

Code: AT65

Subject: MULTIMEDIA SYSTEMS

AMIETE – IT

Time: 3 Hours

JUNE 2013

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. Which one of the following is not/are not typically part of a multimedia specification?
- (A) Text (B) Odors
(C) Video (D) Picture
- b. PDA stands for _____
- (A) Primary digit asset (B) Practical digital accessory
(C) Personal digital assistant (D) Processor digital application
- c. Dynamic HTML uses _____ to define choices ranging from line height to margin width to font face.
- (A) Cascading style sheets (B) font mapping
(C) Font substitution (D) software robots
- d. Which image file type is best for photographs?
- (A) Vector (B) Laser
(C) Shockwave (D) bitmap
- e. A 16-bit image is capable of representing how many different colors ?
- (A) 2 (B) 16
(C) 65,536 (D) 256
- f. Most authoring packages include visual effects such as:
- (A) Panning, zooming and tilting (B) Wipes, fades, zooms and dissolves
(C) Morphing (D) Tweening

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- g. The file format that is most widely supported for web animation is _____
- (A) PICT (B) JPEG
(C) GIF89a (D) AIFF
- h. Movies on film are typically shot at a shutter rate of _____
- (A) 15 frames per second (B) 48 frames per second
(C) 24 frames per second (D) 30 frames per second
- i. In a video camera, the sensor that picks up light is called a CCD that stands for _____
- (A) Charge coupled device (B) Color coding date
(C) Custom color descriptor (D) Carbon crystal digitizer
- j. Multimedia hardware usually includes _____
- (A) Television and VCRs
(B) Microphones and cassette tape recorders
(C) Television and camcorders
(D) Speakers, a sound board and a CD-ROM drive

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

- Q.2** a. Discuss briefly the various software tools available for carrying out tasks in multimedia. (10)
- b. Most common data types for graphics and image file formats are: 24-bit color and 8-bit color. Discuss them briefly. (6)
- Q.3** a. Write a brief note on channel and formant vocoder. (8)
- b. Discuss briefly the important properties of Huffman coding. (6)
- c. Compare discrete cosine transform (DCT), and discrete Fourier Transform (DFT). (2)
- Q.4** a. Write down the salient difference between conventional T.V. and High Definition TV (HDTV) and also highlight the various advantages of digital representation for video. (8)
- b. Video signals can be organised in three different ways. Discuss them briefly. (8)

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- Q.5** a. Describe briefly about (Any **TWO**) (1)
- (i) MIDI as a scripting language
 - (ii) Hardware aspects of MIDI
 - (iii) Structure of MIDI messages
- b. Discuss briefly about Karhunen – Loeve Transform (KLT). (6)
- Q.6** a. JPEG standard supports four different modes which are commonly used. Explain each one of them briefly. (8)
- b. Discuss four common negotiable coding options specified in H.263. (8)
- Q.7** a. Define MPEG-21 and its various key elements. (8)
- b. Write a brief note on MPEG Layers. (8)
- Q.8** a. What is Internet telephony? Write down its main advantages over POTS. (8)
- b. Describe briefly five different modes of predictions defined in MPEG-2. (5)
- c. Describe briefly motion compensation in MPEG-1. (3)
- Q.9** a. Onion skinning, adding sound and morphing are some specialized techniques of animation. Discuss each one of them briefly. (8)
- b. Write brief notes on any **TWO** of following: (4×2 = 8)
- (i) CD Interface
 - (ii) CD formats
 - (iii) Laser Disc working principal