MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

MERU UNIVERSITY OF SCIENCE & TECHNOLOGY
Foundation of innovations

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O Box 972-60200 –Meru-Kenya.

Tel: 020-2069349, 061-2309217, 064-30320 Cell phone: +254 712524293, +254 789151411

Fax: 064-30321

Website: www.must.ac.ke   Email: info@must.ac.ke

University Examination 2016/2017

FOURTH YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY

THIRD YEAR, SECOND SEMESTER BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

CIT 3303/3467: MULTIMEDIA SYSTEMS AND APPLICATIONS

DATE: JUNE 2017   TIME: 2 HOURS

INSTRUCTIONS: Answer question **one** and any other **two** questions.

QUESTION ONE (30 MARKS)

a) Discuss the usage of the following terms as applied in multimedia systems :
   i)   The noise on a signal   (5 Marks)
   ii)   A Quantisation error   (5 Marks)
b) With the use of appropriate diagrams, explain the digitization process of sound.(6 Marks)
c) Discuss the causes of the following effects and suggest remedies for the same
   i)   Under sampling   (4 Marks)
   ii)   Poor Quantisation   (4 Marks)
d) Explain the various multimedia three domains with suitable examples.   (6 Marks)

QUESTION TWO (20 MARKS)

a) In order to reconstruct a signal, what is the recommended sampling rate.   (4 Marks)
b) With the use of a diagram, discuss the various multimedia domains.   (6 Marks)
c) If a tree falls in the woods and there is no one to hear it, does it make a sound?(3 Marks)
d) Illustrate the relationship between period and amplitude   (4 Marks)

e) Your flash has 512Mbytes of free space. You are going to record a speech with a sampling rate of 11 KHz, 16- bit resolution and a double channel. What is the length of the recording that can be stored in the hard disk?(Answer in seconds) (3 Marks)

QUESTION THREE (20 MARKS)

a) With the use of a diagram, explain the measurements applied in the type for text.
(4 Marks)
b) Use suitable examples to explain the digitization of text as multimedia element.
(4 Marks)
c) Explain the difference between bitmap fonts and outline fonts. (4 Marks)
d) When you build your multimedia project on windows platform, and play it back on a Macintosh platform, there will be some differences. Explain why this happens. (4 Marks)
e) With suitable examples discuss typefaces and fonts as applied in the visual representation of text displayed in computers. (4 Marks)

QUESTION FOUR (20 MARKS)

a) Is motion picture empirically possible? Support or discredit your opinion from a multimedia perspective. (4 Marks)
b) Distinguish between video and animation. (4 Marks)
c) Discuss the two key phenomena as applied in video and animation. (4 Marks)
d) Explain the cause of a flicker and how it can be corrected in a motion picture. (4 Marks)
e) Explain the inbetweening process during animation. (4 Marks)

QUESTION FIVE (20 MARKS)

a) What is the ideal sampling rate to apply during the digitization process? (4 Marks)
b) Discuss the solution for the following problems:
i) Aliasing (2 Marks)
ii) Flickering (2 Marks)
c) Give examples of the various types of multimedia elements (4 Marks)
d) Distinguish between bitmap images verses vector graphics. (4 Marks)
e) Complete the colour system model table below (4 Marks)

MODEL	FEATURES	THEORY	USAGE
RGB			
CMY			
HSB			
YUV			