15. (a) Discuss the classification of Interactive multimedia.

Or

(b) Describe the header information appears at the beginning of a MIDI file.

PART C — (5 × 8 = 40 marks)

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

16. (a) Describe the operations of computer graphics.

Or

(b) Explain the working of CRT monitors.

17. (a) Write note on Bresenham's line drawing algorithm.

Or

(b) How to determine whether a point is inside or outside a given polygon? Explain.

18. (a) Explain the 2D Translation and Rotation transformation.

Or

(b) Write note on homogenous coordinate system.

19. (a) Describe the algorithm for Cohen–Sutherland Clipping.

Or

(b) Discuss about Polygon Clipping.

20. (a) Mention the applications of Multimedia.

Or

(b) Explain the compression standard for still images.

———

Code No. : 41353 E   Sub. Code : JMCA 63

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Sixth Semester

Computer Application— Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2016 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— devices provide position information to the computer.

(a) Selectors   (b) Locators

(c) Event   (d) CRT

2. ———————— device, has a rolling ball, a handle is used as a lever to change the potentiometer settings.

(a) Track ball   (b) Mouse

(c) Joystick   (d) Light pen

3. In Brensenham's circle generation algorithm, if (x, y) is the current pixel position then the y value of the next pixel position is

(a) Y or $y + 1$ (b) y alone

(c) Polygon   (d) y or $y - 1$

4. Bresenham's Algorithm seeks to select the optimum raster location that represent a

   (a) Straight line   (b) Curve line

   (c) Polygon   (d) Circle

5. The matrix representation of reflection about $y = -x$ is

   (a) $\begin{bmatrix} 1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ (b) $\begin{bmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

   (c) $\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} 0 & -1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

6. In 2D graphics, of S_1 and S_2 are two scaling matrix and T_1 and T_2 are two translation matrices then

   (a) $S_1 S_2 = S_2 S_1$ (b) $S_1 T_1 = S_2 T_2$

   (c) $T_2 S_2 = T_1 S_1$ (d) $S_1 T_1 = T_2 S_1$

7. In the Cohen Sutherland line clipping algorithms, if the codes of the two point P and Q 0101 and 0001 then the line segment joining the points P and Q will be ———— the clipping.

   (a) Totally outside   (b) Partially outside

   (c) Totally inside   (d) Orgin

8. In view – port clipping of 3D viewing, a region code contains ———— number of bits.

   (a) 6   (b) 4

   (c) 5   (d) 7

9. The format of storing digital audio in multimedia application is

   (a) JPEG   (b) TIFF

   (c) WAV   (d) BMP

10. MIDI is

   (a) Musical Instrument Digital Interface

   (b) Multiple Instrument Digital Interface

   (c) Musical Interchangeable Digital Interface

   (d) Multiple Interchangeable Digital Interface.

PART B — (5 × 5 = 25 marks)

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

11. (a) List out the graphics adapter cards along with their characteristic features.

Or

   (b) Describe the architecture of a raster scan display with a clear block diagram.

12. (a) Illustrate the procedure for DDA algorithms.

Or

   (b) Write an algorithm for Bresenham circle.

13. (a) Explain about Inverse of basic transformations.

Or

   (b) Write note on shearing.

14. (a) What do you understand by windows and viewports?

Or

   (b) Give a brief note on viewing transformation matrix.