ROLL NO. _____

Code: AC21/AT12 **Subject: MULTIMEDIA SYSTEMS**

AMIETE – CS/IT (OLD SCHEME)

Time: 3 Hours **OCTOBER 2012** **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. XML stands for

(A) Extended Markup Language **(B)** Extensible Markup Language
(C) Extended Multimedia Language **(D)** None of these

b. The JPEG standard supports:

(A) Sequential and Progressive mode
(B) Hierarchical and Lossless mode
(C) Both **(A)** and **(B)**
(D) None of these

c. MPEG-2 is designed for

(A) Digital TV **(B)** HDTV
(C) Both **(A)** and **(B)** **(D)** None of these

d. A sequence of padding for reference VOPs in MPEG-4 is in the order of

(A) First horizontal then vertical
(B) First vertical then horizontal
(C) Both horizontal and vertical simultaneously
(D) None of these

e. Which of the following is a coding technique used in vocoders?

(A) Huffman **(B)** CELP
(C) Run-length **(D)** None of these

f. FDDI supports

(A) Synchronous **(B)** Asynchronous
(C) Both **(A)** and **(B)** **(D)** None of these

g. Which of the following is an example of content based information retrieval search engine to query images?

(A) JPEG **(B)** MPEG
(C) VoIP **(D)** C-BIRD

h. MIDI stands for_____

(A) Media Interface Development Information
(B) Musical Instrument Digital Interface
(C) Multimedia and hypertext information Development Interface
(D) None of these

i. The IP layer provides services of:

(A) Packet addressing **(B)** Packet fragmentation
(C) Both **(A)** and **(B)** **(D)** None of these

j. RTP is a _____.

(A) Setup protocol for Internet resource reservation
(B) Real –time Transport protocol
(C) Real time protocol
(D) Both **(A)** and **(C)**

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

Q.2 a. Define multimedia. Also state its applications. **(8)**

b. What do you understand by Isochronous transmission mode? **(4)**

c. Explain Hypertext, Hypermedia with suitable examples. **(4)**

Q.3 a. What is MPEG-2 and what is its target application domain? **(8)**

b. What is MIDI? What are the components of MIDI Synthesizer? **(8)**

Q.4 a. Explain the characteristic of data stream used by H.261. **(8)**

b. Why was padding introduced in MPEG-4 VOP-based coding? Name some potential problems of padding. **(8)**

Q.5 a. What do you understand by the term DVI? How it helps in video encoding? **(8)**

b. Which compression method is used in JPEG 2000? List and explain the steps of the same method. **(8)**

Q.6 a. What do you understand by Interactive TV (ITV)? State activities supported by ITV. Also list the components required to perform those activities. **(8)**

b. What do you understand by DMIF? State its application in multimedia. **(8)**

Q.7 What do you understand by protocol? Explain the individual layers of the ISO-OSI Reference Model which provides the basis for communication of multimedia distribution in a network. **(2+14)**

Q.8 a. When should RTP be used and when should RTSP be used? Is there any advantage in combining the protocols? **(4)**

b. State any four parameters on which Quality of service for multimedia depends. **(4)**

c. How images can be stored in databases? How it is different from motion video? **(8)**

Q.9 Write short note on the following:

(i) Resource Management in MOS.
(ii) Data stream characteristics for continuous media. **(8×2)**