



KENYATTA UNIVERSITY
EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY

SIT 210: MULTIMEDIA SYSTEMS

2ND SEMESTER 2023/2024

TIME: 2 HOURS

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

Question 1

- a)
 - i) Define the term multimedia system (2 marks)
 - ii) Explain FOUR elements of a multimedia system (4 marks)
- b) Distinguish between the following types of multimedia
 - i) Linear and Non-linear media. (2 marks)
 - ii) Captured and Synthesized media. (2 marks)
 - iii) Discrete vs continuous (2 marks)
- c) Discuss two categories of compression algorithms used in multimedia (4 marks)
- d) Explain THREE animation files formats (6 marks)
- e) With the aid of an example in each case distinguish between multimedia input devices and output devices. (4 marks)
- f) Explain applications of animations in education and medicine. (4 marks)

Question 2

- a) Define the following terms as used in multimedia.
 - i) Data hiding (2 marks)
 - ii) Watermarking (2 marks)
 - iii) Steganography (2 marks)
- b) Distinguish between vector and bitmaps graphics (4 marks)
- c) State three members of a multimedia development team and explain their role. (6 marks)
- d) Explain four types of animations. (4 marks)

Question 3

- a) Explain each of the following file format.
 - i) .bmp (1 marks)
 - ii) .gif (1 marks)
 - iii) .jpg (1 marks)

- iv) .tiff (1 marks)
- b) Outline four sources of multimedia graphics. (4 marks)
- c) Describe **four** measurable attributes of a digital image (6 marks)
- c) Complete the following table

RED	GREEN	BLUE	COLOUR
255	255	0	
255	0	255	
0	255	255	
127	127	127	

(6 marks)

Question 4

- a) Explain each of the following multimedia propagation techniques (2 marks)
- i) Multicast (2 marks)
- ii) Unicast (2 marks)
- iii) Broadcast (2 marks)
- b) Explain the following terms as used in animations (2 marks)
- i) Key frame (2 marks)
- ii) Tweening (2 marks)
- iii) Onion Skinning (2 marks)
- c) List the advantages and disadvantages of Musical Instrument Digital Interface (MIDI) files. (4 marks)
- d) Explain four digital video file formats. (4 marks)

Question 5

- a) Define the following terms as used in multimedia: (2 marks)
- i) Hypermedia (2 marks)
- ii) Hypertext (2 marks)
- iii) Hyperlink (2 marks)
- b) Define the term multimedia authoring (2 marks)
- c) Describe the desirable features of multimedia authoring tools. (4 marks)
- d) Distinguish between asymmetric codecs and symmetric codecs as used in multimedia systems. (4 marks)
- e) Discuss FOUR basic components of MIDI systems. (4 marks)