



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE
AND TECHNOLOGY**

**UNIVERSITY EXAMINATION 2012/2013
1ST YEAR 2ND SEMESTER EXAMINATION FOR THE
DEGREE OF MSC. INFORMATION SYSTEM
KISII LEARNING CENTRE**

COURSE CODE: IIS 5124

TITLE: MULTIMEDIA INFORMATION SYSTEMS

DATE: 18/4/2013

TIME: 8.00-11.00AM

DURATION: 3 HOURS

INSTRUCTIONS

1. This paper contains FIVE (5) questions
2. Answer question 1 (Compulsory) and ANY other 2 Questions
3. Write all answers in the booklet provided

Question 1

- a) Give a definition of a Multimedia Information Systems (MIS). [2 Marks]
- b) Briefly describe five Multimedia Authoring Paradigms. [10 Marks]
- c) Briefly describe five ways in which content can be formatted and delivered in a Multimedia Authoring System. [10 Marks]
- d) Multimedia is good at conveying extra information that other conventional media cannot.
 - (i) What can spoken text convey that written text cannot? [3 Marks]
 - (ii) When might written text be better than spoken text? [3 Marks]
- e) MIS is attempting to solve the problems of information management by integrating the various forms of media into the computer/communications infrastructure. Enumerate the benefits of achieving this level of integration. [2 Marks]

Question 2

- a) (i) What is the distinction between lossy and lossless data compression? [2 Marks]
(ii) Give one example of a lossy and lossless compression algorithm. [1 Mark]
- b) List three pattern substitution based compression algorithms. For each algorithm, give one application where the method is used with respect to multimedia data. [6 Marks]
- c) Briefly outline the MPEG-4 structured audio standard. [6 Marks]

Question 3

- a) Describe the different stages of multimedia software development. [8 Marks]
- b) What is MIDI? [1 Mark]
- c) What features of MIDI make it suitable for use in the MPEG-4 audio compression standard? [2 Marks]
- d) Explain the difference between linear and non-linear multimedia. Give an example of each. [2 Marks]
- e) Distinguish hypertext and hypermedia. [2 Marks]

Question 4

- a) Enumerate the different animation techniques. [8 Marks]
- b) Briefly explain four advantages of Multimedia Databases. [4 Marks]
- c) Distinguish additive and subtractive colors and give their area of use. [3 Marks]

Question 5

- a) List the different broadcast video standards and compare their specifications. [8 Marks]
- b) List a three image editing features that an image editing tool should possess. [3 Marks]
- c) What are the key differences between the JPEG and MPEG I-Frame compression pipeline? [4 Marks]