TYBCA -VI

* M Q - 3 7 9 3 *

MQ-3793

Third Year B. C. A. (Sem. VI) Examination

October / November - 2015

601 : Computer Graphics

Time : 3 Hours] [Total Marks : 70

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.
Name of the Examination :
☛ Third Year B. C. A. (Sem. VI)
Name of the Subject :
☛ 601 : Computer Graphics
☛ Subject Code No. : 3 7 9 3 ☛ Section No. (1, 2,.....) : Nil

Seat No. :

Student's Signature

(2) All questions are compulsory.

1 Answer the following in short : (any five) 10

1. Define pixel and aspect ratio.
2. Explain various thick line joints.
3. Which polygons are known as regular polygons?
4. What is Anti-aliasing?
5. State the limitations of even-odd method to perform inside test on polygon.
6. What do you mean by X-Shear and Y-Shear?

2 Answer following questions in detail :

(a) Write and explain VECGEN vector generation algorithm to generate a line segment having a sharp slope. 7

OR

(a) Explain applications of computer graphics in various areas. 7

(b) Explain various graphics standards. 5

(c) What is thick line segment? 3

3 Write notes on : (any three) **15**

(a) Random Scan Display

(b) Straight Line and Line segment.

(c) Pattern Filling In Polygon

(d) Translation Transformation.

4 (a) Explain winding number method to perform inside test on polygon. **8**

(b) Derive clockwise and anticlockwise transformation matrices about the origin. **7**

OR

(b) Derive the transformations matrix to change the size of an object with an example. **7**

5 Do as directed :

(a) Explain Flood Fill Algorithm to fill a polygon **7**

OR

(a) Explain Scan-line fill algorithm to fill a polygon. **7**

(b) Attempt following with an example: **8**

i. Move the object up 5 units and then left by 3 units

ii Scale the entire image one-third as large and then rotate it in clockwise direction by an angle $\pi/3$