

## **B2.4-R5 : COMPUTER GRAPHICS AND MULTIMEDIA**

**DURATION : 03 Hours**

**MAXIMUM MARKS : 100**

**Roll No. :**

**Answer Sheet No. :**

**Name of Candidate :** \_\_\_\_\_ ; **Signature of Candidate :** \_\_\_\_\_

### **INSTRUCTIONS FOR CANDIDATES :**

- Carefully read the instructions given on Question Paper, Answer Sheet.
- Question Paper is in English language. Candidate has to answer in English Language only.
- Question paper contains Seven questions. The Question No. 1 is compulsory. Attempt any FOUR Questions from Question No. 2 to 7.
- Parts of the same question should be answered together and in the same sequence.
- Questions are to be answered in the ANSWER SHEET only, supplied with the Question Paper.
- Candidate cannot leave the examination hall/ room without signing on the attendance sheet and handing over his/her Answer Sheet to the Invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.
- After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question Booklet is complete in all respects.

**DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

1. (a) List down the applications of computer graphics and explain any one in detail.  
(b) Differentiate between Vector and Raster graphics.  
(c) Define the following terms. (i) Twinning (ii) Morphing  
(d) List down the graphic file formats and explain any one in detail.  
(e) Explain Raster Scan Display and Plasma Display.  
(f) Differentiate between Lossy and Lossless data compression.  
(g) Explain the different Components of Multimedia System. (7x4)
  
2. (a) Write down the steps to draw a line using DDA Line Generation Algorithm. What are the merits and demerits of the DDA algorithm ?  
(b) Explain Boundary Fill Algorithm with suitable example. (9+9)
  
3. (a) Explain Bresenham's Line Generation Algorithm.  
(b) Write down and explain the steps for Cohen-Sutherland Line Clipping Algorithm. (9+9)
  
4. (a) Explain any three types of video formats in detail.  
(b) Explain Midpoint Circle Algorithm.  
(c) List down different applications of Multimedia. Discuss the role of multimedia in the field of entertainment sector. (6+6+6)
  
5. (a) Explain the working principle of Isometric and Perspective Projections technique in detail.  
(b) How are MIDI (Musical Instrument Digital Interface) files created, and what is their role in multimedia application ?  
(c) Explain reflection and shearing transformation using suitable example. (6+6+6)

6. (a) What is Antialiasing ? What are the ways to achieve antialiasing ?  
(b) List various supported formats of image in multimedia and explain any two of them in detail.  
(c) Explain Bezier curve and B-spline curve.

(6+6+6)

7. (a) Define Parallel Projection. Discuss different types of Parallel Projections with suitable diagrams.  
(b) What do you mean by filling process in computer graphics ? Describe Scan-Line Polygon Fill Algorithm in detail.

(9+9)

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**SPACE FOR ROUGH WORK**