

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name : Computer Graphics (CG)

Subject Code : 5CS04MCG1

Branch: MCA

Semester : 4

Date : 26/04/2019

Time : 02:30 To 05:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1 Attempt the Following questions**
- a. What is persistence? (01)
 - b. What is aspect ratio? (01)
 - c. Define the term Concave polygon. (01)
 - d. What do you mean by anti aliasing? (01)
 - e. Define the term refresh rate. (01)
 - f. What is parallel projection? (01)
 - g. What is B-Spline curve? (01)
- Q-2 Attempt all questions**
- (a) Explain DDA Line Drawing Algorithm with suitable example. (07)
 - (b) Explain Bezier curve with its characteristics and applications. (07)
- OR**
- Q-2 Attempt all questions**
- (a) Write an algorithm of Bresenham's line drawing algorithm. Consider the line from (5, 5) to (13, 9). Use the Bresenham's line drawing algorithm to draw the line. (07)
 - (b) Explain CRT and various techniques of color CRT. (07)
- Q-3 Attempt all questions**
- (a) Explain Midpoint circle drawing algorithm with suitable example. (07)
 - (b) What is projection? Explain Perspective projection with its types. (07)
- OR**
- Q-3 (a)** What is viewing transformation? Describe the conversion of window port to view port. (07)
- (b)** Do as directed (07)
- 1) Give the differences between Raster scan display device and Random scan display device.
 - 2) What is computer graphics? List down its advantages and applications.



SECTION – II

- Q-4 Attempt the Following questions**
- a. What is resolution? (01)
 - b. What is pixel? (01)
 - c. Define HSV color model. (01)
 - d. What is region code? (01)
 - e. Which function is used to check the color of a pixel? (01)
 - f. What is rotation of object? (01)
 - g. List out various output devices used in computer graphics. (01)
- Q-5 Attempt all questions**
- (a) Explain RGB color model and CMY Color model. (07)
 - (b) Discuss about Z-Buffer Algorithm. (07)
- OR**
- Q-5**
- (a) Explain various character generation methods. (07)
 - (b) Explain Boundary fill algorithm and Flood fill algorithm. (07)
- Q-6 Attempt all questions**
- (a) Explain Cohen Sutherland Line clipping algorithm with suitable example. (07)
 - (b) Discuss about Phong shading, and Gourand shading. (07)
- OR**
- Q-6 Attempt all Questions**
- (a) What is reflection operation? Explain 2D reflection with its types. Use suitable example for explanation. (07)
 - (b) Discuss about basic illumination model with its types. (07)

