

**BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)**  
**Computer Science & Engineering**  
**B.Tech.Sem - IV :SUMMER : 2023**  
**SUBJECT : COMPUTER GRAPHICS & MULTIMEDIA**

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 29-05-2023

S-24305-2023

Max. Marks : 60

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data wherever necessary.
- 4) Use of non-programmable calculator is allowed.

**Q.1** Describe shadow-mask method used in colour CRT. Suppose we have a video monitor with a display area that measures 12 inches across and 9.6 inches high. If the resolution is 1280 by 1024 and the aspect ratio is 1, what is the diameter of each screen point. (10)

**OR**

**Q.1** List the advantages of Bresenham's line drawing algorithm. Bresenham's line drawing algorithm is considered as most efficient algorithm when compare with DDA line drawing algorithm. State the reason and justify it. (10)

**Q.2** Define 2 D transformation. Find out the new coordinates of the triangle A(1,1), B(4, 3), C(0, 1) after it has been magnified to double its size. (10)

**OR**

**Q.2** Discuss various methods of 2D area filling and state the relative merits and demerits of each. (10)

**Q.3** Describe and illustrate three-dimensional display method with example. Also describe Blobby objects with suitable example. (10)

**OR**

**Q.3** Describe rotation in 3D transformation. Derive transformation matrix for rotating any object about an axis passing through the origin and pint (10, 0, 10). (10)

**Q.4** Describe about various types of shading. Also write short note on RGB and HSV color model. (10)

**OR**

**Q.4** Describe in detail halftone pattern and dithering techniques in detail. (10)

**Q.5** In a document imaging system, where would you compress the image in the scanner node, in host system, or in the storage node? Examine the implications of where compression and decompression take place in a document imaging system. (10)

**OR**

**Q.5** Explain how a multimedia application used in your current college or work environment. (10)

**Q.6** Write short note on following: (10)

- a) Mass storage for multimedia server
- b) Multiserver network topologies

**OR**

**Q.6** How dose video conferencing related to hypermedia messaging? What are the implications of building a system where the user starts with video conferencing and switches to integrated stored messaging. (10)

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S-25583-2023

Max. Marks : 60

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