*(Please write your Exam Roll No.)*

Exam Roll No. .....................

# END TERM EXAMINATION

THIRD SEMESTER [B. TECH.] NOVEMBER-DECEMBER 2018

| Paper Code: ETCS-211 | Subject: Computer Graphics and Multimedia |
|---|---|
| Time: 3 Hours | Maximum Marks: 75 |

Note: Attempt any five questions including Q.No.1 which is compulsory. Select one question from each unit.

Q1   Write short notes on the following:- **(10x2.5=25)**
(a) What are the differences between Raster and Random Scan Displays?
(b) Define aspect ratio and resolution with respect to computer graphics.
(c) A raster system with a resolution of 600*400 is given. What is the size of the raster needed to store 4 bits per pixel in bytes? How much storage is required if 8 bit per pixel are to be solved?
(d) Explain Homogeneous Co-ordinate system?
(e) How you define the plotting pixel of a circle using 8-way symmetry?
(f) What do you mean by visible surface detection?
(g) What is specular reflection?
(h) Define Quantization.
(i) What are the steps involved in image preparation used in JPEG image compression.
(j) Write short note on multimedia architecture.

## UNIT-I

Q2   (a) Use the Cohen-Sutherland algorithm to clip the line $p_1p_2$ with $p_1$ (70, 30) –$p_2$ (100, 20) against a window a (50, 10), c (80, 40).   **(6.5)**
(b) Convert a line from (11, 13) to (21, 18) using Bresenham's line algorithm.   **(6)**

Q3   What do you mean by projection: Discuss different types of projections? **(12.5)**

## UNIT-II

Q4   Distinguish between Huffman codes and LZW coding methods of text compression. Explain with example.   **(12.5)**

Q5   What are the components of multimedia system? In what formats are these data are stored in a computer.   **(12.5)**

## UNIT-III

Q6   Derive the Bezier curve. Write the properties of Bezier Curve.   **(12.5)**

Q7   Explain the flat shading, Gouraud shading and Phong shading.   **(12.5)**

## UNIT-IV

Q8   (a) What are the different types of authoring tools in multimedia? Discuss each in brief.   **(6)**
(b) Derive expressions for 2-D rotation, Scaling and sheering.   **(6.5)**

Q9   What is the difference between an image space and object space hidden surface algorithm? Explain in detail.   **(12.5)**

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