

**MCA DEGREE EXAMINATIONS: NOV/DEC 2012**

Third Semester

**MASTER OF COMPUTER APPLICATIONS**

MCA513: Computer Graphics and Multimedia Systems

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions**

**PART A (10 x 2 = 20 Marks)**

1. Why refreshing is necessary for displays?
2. What are complementary colors? Give examples
3. Distinguish between a window and a view port
4. What is shearing?
5. What is surface rendering?
6. Define plan view and elevation
7. Define: Frequency of sound.
8. Mention some file formats for storing images.
9. Why is synchronization of multimedia objects necessary?
10. What are the operations of sound editor?

**PART B (5 x 16 = 80 Marks)**

11. a) Explain how lines can be generated using Bresenham's line drawing algorithm with an example

**(OR)**

- b) (i) Write short notes on raster and random scan displays (8)  
(ii) Explain how colors can be represented using RGB color model (8)

12. a) (i) Explain how scaling, rotation and translation can be performed on a two (10)  
dimensional object.  
(ii) What is the need for homogeneous coordinate representation? (6)

**(OR)**

- b) (i) Explain how lines can be clipped using Liang Barsky line clipping algorithm (10)  
(ii) Write the properties of Bezier curves (6)

13. a) What are the different types of projection? Explain in detail the parallel projection

**(OR)**

b) Discuss the following visible surface detection methods

- (i) Depth Buffer method
- (ii) Scan Line method
- (iii) BSP Tree method

14. a) Briefly explain about the various hardware and software components of multimedia systems

**(OR)**

- b) (i) Write the guidelines to be followed while using text in multimedia presentations (6)
- (ii) Explain in detail the process of computer based animation (10)

15. a) Explain how synchronization of different multimedia objects can be done

**(OR)**

b) Write notes on various multimedia applications

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