DDA line drawing algorithm.
Or
(b) Explain about ellipse generating algorithm.
13. (a) What is Homogeneous matrix representation? Explain.
Or
(b) How reflection and shearing transformations in 3D graphics are achieved?
14. (a) What is view port? Explain view port transformation.
Or
(b) Write notes on point clipping.
15. (a) Explain different applications of multimedia.
Or
(b) Write short notes on lossy image compression.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the working of Refresh Cathode-Ray Tubes with a diagram.

Or

- (b) Explain about Raster Scan Systems.

17. (a) Discuss in detail, Midpoint Circle Generation Algorithm.

Or

- (b) Discuss in detail, Bresenham's Line-Drawing Algorithm.

18. (a) Explain about 2D composite transformation.

Or

- (b) Explain shear and reflection transformations.

19. (a) Write down the procedure for the Cohen-Sutherland line-Clipping Algorithm.

Or

- (b) Explain midpoint Subdivision algorithm.

20. (a) Explain about image compression techniques.

Or

- (b) Discuss in detail about different graphic file formats.
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