NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION
SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: **CIT 891**

COURSE TITLE: **Advanced Multimedia Technology**

Time: **2½ hrs**
Course Credit Unit**: 3**
Instruction: **Answer any five (5) questions. Each question carries 14 marks**

1a) State and write short notes on any two home television distribution standards. How are they different? (11 marks)
b) State any three desirable Features for a Multimedia Computer ***(3 marks)***

2a) Write a short note on run-length encoding. (5 marks)
b) Using run length encoding, encode the following binary image ***(3 marks)***

1 1 1 0 0 0
0 1 1 1 1 1
1 1 1 1 0 1
0 0 1 1 1 1
1 1 0 0 0 0
1 0 0 0 0 1

c) A method of encoding is to encode each row as a list of pairs of numbers; the first number in each pair gives the starting position of a run of 1's and the second number its length. Using this method, give the binary image of the code below:
(33) (1241) (1361)(25)(15)(2252) (6 marks)

3a) Write short notes on the three types of text that are processed by a multimedia computer ***(9 marks)***
b) State five of the challenges facing multimedia systems ***(5 marks)***

4a) Write short notes on each of the following: ***(10 marks)***
i) Discrete Cosine Transform (DCT)
ii) Discrete Fourier Transform (DFT)
b) List and explain the properties of the two dimensional Fourier transform ***(4 marks)***

5a) Differentiate between lossy and lossless compression? (4 marks)
b) State the limitations of Pattern Matching. (4 marks)
c) What are the advantages and disadvantages of compression? **(**6 marks)

6a) What are the major difference between Vector Quantization and transform coding? (4 marks)
b) State and briefly describe the tasks involved in image processing (10 marks)

7a) List and describe the subclasses of image processing ***(12 marks)***
b) Define multimedia workstation? ***(2 marks)***