Total No. of Questions—**4**] [Total No. of Printed Pages—**3**

Seat No.	

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T.Y. B.Sc. (Computer Science) (IV Sem.) EXAMINATION, 2017

CS-346 : COMPUTER GRAPHICS

Paper VI

(2013 PATTERN)

Time : Two Hours **Maximum Marks : 40**

***N.B.* :—** (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Draw neat diagrams wherever necessary.

(*iv*) Use of calculator is allowed.

1. Attempt *all* of the following : [10×1=10]

(*a*) What is scan conversion ?

(*b*) Define Resolution.

(*c*) State the purpose of locator.

(*d*) What is persistence ?

(*e*) List the different methods of circle drawing.

(*f*) Give the basic 2-D translation equation.

(*g*) List the open GL functions for creating menus in open GL.

(*h*) What is raster graphics ?

P.T.O.

(*i*) Define clipping.

(*j*) Which *two* operations are performed in general parallel projection transformation ?

2. Attempt any *two* of the following : [2×5=10]

(*a*) Generate points the line with end points P_1 = (1, 2), P_2 = (7, 6) using Bresenhams line drawing algorithm.

(*b*) Calculate final co-ordinate of an object A(0, 0), B(1, 0), C(1, 1) and D(0, 1) rotated by 45° about origin.

(*c*) A cube is defined by vertices A(0, 0, 0), B(2, 0, 0), C(2, 2, 0), D(0, 2, 0), E(0, 0, 2), F(0, 2, 2), G(2, 0, 2), H(2, 2, 2). Perform the following transformations on the above cube :

(*i*) Translation (t_x = 2, t_y = 4, t_z = 0)

(*ii*) Scaling (s_x = 0.5, s_y = 1, s_z = 1).

3. Attempt any *two* of the following : [2×5=10]

(*a*) Write the flood fill algorithm. State its drawbacks.

(*b*) Write a note on frame buffer.

(*c*) Explain midpoint subdivision algorithm.

4. Attempt (A) *or* (B) :

(A) (*a*) Give any *two* functions in open GL which are used for mouse intraction. [2]

(*b*) Explain back face detection method with advantages and disadvantages. [4]

(*c*) Explain viewing Pileline in detail. [4]

Or

(B) (*a*) What are different echo types for choice device ? [2]

(*b*) Explain the cohen sutherland line clipping algorithm. [4]

(*c*) State difference between object space method and image space method. [4]