MAHATMA GANDHI UNIVERSITY
MCA   DEGREE EXAMINATION
MODEL QUESTION PAPER
(2011 Revised Syllabi)
Fifth Semester
MCA 503 COMPUTER GRAPHICS

Time : Three hours   **Maximum : 75 Marks**
Part A
Answer any ten questions.
Each question carries 3 marks.

1.   Write short notes on Direct View Storage tubes.
2.   Very Briefly discuss the function of Focusing System in CRT.
3.   Discuss shear 2D transformation in brief.
4.   Explain window to view port transformation.
5.   Differentiate orthographic and oblique parallel projection.
6.   Explain the concept of 3Dclipping.
7.   List the properties of Bezier Curves.
8.   Explain the concept of sweep representation.
9.   Explain Back face Detection method.
10.   Write notes on Diffuse Reflection.
11.   Write short notes on Application of Computer Graphics.
12.   What is splines?   **(10 x 3 = 30 marks)**

Part B

All questions carry equal marks.

13.   A. Demonstrate Midpoint Circle generating Algorithm with example
                                                OR
        B. Demonstrate Cohen Sutherland line clipping method with example

14.   A. (i) Prove that 2 successive 2-D rotation are additive
                ie., $R(\theta_1).R(\theta_2) = R(\theta_1 + \theta_2)$ [5]
            (ii) Derive the equation for reflection on y = -x   [4]
                                                OR
        B. Describe the matrix formulation of 2D Translation, Scaling and Rotation

15.   A. What are the 2 type of projections? Describe using figures.
                                                OR
        B. Describe 3D – clipping procedure in detail.

16.   A. Discuss the Importance of Blobby objects.
                                                OR

B. (i) Describe different operation in constructive solid geometry methods.[5]
    (ii) Outline Octree encoding to represent solid objects   [4]

17.   A. Compare different shading methods.
                                OR
        B. Explain the concept of ray tracing.

(5 X 9 = 45 marks)