

SUTEX BANK COLLEGE OF COMPUTER APPLICATIONS & SCIENCE, AMROLI
T.Y.B.C.A. Programme
INTERNAL EXAMINATION

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| Semester: Sixth Subject: COMPUTER GRAPHICS (601) Marks: 50 | Academic Year: 2022-23 Time: 2HRs |
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Q1. Write answers of the following. [2 Marks of each] [10]

1. Explain Computer Graphics standards: CGI and CGM
2. Name any two file formats that store both raster and vector graphics.
3. What is the need of homogeneous coordinates?
4. Explain DVST in detail.
5. What is Polygon? Define the types of Polygons.
6. What is frame buffer?
7. Define terms: Symmetric Matrix, Diagonal Matrix

Q2. Answer the Following questions in brief. [Any 3] [21]

1. What is DDA algorithm? Explain Bresenham algorithm of line generation.
2. Discuss the inside test method which works efficiently with overlapped polygon.
3. What are the applications of computer graphics?
4. What is transformation? Derive matrix for rotation about origin Θ° anticlockwise with explanation.

Q3. Answer the following in detail. [Any 2] [12]

1. Write a short note on Color CRT.
2. Differentiate between Vector Scan display and Raster Scan display.
3. Explain Any of the polygon area filling algorithm.

Q3. Do as directed. [07]

1. Derive a 2X2 transformation matrix for scaling an object 3 times larger horizontally and reduce half vertically. [02]
2. Derive a 2X2 transformation matrix for rotating an object in clockwise direction for $\pi/2$ degree ($\sin 90^\circ=1$, $\cos 90^\circ=0$) [02]
3. Derive the 3X3 homogeneous coordinates transformation matrix for scaling the object thrice and rotating it anticlockwise direction by 90 degrees. [03]

OR

3. Explain the reflection transformation with necessary examples.

All the Best