

CBCS Scheme

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16/17ECS/ELD252

Second Semester M.Tech. Degree Examination, June/July 2018

Multimedia Over Communication Links

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. Explain the integrated services digital networks and broadband with relevant diagram in multimedia networks. (06 Marks)
- b. Write a short note on Movie/Video-on-demand with networking schematic diagram. (06 Marks)
- c. Derive the maximum block size should be used over a channel which has a mean BER probability of 10^{-4} if the probability of a block containing an error and hence being discarded is to be 10^{-1} . (04 Marks)

OR

- 2 a. What is text? Explain in brief unformatted, formatted and hypertext in information representation. (07 Marks)
- b. With the help of schematic diagram, explain the facsimile machine principles in digitized documents of images. (06 Marks)
- c. Write a short note on graphics in images. (03 Marks)

Module-2

- 3 a. Explain the signal encoding and decoding of PCM in audio information representation with a relevant diagram. (08 Marks)
- b. Mention three multimedia applications of video. (03 Marks)
- c. Assuming the CD-DA standard is being used total bit rate 1.411 Mbps, find:
 - i) The storage capacity of a CD-ROM to stores a 60 minute multimedia title.
 - ii) The time to transmit a 30 second portion of the title using a transmission channel of bit rate 64 kbps and 1.5 Mbps. (05 Marks)

OR

- 4 a. What is distributed multimedia systems? Explain the main features of a DMS. (08 Marks)
- b. Discuss the management of multimedia operating systems. (08 Marks)

Module-3

- 5 a. With a diagram explain the general perceptual audio-coding architecture. (08 Marks)
- b. How the optimum coding in the frequency domain is used to decode in transform audio coders? (08 Marks)

OR

- 6 a. With a relevant diagram, explain the wavelet decompositions in audio sub-band coders. (08 Marks)
- b. Explain the Hybrid coder of Transform Audio Coders. (08 Marks)

Module-4

- 7 a. Give the list of work items in MPEG approach to multimedia standardization. (08 Marks)
b. Explain the basic structure of the MPEG-1 audio encoder. (08 Marks)

OR

- 8 a. Discuss the MPEG-2 video standards. (08 Marks)
b. Explain the overall audio compression and encoding processes for three layers in MPEG-2 audio. (08 Marks)

Module-5

- 9 a. With an example of a video transmission system explain the packet video in the network environment. (08 Marks)
b. Explain the trade between the simulcast and layered approaches from the perspective of rate-distortion theory in the video transport across generic networks. (08 Marks)

OR

- 10 a. With a neat diagram of choice of multiplexing mode, explain the multimedia transport across ATM networks. (08 Marks)
b. Write a short note on MPEG video error concealment. (08 Marks)

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