

(6 pages)

**Reg. No. :** .....

**Code No. : 30535 E      Sub. Code : JMCA 63**

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

Sixth Semester

Computer Application – Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2016 only)

Time : Three hours

Maximum : 75 marks

PART A — ( $10 \times 1 = 10$  marks)

Answer ALL questions.

Choose the correct answer :

1. ———— devices are used to select a particular graphical object.
  - (a) Locators
  - (b) Selectors
  - (c) Event
  - (d) Electron gun

2. \_\_\_\_\_ is used to interact with animated artificial objects.
  - (a) CRT
  - (b) LCD
  - (c) Data glove
  - (d) LED
  
3. \_\_\_\_\_ method is actually a device where calculations are done using digital differences.
  - (a) Midpoint
  - (b) Bresenham
  - (c) Polynomial
  - (d) DDA
  
4. Identify the method, the polynomial equation of the concerned curve is solved directly to get pixel positions.
  - (a) Polynomial
  - (b) Midpoint
  - (c) DDA
  - (d) Bresenham
  
5. Reflection of an object is same as rotation with angle
  - (a)  $45^\circ$
  - (b)  $90^\circ$
  - (c)  $180^\circ$
  - (d)  $360^\circ$
  
6. In 2D graphics, the transformation
 
$$\begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$
 results in
  - (a) reflection about line  $y = x$
  - (b) reflection about line  $y = -x$
  - (c) reflection about line  $y = 0$
  - (d) searching about  $x$ -axis

7. Clipping algorithms are
- (a) Two or three dimensional
  - (b) Two dimensional
  - (c) Three dimensional
  - (d) One dimensional
8. Sutherland-Hodgeman algorithm is used for
- (a) Line clipping
  - (b) Point clipping
  - (c) Polygon clipping
  - (d) Hybrid clipping
9. Lossy image simplification is based on \_\_\_\_\_ operation
- (a) DCT
  - (b) CCI
  - (c) ISO
  - (d) DMS
10. How many channels are specified by MIDI standard?
- (a) 16
  - (b) 24
  - (c) 32
  - (d) 64

PART B — ( $5 \times 5 = 25$  marks)

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

Each answer should not exceed 250 words.

11. (a) What is Computer graphics? Write down the applications of it.

Or

- (b) How to generate graphical output? Explain.

12. (a) Illustrate the polynomial method scan conversion technique.

Or

- (b) What are the problems in scan conversion techniques?

13. (a) Explain the transformations in Homogeneous Notation.

Or

- (b) Write note on Reflection.

14. (a) How can you perform viewing transformation?

Or

- (b) Narrate the algorithm for Sutherland-Cohen midpoint subdivision method.

15. (a) Write note on Multimedia Authoring.

Or

- (b) Explain the hardware and software requirements of current standard MIDI.

PART C — ( $5 \times 8 = 40$  marks)

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

Each answer should not exceed 600 words.

16. (a) Describe the roles of display controller in Producing Monitor Outputs.

Or

- (b) Write note on Graphical Input-devices.

17. (a) Explain about Solid Areas in Computer Graphics.

Or

- (b) Discuss the Boundary Fill and Flood Fill algorithm.

18. (a) Explain the 2D transformation scaling operation.

Or

- (b) Write note on Basic 3D transformation.

19. (a) Explain the concepts of Parametric Clipping.

Or

(b) Discuss the Back face Removal algorithm.

20. (a) Describe the Multimedia Data Streams.

Or

(b) Explain the most commonly used raster image file formats.

---