NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCE
2020_1 EXAMINATION

COURSE CODE: CIT891
COURSE TITLE: ADVANCED MULTIMEDIA TECHNOLOGIES
CREDIT UNITS: 3
TIME ALLOWED: 2½ HOURS
INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER FOUR QUESTIONS

1a   Give a summary of the multimedia technology. **(5 marks)**

1b   What do you understand by data compression and specify two areas where it can be
         applied. **(6 marks)**

1c   What are the issues that are encountered in the process of converting analog
         signals to digital signals? **3 marks**

1d   DCTs are often employed for image standards. Name and discuss the 2 main examples of
         such standards. **8 marks**

2a   Write down and expatiate on the two (2) main types of digital images in
         multimedia technologies.   **(10 marks)**

2b   Give any four (4) examples of multimedia applications. **2 marks**

3a   State any 6 challenges encountered in multimedia systems. **3 marks**

3b   Describe Discrete Fourier Transform. **4 marks.**

3c   State 5 outstanding features of wavelet coding. **5 marks**

4a   List and discuss the types of texts that are processed by multimedia. **6 marks**

4b   "The DCT is the basis of many widespread image-coding standards". Explain
         why this is possible. **3 marks**

4c   What are the observations on which the Huffman coding is based on regarding
         optimum prefix codes. **3 marks**

5a.   Critically analyze sub-band coding **(3 marks)**

5b   With the aid of a well labeled block diagram explain the predictive coding scheme.   **(9 marks)**

6a   Still image compression techniques rely on two fundamental redundancy reduction principles. Enumerate and elucidate on them. **6 marks**

6b   State the goal of pattern matching. **3 marks**

6c   Give three limitations of pattern matching. **3 marks**