12051

May, 2019

M.TECH. (CSE) - II SEMESTER (Reappear)
MULTIMEDIA COMMUNICATION (OEC-235)

Time : 3 Hours]   [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*

2. *Answer any four questions from Part-B in detail.*

3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) What is the importance of spoken and written text in multimedia? (1.5)

    (b) Why a pair of modem is needed to transmit a digital signal over a PSTN? (1.5)

    (c) Explain the meaning of the terms webpage, homepage, URL, hypertext. (1.5)

    (d) What are source encoders and destination decoders? (1.5)

(e) What is meant by half-tone and dithering ? (1.5)

(f) What are various data types used in ACTION scripts? (1.5)

(g) What is meant by "active images" In regard to automatic authoring ? (1.5)

(h) Name the different types of Video Signals. (1.5)

(i) Briefly explain what are texture, motion and shape encoding. (1.5)

(j) What is the full form of WORM, CDWO, CD-DA? (1.5)

PART–B

2. (a) Discuss the communication networks used to provide multimedia communication services. (10)

(b) Explain broadcast schemes for television Networks. (5)

3. (a) What does network QoS pararmeters define? Discuss the QoS parameters associated with circuit-switched and packet switched network? (10)

(b) How does network QoS and application QoS differ? (5)

4. (a) Explain the principles on which LPC codes are based. (5)

(b) Explain the following types of compressed frame and the reasons for their use: I-frames, P-frames and B-frames. (5)

(c) Explain run-length and statistical encoding giving Shannon;'s formula and coding efficiency. (5)

5. Message comprising 7 different characters, A through G, are to be transmitted over a data link. The relative frequency of occurrence of each character is :

Character	A	B	C	D	E	F	G
Frequency	0.10	0.25	0.05	0.32	0.01	0.07	0.2

Derive the entropy of messages. Use static encoding to derive a suitable set of Huffman code words. Find the average number of bits per codeword for the derived codeword to transmit the message and compare it with both the fixed-length binary and ASCII code words. (15)

6. (a) What are the important features of GIF? How is a color map generated for GIF? (5)

(b) Briefly discuss the compression algorithms used for audio in the range of multimedia applications. (10)

7. (a) What are the problems associated with moving text-based techniques to image-based automatic authoring? (2)

(b) Explain the role and concept of multimedia software tools. (3)

(c) Discuss the tools for accessing content on World Wide Web. (5)

(d) What is the procedure for constructing a dynamic web page? Explain the different tags that are used for it? (5)