

(6 pages)

Reg. No. :

Code No. : 21028

Sub. Code : GMCA 64

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2016.

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. The fundamental element of any graphical object is a _____.
(a) picture element (b) pixel
(c) point (d) (a) or (b)
2. Which of the following is a common display adapter card?
(a) MDA (b) CGA
(c) EGA (d) All the above

3. _____ is a Raster scan device.

- (a) CRT monitor
- (b) Plotters
- (c) Storage oscilloscope
- (d) Data glove

4. A display controller displays the content of the _____ on the screen.

- (a) Frame buffer (b) Main memory
- (c) Vector scan devices (d) None

5. If a line whose end point is (28, 32) and start point is (10, 14), then slope $m = ?$

- (a) 1 (b) -10
- (c) 0 (d) None

6. The disadvantage of LCD panel is

- (a) Flat
- (b) Less expensive
- (c) They work only if ambient light is present
- (d) Colour displays are possible using dyes

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7. The process of mapping the window and its contents onto a viewport is called a _____.
- Transformation
 - Clipping
 - Viewing transformation
 - Windows and viewports
8. Advantage of GIF is _____.
- Supports animation
 - Well supported in web browsers
 - Limited color support
 - (a) and (b)
9. The process of extracting a portion of picture inside or outside a specified regions are called _____.
- Transporation
 - Projection
 - Clipping
 - Mapping
10. GIP stands for
- Graphics Interchange Format
 - Graphics Information File
 - Graphics Interchange File
 - Graphics Information Format

PART B — (5 × 5 = 25 marks)

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

11. (a) Describe the operations of computer graphics.
- Or
- (b) Describe the packages and requirements of a graphical system.
12. (a) Describe the DDA algorithms for line with examples.
- Or
- (b) Write about inside-outside test.
13. (a) Explain the 2D transformation translation and scaling.
- Or
- (b) Describe the inverse of basic transformations.
14. (a) Explain the concepts of parametric clipping.
- Or
- (b) Discuss the mid point subdivisions method.
15. (a) Describe the MIDI File Format, Event comments and hardware/software.
- Or
- (b) What do you mean by compressions? Explain the MPEG compression basics.



PART C — (5 × 8 = 40 marks)

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

16. (a) Describe the purpose, functions, advantages and disadvantages of various raster scan systems.

Or

- (b) Explain about random scan devices and graphical input devices.

17. (a) Explain Bresenham's line drawing algorithms.

Or

- (b) Explain solid area filling algorithms.

18. (a) Describe the 2-D transformation rotation and how to rotate an image about an arbitrary point.

Or

- (b) Describe shearing, reflections and image reflections about any arbitrary line.

19. (a) Explain the Cohen-Sutherland clipping algorithms.

Or

- (b) Explain :

- (i) Back Face removal algorithms
- (ii) Z-Buffer algorithms.

20. (a) Explain the types, applications, authoring and hardware and software requirements of multimedia.

Or

- (b) Describe the Graphics File Formats in detail.
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