



MURANG'A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University of Agriculture and Technology)

University Examinations 2015/2016

THIRDYEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF

BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

HBT 2304: Multimedia Systems and Applications

COURSE: BBIT

TIME: 2HR

DATE: 30TH OCTOBER 2015

Instructions: Answer Question ONE and Any Other TWO.

QUESTION ONE [30 MARKS]

- (a) Define the following terms:
- (i) Virtual reality [2 marks]
 - (ii) Multimedia metaphor [2 marks]
 - (iii) Bitmaps [2 marks]
 - (iv) Animation [2 marks]
 - (v) Pixel [2 marks]
 - (vi) Dithering [2 marks]
- (b) Briefly describe how video is represented [3 marks]
- (c) Describe the application area of Real-Time Streaming Protocol [3 marks]
- (d) State and explain three softwares that can be used in creating and editing fonts in multimedia. [3 marks]
- (e) Differentiate between the following
- (i) input device and output device [2 marks]
 - (ii) Multimedia and multimedia work station [2 marks]
 - (iii) Kinematic and morphing [2 marks]
- (f) Explain any three elements of multimedia [3 marks]

QUESTION TWO [20 MARKS]

- (a) Describe multimedia system development life cycle [8 marks]
- (b) State and explain any six parameters Quality of Service (QoS) for multimedia data transmission depends on [6 marks]
- (c) A bitmap image has resolution 640x480 pixels. Each pixel is 24-bit deep. What is the size of the bitmap in bytes. [6 marks]

QUESTION THREE [20 MARKS]

- (a) Explain six applications of multimedia systems [6 marks]
- (b) Briefly describe the following terms
 - (i) Multimedia authoring [2 marks]
 - (ii) Authoring paradigm [2 marks]
 - (iii) Multimedia information system [2 marks]
- (c) Using a well elaborated diagram, show how data is compressed once entered into a system, and explain the importance for compression [8 marks]

QUESTION FOUR [20 MARKS]

- (a) Discuss the convergence of multimedia [6 marks]
- (b) Explain four hardware devices used in virtual environments clearly explaining their functions [8 marks]
- (c) State and explain the distinct representation of color images and the reasons why are applied [6 marks]

QUESTION FIVE [20 MARKS]

- (a) Using a diagram, explain the relationship between the following
 - (i) Hypertext system [2 marks]
 - (ii) Hypermedia system [2 marks]
 - (iii) Multimedia system [2 marks]
- (b) Briefly describe five technical and content considerations in multimedia information systems. [5 marks]
- (c) Discuss the importance of sound [6 marks]
- (d) Discuss ways you can store sound in a computer [3 marks]