



**Uva Wellassa University of Sri Lanka**  
**Faculty of Science and Technology**  
**Department of Computer Science and Technology**  
**300 Level 2<sup>nd</sup> Semester Examination Dec.-2017 /Jan.-2018**  
**CST374-2 Multimedia and Hypermedia Technology**



**Instructions to candidates**

**Number of questions:** Four (04)

**Mark allocation:** 100

**Time Duration:** Two (02) hours

**Answer all questions.**

1.
  - a. Describe four (04) activities which can benefit from multimedia applications. (08 mark)
  - b. Briefly explain the two (02) types of a multimedia presentation with examples. (04 mark)
  - c. Differentiate delivering modes of multimedia. (06 mark)
  - d. How do the components of a Multimedia System support for developing an effective system? (07 mark)
2.
  - a. Write short notes on the following.
    - i. Icon-based, event-driven tools
    - ii. Automatic Authoring
    - iii. Bit map image
    - iv. Multimedia production process (20 mark)
  - b. What is the storage size of a 640 x 480 24-bit color image? (02 mark)
  - c. Briefly describe the Nyquist Sampling Theorem in analog signal sampling. (03 mark)
3.
  - a. Briefly explain the key differences between lossless and lossy compression in data compression. (04 mark)
  - b. Briefly explain the two (02) modes of video compression. (04 mark)
  - c. List three (03) advantages and three (03) disadvantages of video compression. (06 mark)
  - d.
    - i. What is Huffman Coding? (02 mark)
    - ii. Draw the Huffman Tree and determine the values for each symbol.

Table 1: Frequency Table

Symbol	A	B	C	D	E
Frequency	16	12	10	4	4

(04 mark)

- iii. Encode the following text using the resulted values in question number 3.d.ii. (02 mark)  
EAEBACDEA
  - e. How is a basic Musical Instrument Digital Interface (MIDI) message structured? (03 mark)

4.

- a. List and describe three (03) distinct models of color used in multimedia. (06 mark)
- b. Briefly describe dithering image processing technique. (05 mark)
- c. Briefly explain two (02) applications of video streaming with examples. (05 mark)
- d. Briefly explain the following principles of animation with examples.
  - i. Squash and Stretch
  - ii. Exaggeration
  - iii. Follow- through and overlapping (09 mark)

