

(6 pages)

Reg. No. :

Code No. : 21028

Sub. Code : GMCA 64

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2015.

Sixth Semester

Computer Application — Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2012 and afterwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is an standard graphics system
(a) CORE (b) GKS
(c) PHIGS (d) All the above
2. Which one of the following is used to indicate the position of an object on the screen?
(a) Joystick (b) Tablets
(c) Thumb-wheel (d) All the above

3. _____ is an vector scan device.
(a) Plotters (b) CRT monitors
(c) LCD Pannel (d) Plasma Panel
4. Frame buffer is used to store intensity information for each _____.
(a) Pixel (b) Picture element
(c) GUI (d) (a) or (b)
5. If a line whose end points is (20, 30) and start point is (5, 15), then slope $m = 1$?
(a) -1 (b) 1
(c) 5/25 (d) 0
6. In CRT, the electron intensity is adjusted using _____.
(a) Accelerating anode (b) Control grid
(c) Electron gun (d) Focusing anode
7. Refreshing is not needed in DVST because of the presence of _____.
(a) Primary gun (b) Flood gun
(c) Focusing anode (d) Control grid

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8. The basic transformation include
(a) Translation (b) Rotation
(c) Scaling (d) All the above

9. Any point inside the window must satisfy

- (a) $x_L < x < x_R, y_B < y < y_T$
(b) $x_L > x > x_R, y_B > y > y_T$
(c) $x_L < x < x_R, y_B > y > y_T$
(d) $x_L > x > x_R, y_B < y < y_T$

10. TIFF stands for

- (a) Tagged Information Formatted File
(b) Tagged Image File Formats
(c) Tagged Image Formatted File
(d) Tagged Information File Formats

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b),
each answer should not exceed 250 words.

11. (a) What is computer Graphics? Explain its applications in detail.

Or

- (b) Describe the principles of graphical output devices primitive technologies.

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12. (a) What are the most common scan conversion techniques? Discuss.

Or

- (b) Discuss the problems of scan conversion in detail.

13. (a) What do you mean by viewing transformations? Explain.

Or

- (b) Explain z buffer algorithms.

14. (a) Describe the basic 2-D transformations.

Or

- (b) Explain how to rotate an image in an arbitrary point.

15. (a) What is multimedia? Explain its applications.

Or

- (b) What is compression? Explain the concepts in image compression.

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PART C — (5 × 8 = 40 marks)

Answer ALL the questions, choosing either (a) or (b),
each answer should not exceed 600 words.

16. (a) Explain the features of Graphical input and random scan devices.

Or

- (b) Explain the advantages and disadvantages of Raster Scan devices.

17. (a) Describe the Bresenham's Line Drawing Algorithm.

Or

- (b) Explain the Solid Area Filling Algorithms.

18. (a) Explain :

- (i) Inverse of Basic transformation
- (ii) Reflections about any Arbitrary line
- (iii) Shearing.

Or

- (b) Write about 3-D transformations.

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19. (a) Describe the concept of clipping of lines in 2-D algorithms.

Or

- (b) What do you mean by Hidden surface elimination? Explain the concepts in the different algorithms.

20. (a) Explain :

- (i) MIDI
- (ii) Video compression.

Or

- (b) Explain the different file formats in detail.

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