Code: AT65   **Subject: MULTIMEDIA SYSTEMS**

AMIETE – IT (Current Scheme)

Time: 3 Hours   **JUNE 2015**   Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1   **Choose the correct or the best alternative in the following:**   **(2×10)**

   a. Appropriate movie file formats include _____.

   (A) ASF and AVI   **(B)** MPEG
   (C) WMV and DVR-MS   **(D)** JPEG

   b. What does AIFF stand for?

   (A) Audio Interchange File Format
   (B) Audio Interchange File Folder
   (C) ASCII Interchange File Format
   (D) Audio Internet File Format

   c. Which one of the following audio formats was developed by Microsoft?

   (A) AIFF   **(B)** MIDI
   (C) Real Audio   **(D)** W A V

   d. What does MIDI stand for?

   (A) Musical Internet Digital Interface
   (B) Musical Internet Digital Interrupt
   (C) Musical Instrument Digital Interface
   (D) Musical Instrument Download Interface

   e. Which of the following statements is true?

   (A) MIDI files are generally larger than WAV files.
   (B) Video files are generally much larger than audio files
   (C) Audio and video are one and the same
   (D) Nearly all 5 minute movie clips are under 1M in size

f. What does AVI stand for?

(A) Audio for Voice on the Internet
(B) Audio Voice Interleaved
(C) Audio Video Interleaved
(D) Adapted Video for Internet

g. Which of the following does MPEG stand for?

(A) Movie Protocol Experts Group
(B) Movie Protocol Experimentation Group
(C) Motion Picture Experts Group
(D) Movie and Protocols Engineering Group

h. Which of the following is the best definition for Virtual Reality?

(A) Any computer game involving graphics.
(B) A 3D simulation of a real or imagined environment using computers
(C) A simulator which requires special eye glasses
(D) The process of coding in another dimension

i. VRML stands for which of the following?

(A) Very Real Marking Language
(B) Virtual Reality Marking Language
(C) Virtual Reality Markup Language
(D) Virtual Reality Makeup Language

j. _____ is a lossy image compression method.

(A) JPEG   (B) MPEG
(C) MEC   (D) None of these

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. What is meant by the terms Multimedia? Explain in points the diverse uses of multimedia.   **(8)**

  b. Briefly explain Gray-Level images and color images graphic/image data types.
                                                                            (8)

Q.3 a. What do you understand by Gamma correction? Suppose images are not gamma corrected by a TV. Generally, how would they appear on a screen?   **(8)**

  b. What is video component of multimedia? What are the different types of video signal? Explain.   **(8)**

Q.4 a. What is the distinction between lossy and lossless data compression? Give one example each of a lossless and a lossy compression technique. **(8)**

b. What do you understand by Huffman coding? For given a set of numbers and their frequency of use create a Huffman encoding for them**:** **(8)**

FREQUENCY   VALUE
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5   1
7   2
10   3
15   4
20   5
45   6

Q.5 a. When compression ratio is low for an image data using lossless compression technique? Also describe when Distortion measure is used? **(8)**

b. What is the significance of JPEG standard? Describe any two modes that JPEG standard support**.** **(8)**

Q.6 a. What is the purpose of MPEG-2 standard? State its advantages**.** **(8)**

b. Differentiate between I-Frame and P-Frame and their coding**.** **(8)**

Q.7 a. What do you understand by VOP-based coding? Differentiate VOP-based coding with frame based coding**.** **(8)**

b. What is the significance of MPEG-4 standard? Also explain its hierarchical structure**.** **(8)**

Q.8 a. What do you understand by MP3? Briefly explain three MPEG layers. **(8)**

b. State characteristics of multimedia data due to which challenges arise in multimedia network communication. **(8)**

Q.9 a. What are the various techniques of animation in multimedia? **(8)**

b. What is the use of DVD in Multimedia? Explain DVD+R and DVD+RW formats of DVD in multimedia. **(8)**