ASSIGNMENT: I

Deadline: 28th July 2017

1. Define computer graphics. Explain its application in detail.

2. What is a raster scan display system? Draw its block diagram and explain in detail. Your answer should include following aspects:
    a. Display procedure
    b. Architecture
    c. Frame buffer content
    d. Refresh rate
    e. Applications

3. Explain a random scan display system with its block diagram. Your answer should include following aspects:
    a. Display procedure
    b. Architecture
    c. Frame buffer content
    d. Refresh rate
    e. Applications

4. Differentiate between Beam penetration and Shadow-mask method. Your answer should include following aspects:
    a. Range of colors
    b. Applicable in which type of system (Random /Raster)?
    c. Expensive/Inexpensive?

5. Write short notes on:
    a. Video controller
    b. Display Processor
    c. DVST

6. **Numerical Problems:**

   a. Consider three different raster systems with resolutions of 640 x 480, 1280 x 1024, and 2560 x 2048.

      i. What size is frame buffer (in bytes) for each of these systems to store 12 bits per pixel?

      ii. How much storage (in bytes) is required for each system if 24 bits per pixel are to be stored?

   b. Suppose RGB raster system is to be designed using on 8 inch X 10 inch screen with a resolution of 100 pixels per inch in each direction. If we want to store 6 bits per pixel in the frame buffer, how much storage (in bytes) do we need for frame buffer?

   c. If you are supposed to create an animated movie of 20 minutes and your video is of 30fps (frames/second). Calculate the number of frames should be in this video.

   d. Calculate the total memory required to store a 10 minutes video in a SVGA system with 24 bit true color, and 25 fps.