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UNIVERSITY
A Dynamic Centre of Academic Excellence

SCHOOL OF PROFESSIONAL STUDIES

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

UNIT CODE/NAME: DCT 173: MULTIMEDIA APPLICATION DEVELOPMENT

January - April 2021/2022 Special Exam

Time: 2 Hours

Instructions: Answer Question ONE (Compulsory) and any other TWO questions

QUESTION ONE

- a) Describe any five elements of multimedia **(5 Marks)**
- b) Multimedia, as the name suggest, is the combination of multi and media (many types of media). What are the media that could be combined to create a multimedia product?
(Mention and briefly describe at least 3 of them). **(6 Marks)**
- c) Briefly explain what is meant by Multimedia Applications Development **(2 Marks)**
- d) Explain the difference between analogue and digital signals **(4 Marks)**
- e) Define various devices required for multimedia applications **(4 Marks)**
- f) Outline different Image data types **(5 Marks)**
- g) Discuss the difference between bitmap and vector graphics **(4 Marks)**

QUESTION TWO

- a) Multimedia plays a critical role in the society. Discuss FIVE main application areas in the society. **(10 Marks)**
- b) Compare the differences between Digital Audio and MIDI? **(5 Marks)**

QUESTION THREE

- a) Briefly explain the three steps involved in the digitization of sound. **(6 Marks)**
- b) Briefly explain Multimedia authoring and why we should use it **(4 Marks)**
- c) Discuss the difference between a uncompressed Audio File Formats and lossless compression **(5 Marks)**

QUESTION FOUR

- a) There are many different types of digital audio file formats that have resulted from working with different computer platforms and software. Explain any three audio file formats. (5 marks)
- b) Explain the advantages of MIDI that makes it suitable for controlling both music and non-music software and hardware devices. (5 Marks)
- c) A standard audio CD is said to have a data rate of 44.1 kHz/16, implying the audio data was sampled 44,100 times per second, with a bit depth of 16. CD tracks are usually stereo, using a left and right track, so the amount of audio data per second is double that of mono, where only a single track is used. Calculate Bit Rate transmitted per second (5 Marks)

QUESTION FIVE

- a) Briefly discuss three disadvantages of digital video. (6Marks)
- b) Outline at least four (4) categories of multimedia authoring tools (4 Marks)
- c) Define the following terms as far as multimedia is concerned (5 Marks)
- a. Bit Rate
 - b. Resolution
 - c. Pixels
 - d. Animated graphics
 - e. Sampling