

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - IV COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024
SUBJECT: COMPUTER GRAPHICS & MULTIMEDIA

Day : Wednesday
Date : 29/05/2024

S-25583-2024

Time : 10:00 AM-01:00 PM
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) Draw neat labeled diagrams **WHEREVER** necessary.
- 5) Answer to both the sections should be written in **SAME** answer book.

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

OR

Describe the role of pixels and frame buffer in graphics device. Also, Describe steps in the incremental line drawing algorithm. (10)

Q.2 Define point clipping and line clipping. A polygon has 4 vertices located at A(20,10), B(60,10),C(60,30), D(20,30) create a Transformation matrix to double the size of the polygon with A located at the same place. (10)

OR

Describe the Sutherland Hodgeman polygon clipping algorithm with suitable example (10)

Q.3 Give 3-D transformation matrix for: (10)
i) Translation
ii) Scaling and
iii) Rotation

OR

Define the necessity of 3D clipping algorithm, Also, Explain midpoint subdivision for 3D clipping. (10)

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

OR

Illustrate the basic Illumination model in detail. Also, Write note on Ambient illumination in detail. (10)

Q.5 Discuss the types of compression available in multimedia. Explain two types of compression technology. (10)

OR

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

Q.6 How does 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)

OR

Describe the types of multimedia authoring systems and list the main attribute, benefits and drawbacks of authoring systems. (10)