National Open University of Nigeria
14/16 Ahmadu Bello Way, Victoria Island, Lagos.
School of Science and Technology

Course code: CIT 891
Course title: Advanced Multimedia Technologies
Credit unit: 3 credit units
Time: 2 ½ Hours
Instruction: Answer any four (5) questions. Each question carries 14marks.

1. a. Define the term multimedia (2marks)
   b. List two properties of the two dimensional Fourier transform which are of particular use for image processing (2marks)
   c. Using a well labelled diagram discuss the decoder design (10 marks)

2. a. What is a multimedia Workstation (2 Marks)
   b. MPEG has standardized the certain compression formats and ancillary standards.
   Discuss any two. (6 marks)
   c. Draw a well labelled diagram of a typical Still Image Compression Model (6 marks)

3. a. List any two types of text are processed by a multimedia computer (1 mark)
   b. What is image processing (2 marks)
   c. List the tasks involved in image processing (5 marks)
   d. JPEG defines the following four modes of Operation. Discuss. (6 marks)

4. a. State the Nyquist sampling theorem In relation to the sampling rate (2 Marks)
   b. With the use of relevant diagrams briefly discuss “sampling rate” (4 marks)
   c. Write short notes on any two of the following (8 marks)
      - Run length encoding
      - Huffman coding
      - Predictive Coding
      - Transform coding

5. a. List for components of multimedia (4 Marks)
   b. List any six feature are desirable for a Multimedia System (6 marks)
   c. Briefly discuss Digital Video (4 Marks)

6. a. State the Nyquist s theorem (2 Marks)

b. MPEG defines a hierarchy of layer s within a video sequence. Starting from the top level enumerate/discuss (9 marks)

c. State two advantages and one disadvantages of data compression (3 marks)

7. a. What is the term noise In image digital signal processing systems (1 mark)

b. List three (3) standard noise forms in multimedia (3 marks)

c. List and explain three main properties of a colour source that the eye makes (6 marks)

d. Write short notes on any two (4 marks)

RGB
YIQ
HSV