



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

- 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)

