TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

Select department

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

ICS 2303: MULTIMEDIA SYSTEMS

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: 1 May 2016

Instructions to Candidates
You should have the following for this examination
-Answer Booklet, examination pass and student ID
This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.
Do not write on the question paper.

Question ONE

a) Explain the difference between the following terms:

　　i) "Lossy compression" and "Lossless compression" techniques

　　ii) "JPEG" and "MPEG" standards

　　iii) Intra-object synchronization and Inter-object synchronization

　　iv) Hypertext and Hypermedia

　　v) Virtual reality and virtual environment　　　　　　　　　　　　　(20 Marks)

b) State any four technological advancements that are driving multimedia revolution.
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(4 Marks)

d) Explain the following terms:

　　i) Multimedia

ii) Multimedia Information system

iii) Virtual Reality modelling Language (6 Marks)

Question TWO

a) Explain the applications of multimedia in the following areas:

i) Video Teleconferencing

ii) Edutainment and Infotainment

iii) Advertising and Purchasing

iv) Digital Library (8 Marks)

b) Describe any four types of multimedia building blocks, stating an example of a suitable application software in each case. (12 Marks)

Question THREE

a) Explain any four reasons of compressing a file. (8 Marks)

b) There are two major components of a three-dimensional virtual reality: movement and stereoscopy. Explain these two components. (4 Marks)

c) Describe any four types of virtual realities. (8 Marks)

Question FOUR

a) Explain the following terms as used in digital video editing:

i) Rendering

ii) Lip synchronization (4 Marks)

b) Explain any four types of hybrid data compression techniques (8 Marks)

c) Explain any four Technological Aspects that are driving the multimedia advancements (4 Marks)

d) State any four ways digital compression is achieved. (4 Marks)

Question FIVE

a) Describe the following virtual reality components:

     i) Input devices   (2 Marks)

     ii) Output devices   (2 Marks)

b) A multimedia information system (MIS) architecture consists of the eight sub-systems. Describe these sub-systems   (16 Marks)