Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
300 level 2nd Semester Examination – Sept. / Oct. 2015
CST 363-2 Multimedia and Hypermedia Technology

Uva Wellassa University

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Instructions to candidates
Duration: Two (02) hours
Number of questions: (04) Four
Mark allocation: 100

1.
   a. What is multimedia? (1 mark)
   b. Differentiate with examples,
      i. Digital and analog media
      ii. Time based media and static media
      iii. linear and nonlinear media (9 mark)
   c. What is meant by interactive multimedia? Explain using examples. (6 mark)
   d. Describe hypermedia and hypertext with examples. (6 mark)
   e. What is a multimedia authoring tool? (3 mark)

2.
   a. Define "color theory" and list primary colors. (6 mark)
   b. List four (04) color harmony schemes. (4 mark)
   c. Differentiate luminance and chrominance. (6 mark)
   d. Describe HSL and HSB models. (6 mark)
   e. What is meant by resolution? (3 mark)

3.
   a. Explain spatial and temporal redundancy. (6 mark)
   b. When does special and temporal redundancy reduction be inactive? (6 mark)
   c. Explain the differences between computer assisted animation and computer generated animation. (6 mark)
   d. Describe down sampling and up sampling? (4 mark)
   e. What is meant by Multimedia Networking? Describe (3 mark)

4.
   a. Explain sampling theorem. (2 mark)
   b. List two (02) types of compression methods and explain reasons for compression. (4 mark)

49.

c. Suppose a piece of film depicting a moving stagecoach is shot at 24 frames per second, and that the wheels are rotating at such a speed that when the film is projected at 24 frames per second the wheels appear to move backwards. What would you expect to see if the same film is projected at,

i. 12 frames per second? Justify (2 mark)

ii. 48 frames per second? Justify (2 mark)

iii. 60 frames per second? Justify (2 mark)

d.

i. What is meant by Run Length Encoding (RLE)? (1 mark)

ii. Compress the following data using Run Length Encoding (RLE).
BBBBBBBBBBAAAAAAAAAAAAAAANNMMMMMMMMM (4 mark)

e.

i. What is meant by Huffman Coding? (1 mark)

ii. Draw the tree and determine values for each symbol using the following data.

Symbol	Frequency
A	30
B	12
C	22
D	12
E	9

(5 mark)

iii. Encode the following text using the above Huffman tree derived from part (ii).
EAEBAECDEAA (2 mark)