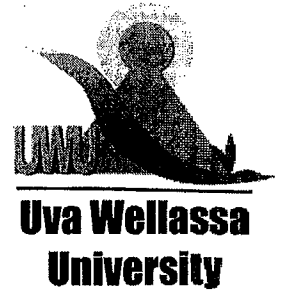




UvaWellassa University, Sri Lanka  
Faculty of Science and Technology

2<sup>nd</sup> Semester Examination September/October 2012  
CST363-2 Multimedia & Hypermedia Technology



Time Duration : Two Hours (2 hrs.) Index Number :   
Number of Pages : Four (4)  
Answer All Questions

### Question 01

1. Quantization and Sampling are two steps in Digitalization. What is the first step out of them? (Sampling or digitalization) explain. (2 marks)
2. Explain the difference between quantization and sampling. (3 marks)
3. What is aliasing? With suitable example explain how aliasing could be avoided. (6 marks)
4. What is resolution? Explain two different definitions for resolution. (5 marks)
5. Calculate physical dimensions of following images. (3 marks)
  - a. 198 x 149 px in 72 dpi display
  - b. 1654 x 1240 px in 600 dpi display
6. With suitable diagrams briefly explain the steps involve in JPEG compression. State whether each state is lossless or lossy. (6 marks)

### Question 02

1. When would it be appropriate to use an animated GIF for an animation sequence? What shortcomings of animated GIFs limit their usefulness? (3 marks)
2. Computer animations have many similarities as well as differences compare with the traditional animation techniques.
  - a. List down techniques used by the traditional animators? (2 marks)
  - b. Compare and contrast computer based animation with traditional animation techniques. (2 marks)

3. Explain how the Custom easing using Bezier curves is used in animation to create more realistic animations. ( 6 marks)
4. a. What is the file size of a Windows WAVE (.wav) file if contains 2 minutes and 30 seconds of data with the following settings? (Assume the audio is uncompressed) ( 2 marks)
- |                  |   |          |
|------------------|---|----------|
| Recording Format | - | Stereo   |
| Bit Depth        | - | 8 bits   |
| Sampling Rate    | - | 44.1 kHz |
- b. Select only **two** effects from the following and briefly describe. (4 marks)
- i. Envelope shaping
  - ii. Time stretching
  - iii. Pitch alteration
5. Explain in what ways can MIDI be used effectively in Multimedia Applications, as opposed to strictly musical applications? ( 6 marks)

### Question 03

1. Video can be compressed using both temporal (interframe) and spatial (intraframe) techniques. Explain them. (4 marks)
2. What is meant by "Video Streaming"? Describe available types of streaming. (5 marks)
3. Write short notes on **two** selected topics from the below list. (5 marks each)
  - a. Video Post- production
  - b. Digital video editing
  - c. Video Quality
  - d. High Definition Formats
4.
  - a. The first multimedia architecture was QuickTime. Briefly explain the QuickTime architecture. (2 marks)
  - b. What is the Windows's own multimedia architecture? (1 mark)
  - c. Compare and contrast Windows's own multimedia architecture with the QuickTime. (3 marks)