

AMIETE – CS/IT (OLD SCHEME)

Time: 3 Hours

JUNE 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. Multimedia is an application which uses a collection of

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|--------------------------|----------------------------|
| (A) Text and sound/audio | (B) Graphics and animation |
| (C) Animation | (D) All of the above |

b. Sampling rate and sample quantization are format parameters for specification of:

- | | |
|-----------|-----------------------|
| (A) Video | (B) Audio |
| (C) Text | (D) None of the above |

c. Which of the following is not a temporal media?

- | | |
|-----------|---------------|
| (A) Video | (B) Animation |
| (C) Audio | (D) Images |

d. A sequence individual packets transmitted in a time- dependent fashion is called

- | | |
|------------------|-----------------------|
| (A) Audio stream | (B) Data stream |
| (C) Video stream | (D) None of the above |

e. The aspect ratio of HDTV images is

- | | |
|----------|----------|
| (A) 4:3 | (B) 1:1 |
| (C) 16:9 | (D) 9:16 |

f. AAL is -----

- | | |
|---------------------------------|-----------------------------------|
| (A) Automated Application Layer | (B) Asynchronous Adaptation Layer |
| (C) ATM Adaptation Layer | (D) None of the above |

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g. Multimedia data can be stored in database as-----.

- (A) Raw data (B) Registered data
(C) Descriptive data (D) All of the above

h. ATM cells have a fixed format of size-----.

- (A) 53 bytes (B) 58 bytes
(C) 62 bytes (D) None of the above

i. MPEG specifies a syntax for the interleaved-----

- (A) Audio data stream (B) Video data stream
(C) Both (A) and (B) (D) None of the above

j. RSVP is a -----.

- (A) Setup protocol for Internet resource reservation
(B) Address QoS for multicast
(C) None of the above
(D) Both (A) and (B)

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

Q.2 a. What is the significance of medium in multimedia? Classify media with respect to six different criteria. (8)

b. What do you understand by dynamics in graphics? Describe interactive graphic technology that contains hardware and software for user controlled dynamics. (8)

Q.3 a. Describe Real-Time Video for motion video encoding technique. Also distinguish between RTV interframe coding and intraframe coding? (8)

b. Differentiate between source coding and entropy coding. (4)

c. Define JPEG2000 standard. State any three problems that JPEG2000 standard addresses. (4)

Q.4 a. Describe the various components that resource manager provides for different phases of the allocation and management process. (8)

b. What is rate monotonic scheduling principle? Also state the five assumptions that are necessary prerequisites to apply the rate monotonic scheduling algorithm. (8)

Q.5 a. What do you understand by resource reservation in assigning priorities in continuous media? Describe the methods by which it can be achieved. (8)

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- b. What is MAN? What services are offered by MAN? (8)
- Q.6** a. Define Multimedia DBMS. Explain the data types that store the multimedia databases. (8)
- b. How images can be retrieved in multimedia database? Explain with the help of an example. (8)
- Q.7** a. What do you understand by data streaming? State six layers of video data stream. (8)
- b. State the three domains where MPEG-4 has proven to be successful. Also list features of MPEG-4 standard. (8)
- Q.8** a. What do you understand by MIDI? How MIDI files are different from digital audio? (8)
- b. What do you understand by hypertext system? Distinguish three levels of hypertext system. (8)
- Q.9** Write short notes on any **TWO** of the following:
- (i) CELP
 - (ii) RTP
 - (iii) MP3 compression scheme
- (8×2)