*Total No. of Questions: 4*

**Enrollment No.....**

Faculty of Engineering

Mid Sem I Examination Sept -2022

CS3CO24 Computer Graphics & Multimedia

Programme: B.Tech Branch/Specialisation: CSE

**Duration: 2 Hrs.** **Maximum Marks: 40**

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Q.1 i. The number of pixels stored in the frame buffer of a graphics system is Known as 1

a)Resolution b)Depth c)Picture d)Persistence

ii. The basic attributes of a straight line segment are 1

a) Type b) Width c) Color d) All of these

iii. LCD is an _____ device 1

a) Emissive b) Non emissive c) Gas discharge d) None of these

iv. On a black and white system with one bit per pixel, the frame buffer is commonly called as 1

a) Pix map b) Multi map c) Bitmap d) All of the mentioned

v. The Cohen-Sutherland algorithm divides the region into _____ number of spaces. 1

a) 7 b) 6 c) 5 d) 9

vi. In which system, the Shadow mask methods are commonly used 1

a) Raster-scan system b) Random-scan system c) Only bd) Both a and b

vii. A shadow mask CRT has _____ phosphor color dots at each pixel position 1

a)1 b)2 c)3 d)4

viii. Heat supplied to the cathode by directing a current through a coil of wire is called 1

a) Electron gun b) Electron beam c) Filament d) Anode and cathode

ix. The basic geometric transformations are 1

a) translation b) rotation c) scaling d) all of above

x. In 2D-translation, a point (x, y) can move to the new position (x', y') by using the equation. 1

a) x'=x+dx and y'=y+dx b) x'=x+dx and y'=y+dy

c) X'=x+dy and Y'=y+dx d) X'=x-dx and y'=y-dy

Q.2 i. Write short note on refresh CRT, Pixmap, Bitmap, Resolution. 2

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| | ii. | Explain shadow mask method. | 3 |
| | iii. | Explain 2D transformation: Translation, Rotation, Scaling, Shearing, Reflection. | 5 |
| OR | iv. | Explain inverse 2D- Transformation. | 5 |
| Q.3 | i. | Explain boundary fill algorithm | 2 |
| | ii. | Explain the midpoint circle generating algorithm. Calculate pixel positions around a circle path cantered at the coordinate origin (0,0)Then each calculated position (x, y) is moved to its proper screen position where r = 10. | 8 |
| OR | iii. | Translate the square ABCD whose co-ordinates are A(0,0), B(3,0), C(3,3), and D(0,3) by 2 units in both directions and scale it by 1.5 units in x-direction and 0.5 units in y-direction. | 8 |
| Q.4 | i. | Write the difference between vector and raster scan display? | 2 |
| | ii. | Explain DDA and Use DDA to draw a line (0,1) (4,3) | 7 |
| OR | iii. | Clip a line with cohen suderlend algorithm p1 (10,30) p280,90) where rectangle window is A(20,20), B(90,20), C(90,70), D(20,70) | 7 |

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