

**Subject : I.T. Elective-III b) Computer Graphics and Multimedia**

Day : Monday  
Date : 06/06/2016



Time : 10.00 A.M. TO 1.00 P.M.  
Max Marks : 80 Total Pages : 1

**N.B:**

- 1) Attempt **ANY FIVE** questions from Section-I and **ANY TWO** questions from Section - II.
- 2) Answer to both the sections should be written in the **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION-I**

- Q.1** Explain DDA algorithm for circle generation. (10)
- Q.2** Write pseudo C algorithm for polygon filling by edge fill algorithm. (10)
- Q.3** Obtain 3-D transformation matrices for (10)  
a) Scaling b) Translation
- Q.4** Find a transformation of triangle  
A ( 1, 0) B ( 0, 1) C ( 1, 1) by  
a) Rotating  $45^0$  about the origin and then translating one unit in X and Y direction. (05)  
b) Translating one unit in X and Y direction and then rotating  $45^0$  about the origin. (05)
- Q.5** Derive blending function of Bezier Curve. (10)
- Q.6** Explain mid point sub division algorithm for line clipping. (10)
- Q.7** Write short notes on **Any TWO** of the following: (10)  
a) Application of Multimedia  
b) Color Model  
c) Image Processing

**SECTION-II**

- Q.8** A cube is defined by 8 vertices as follows: (15)  
A ( 0 , 0, 0), B ( 4, 0, 0), C ( 4 , 4, 0), D ( 0 , 4, 0 ),  
E ( 0 , 0 , 4), F ( 4, 0 , 4), G ( 4 , 4, 4), H ( 0, 4, 4)  
Find the final coordinates after it is rotated by  $45^0$  around a line joining the points ( 4 ,0, 0) and (0, 4, 4)
- Q.9** Explain DDA algorithm for circle generation and discuss its advantages and disadvantages. (15)
- Q.10** Write short note on **ANY THREE** of the following: (15)  
a) Rotation about Arbitrary plane  
b) pixel  
c) Computer Graphics Applications  
d) Window Transformation  
e) Clipping

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