



**MCA DEGREE II SEMESTER EXAMINATION MAY 2014**

**CAS 2201 COMPUTER GRAPHICS**  
(Regular/Supplementary)

Maximum Marks : 50

Time : 3 Hours

**PART A**  
(Answer *ALL* questions)

(15 x 2 = 30)

- I. (a) What is the difference between scalar and vector quantities? Write down example.  
(b) Write short notes on "Video Display Devices".  
(c) What are the basic primitives of curve drawing algorithms? Provide examples.
- II. (a) Generate an equation for basic two dimensional rotation.  
(b) Write a note on polygon clipping.  
(c) What are the basic operations that we can perform with clipping?
- III. (a) Define octrees with example.  
(b) Define properties of Beizer curves.  
(c) What do you mean by hierarchical modelling? Provide one example.
- IV. (a) What are the classifications of visible surface detection algorithms?  
(b) Write a short note on Z-buffer method.  
(c) Describe back-face detection.
- V. (a) What are the steps in designing animation sequence?  
(b) What are illumination models? Provide examples.  
(c) Explain different light sources.

**PART B**

(5 x 4 = 20)

- VI. Write down the program for Bresenham's circle generation method.  
**OR**
- VII. Explain the basic concepts of area filling algorithms with example.
- VIII. Write down menu driven program for basic two dimensional transformations.  
**OR**
- IX. Explain Cohen-Sutherland line clipping algorithm.
- X. Explain the interactive picture construction techniques.  
**OR**
- XI. Write notes on random midpoint displacements methods with example.
- XII. Derive basic three dimensional transformations.  
**OR**
- XIII. Derive a method to generate an equation for perspective projection.
- XIV. Explain the concept of key frames in animation with example.  
**OR**
- XV. Explain different ray tracing methods.

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