



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

SCO 490: MULTIMEDIA SYSTEMS

DATE: 24/3/2021

TIME: 2:00 – 4:00 PM

INSTRUCTION: Answer Question ONE and any other TWO Question

QUESTION ONE (30 MARKS)

- a) All communication media are multimedia systems. Discuss the validity of this statement giving FOUR relevant attributes. (8 marks)
- b) An audio file is required to be used in a multimedia project but it cannot due to underlying constraints. Explain THREE causes of such problem. (6 marks)
- c) Determine the appropriate solution to the problem in Q(C) above giving reasons as to why it is the appropriate one. (6 marks)
- d) After finishing on your documentary video you went ahead and compressed it. Defend your decision. (4 marks)
- e) Using Huffman Coding and Discrete Cosine Transformation evaluate the suitability of lossy and Lossless compression. (6 marks)

QUESTION TWO (20 MARKS)

- a) Mr. Kimani has finished his multimedia project and he is worried about the security of his creative work. Security is important for any multimedia project. Defend this statement with regard to Kimani's worry. (6 marks)
- b) Multimedia systems are unique compared to other computer based systems. Justify this statement. (8 marks)

- c) Discuss THREE ways you would employ to distribute your multimedia file. (6 marks)

QUESTION THREE (20 MARKS)

- a) When developing a website you are allowed to apply several paradigms. Explain FIVE paradigms and their use in such a project. (10 marks)
- b) After developing a multimedia project you chose to use watermarking as mechanism to protect your work. Determine FIVE watermarking mechanisms at your disposal to use in your project. (10 marks)

QUESTION FOUR (20 MARKS)

- a) A music video file has been presented to you by an upcoming artist as a gift. Upon watching and listening you realized the file has editorial issues. Discuss THREE activities you can undertake to solve this problem. (6 marks)
- b) Janet is the founder of Creative Media and she is in the process of hiring the team that will help deliver on the upcoming project. As the consultant given the task to recruit the team, discuss FIVE key must have attributes of the people to be hired. (10 marks)
- c) Agnes has been complaining to you that using text is difficult especially when communication through emails with her friends. Discuss TWO key pitfalls Agnes is falling into with regard to the use of text. (4 marks)

QUESTION FIVE (20 MARKS)

- a) You have been contracted to develop a multimedia project. Break down the project into required tasks to deliver to your project. (8 marks)
- b) Formulate the steps you would take to deliver an audio file. (6 marks)
- c) Multimedia has infiltrated virtually all sectors of our society. Discuss this statement giving relevant examples where necessary. (6 marks)