

Roll No.

H

TCS-702

B. TECH. (CS/IT) (SEVENTH SEMESTER)

END SEMESTER EXAMINATION, 2019

COMPUTER GRAPHICS

Time : Three Hours

Maximum Marks : 100

Note : (i) This question paper contains five questions.

(ii) All questions are compulsory.

(iii) Instructions on how to attempt a question are mentioned against it.

(iv) Total marks assigned each to question are **twenty**.

1. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)

(a) What is CRT ? What are problem with the CRT as a computer display ?

(b) What do you mean by display devices ?

(c) What is computer graphics ? Explain general applications of computer graphics.

2. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)

(a) What is the need of homogeneous co-ordinate matrix ?

(b) What do you mean by DDA ? Implement the DDA algorithm to draw a line from (0, 0) to (6, 6).

(c) Explain the differences between Random scan display and Raster scan display.

3. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)
- (a) Write short notes on the following :
 - (i) Inverse Transformations
 - (ii) Composite Transformations
 - (iii) Reflection, Shear
 - (b) What do you mean by transformation ? Explain matrix transformation
 - (c) What do you mean by clipping ? Comparison between window and viewport ?
4. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)
- (a) Write the steps of Liang-Barsky algorithm. Advantage of Liang-Barsky algorithm.
 - (b) What are 3d transformations ? Write the matrix of each transformation.
 - (c) What do you mean by Blobby Objects ? Also discuss B-spline curve.
5. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)
- (a) Describe the Phong's Illumination model.
 - (b) What do you mean by z-buffer algorithms ? Explain in details.
 - (c) Explain Depth buffer method of visible surface detection.