

AMIETE – IT

Time: 3 Hours

DECEMBER 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. A smaller version of an image is called

- (A) Clipart (B) bitmap
(C) portable network graphic (D) thumbnail

b. A _____ can be added to your presentation and then used to go to a variety of locations- for example, a web address, an e-mail address.

- (A) menulink (B) hyperlink
(C) toollink (D) slidelink

c. Which of the following team members have to work mainly with visual media?

- (A) Music Composer (B) Interface Designer
(C) Video Producer (D) Animator

d. What are the units for measuring the storage sizes for sound files in a computer?

- (A) Kilo Hertz (B) Kilo Bytes
(C) Mega Hertz (D) Mega Bytes

e. The General MIDI numbering system in MIDI devices can range from:

- (A) 0 to 127 (B) 100 to 127
(C) 1 to 128 (D) 128 to 12800

f. Capabilities allowing one to modify a sound recording's frequency content making it sound brighter or darker is:

- (A) Fade outs (B) Fade ins
(C) Equalization (D) Splicing and Assembly

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- g. By default, your documents print in _____ mode
- (A) Landscape (B) Portrait
(C) Page setup (D) Print view
- h. Which MPEG standard provides for management and protection of Intellectual Property Rights?
- (A) MPEG-1 (B) MPEG-2
(C) MPEG-21 (D) MPEG-44
- i. Frames and key frames are found in which of the following tools:
- (A) Adobe Photoshop (B) Adobe Illustrator
(C) Adobe Director (D) Adobe Flash
- j. Which of the following is true about the image file formats?
- (A) PNG is proprietary standard
(B) GIF can be embedded in a web page
(C) PNG is an alternative to GIF
(D) SWF is a raster file type

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

- Q.2**
- a. What are the various media elements that are normally incorporated in multimedia presentation? Give examples how information may be conveyed through each of these media elements. (6)
- b. What are the various types of software used for implementing a multimedia production? Also differentiate between GIF and JPEG file formats. (6)
- c. Explain Macromedia Flash and VRML multimedia authoring tools. (4)
- Q.3**
- a. How does a CMYK color model represent color information? Why is it called a subtractive model? (6)
- b. What is meant by Chroma subsampling? Explain how does it help in bandwidth reductions (6)
- c. Explain CCIR standards for digital video. (4)
- Q.4**
- a. With the help of a diagram show how MIDI instruments can be interfaced with a PC. (4)
- b. Differentiate between DPCM and ADPCM with an example. (6)

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- c. With the help of a suitable example, explain the performance of Huffman encoding & decoding. (6)
- Q.5** a. Why is DCT necessary in JPEG compression? Does it lead to data compression? Explain. (8)
- b. Give a short note on Wavelet Based Coding and Inverse DCT. (8)
- Q.6** a. Explain various steps involved in H.261 standard. Give a brief note on H.263+ Standard. (8)
- b. Explain various parts of the MPEG-1 standard. Describe the MPEG-1 video standard mentioning the roles of I-,P- and B- frames. (8)
- Q.7** a. Differentiate between Vocoders and ADPCM as audio compression techniques. (8)
- b. Give few advanced features of MPEG-21 and MPEG-7 over MPEG-2. (8)
- Q.8** a. Give a brief note on Real Time Streaming Protocol (RSTP). (6)
- b. With the help of a suitable diagram, explain the video transmission and bitrates over ATM. (8)
- c. Explain the requirement of QOS in a multimedia transmission. (2)
- Q.9** a. What is a shading algorithm? How can it be used to depict the plane and curved surfaces? (6)
- b. Describe the working principle of encoding digital data on a CD Surface. Differentiate between CD-R and CD-RW. (8)
- c. Explain in brief the major characteristics of DVD-Video. (2)