14ECS254

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

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions.*

1 a. With relevant diagrams describe how data networks are designed to provide data communication services and file transfer. **(08 Marks)**

b. Explain interpersonal communication application that uses speech and video integrated together with an example. **(06 Marks)**

c. What is the technique need to overcome the effect of Jitter in application QOS? Explain with diagram. **(06 Marks)**

2 a. What are the three types of text that are used to produce pages of documents? Explain in detail. **(10 Marks)**

b. With the aid of diagrams, explain colour principles and Raster-scan principles associated with digitized pictures in image communication. **(10 Marks)**

3 a. What are lossless and lossy compression techniques and explain Run-length encoding and statistical encoding with examples. **(08 Marks)**

b. Explain lemple-ZIV-Welsh coding with an example and show dynamically it can be extended. **(08 Marks)**

c. The LZ algorithm is to be used to compress a text file prior to its transmission. If the average number of characters per word is 6, and the dictionary used contains 4096 words, derive the average compression ratio that is achieved relative to using 7-bit ASCII code words. **(04 Marks)**

4 a. Draw the block diagram of JPEG Encoder and Decoder schematic and explain. **(10 Marks)**

b. Explain DPCM principles with encoder and decoder schematic showing the encoder timing diagram. **(10 Marks)**

5 a. What is linear predictive coding? Explain with schematic highlighting the three features that determine the perception of a signal. **(10 Marks)**

b. With the help of example frame sequences, explain I, P, B and D frames and the reasons for their use. **(10 Marks)**

6 a. How does MPEG-4 differ from other MPEG standards? Describe the error resistance techniques provided by MPEG-4. **(10 Marks)**

b. Explain the various significant features of JPEG 2000. **(10 Marks)**

7 a. Explain four layer synchronization reference model of an multimedia applications. **(10 Marks)**

b. Describe the error resistance techniques for real time video transport in video communication system. **(10 Marks)**

8   Write short notes on:

a. Network QOS.

b. RTP (Real Time Protocol).

c. GIF and TIFF file format.

d. Multimedia in mobile networks. **(20 Marks)**

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