



TECHNICAL UNIVERISTRY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR DEGREE IN:
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(BSIT M11– Y4 S2)

ICS 2303: MULTIMEDIA SYSTEMS

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2014
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

- a) State any TWO benefits of multimedia. **(2 marks)**
- b) Explain the difference between the following terms:
(i) “JPEG and MPEG”
(ii) “Lossy compression” and “Lossless Compression”
(iii) “Inter-object synchronization” and “Intra-object synchronization”
(iv) “Hand gesture recognition” and “Body gesture recognition” **(16 marks)**
- c) Explain the FIVE building blocks of a multimedia system **(10 marks)**

d) Explain the term “Multimedia” (2 marks)

Question Two

- a) Explain the term “Multimedia Information System” (2 marks)
- b) The architecture of a multimedia information system consists of several subsystems. Describe any SIX of these subsystems (18 marks)

Question Three

- a) Distinguish the following terms:
(i) “Infotainment” and “Edutainment”
(ii) “Lip synchronization and “Live synchronization” (8 marks)
- b) Multimedia technology has grown rapidly and its uses are increasingly widespread, capable of designing our thoughts and actions. Describe any SIX applications of multimedia technology in our daily lives. (12 marks)

Question Four

- a) Explain any FIVE factors driving the multimedia revolution (10 marks)
- b) Describe any FIVE devices of the virtual reality, stating their functions. (10 marks)

Question Five

- a) Explain the following hybrid data encoding techniques:
(i) Run-Length Encoding
(ii) Discrete Cosine Transform Encoding (4 marks)
- b) Explain any THREE reasons of compressing a computer file. (6 marks)
- c) Explain difference between the following terms:
(i) “Temporal relation” and “ Spatial Relation”
(ii) “Virtual Reality” and “Virtual Reality Modeling Language” (8 marks)
- d) Explain the term “Rendering” (2 marks)