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RR-3793

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

January - 2017

601 : Computer Graphics (New Course)

Time : 3 Hours] [Total Marks : 70

Instruction :

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) (CBCS)

Name of the Subject :
☛ 601 : Computer Graphics (New Course)

☛ Subject Code No. : 3 7 9 3 ☛ Section No. (1, 2,.....) : NIL

Seat No. :

Student's Signature

1 Answer the following in short (any Seven) 14

(1) Define resolution.

(2) List advantages and disadvantages of LCD.

(3) Explain major axis of ellipse.

(4) State the advantage of winding number method over even odd method.

(5) Explain slope of a line segment.

(6) Give matrix to get reflection about the line y = x and y = –x.

(7) Give the transformation matrix used to move an object from its original place. Explain with an example.

(8) Explain how to reduce an aliasing effect.

(9) Define pixel.

2 Answer following questions in detail : 14

(a) Write note on Application of computer graphics. 8

(b) Write note on Graphics standards. 6

OR

(b) Compare Vector ***Vs*** Raster Graphics. 6

3 Answer following in detail 14

(a) Explain BRESENHAM's line drawing algorithm. 8

OR

(a) Explain line geometry. 8

(b) Explain thick line joints and line caps. 6

4 Write notes on : (any two) 14

(a) Flood Fill Method

(b) Even-Odd Inside Test

(c) Polygon Pattern Filling.

5 Do as directed : 14

(a) Explain Scaling Transformation. 6

OR

(a) Explain Shearing Transformation.

(b) Attempt the following with example : (any two) 8

(i) Derive single matrix for following operation

(a) shift image 4-units left

(b) make the entire object three times as large.

(ii) Give a single matrix to scale an object in x direction to be one half as large and then rotate counter clockwise by 90°.

(iii) Give a single matrix to translate an object translate down 2 units and right 3 units and then rotate clockwise by $\Pi/4$.
