NATIONAL OPEN UNIVERSITY OF NIGERIA,
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2021_1 EXAMINATION

COURSE CODE: CIT891
COURSE CREDIT: 3
COURSE TITLE: ADVANCED MULTIMEDIA TECHNOLOGIES
 TIME ALLOWED: $2^1/_2$ HOURS
INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER FOUR (4) QUESTIONS

QUESTIONS

1. **Question One**

   a. State the three (3) forms in which audio data could be presented. **3 Marks**

   b. Briefly analyse the process of morphology within the context of image processing (**2 Marks**)

   c. You have just been engaged as a Consultant to an advertising firm requesting that you reducing the challenge of noise in images. Elucidate on the recommendation you would present. **6 Marks**

   d. State two (2) main reasons why notion compression is vital in multimedia technology **2 Marks**

   e. Using appropriate example, evaluate the Nyquist's theorem. **6 Marks**

   f. State the fundamental concept behind Subband Coding (SBC). **3 Marks**

   (Total = 22 Marks)

2. **Question Two**
   a. Analyse a classic multimedia system **4Marks**

   b. Outline and describe four (4) desirable features of a Multimedia System. **8 Marks**

3. **Question Three**
   a. Mention two popular methods used for Analog to-digital conversion. **2 Marks**
   b. Explain the following terms: (**2 x 5 = 10 Marks**)

4. **Question Four**
   a. The eye is a visual system that makes use of certain colour source properties, briefly describe these properties. **3 Marks**

   b. What advantage does the human eye have over the computer screen? **3 Marks**
   c. There are a variety of methods which are suitable for different objectives when processing images to improve their appearance. List three of such methods and briefly describe the objectives they address. **6 Marks**

5. **Question Five**
   a. Give a comprehensive analysis of image processing? **4Marks**

   b. You are required to obtain the postcode from envelopes, using the image processing task, describe how you would achieve this. **8 Marks**

6. **Question Six**
   a. State and elucidate on the two (2) popular standards where DCT is applied. **4 Marks**

   b. Outline and elucidate on four (4) main operation modes of JPEG. **8 Marks**