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10EC/TE841

Eighth Semester B.E. Degree Examination, Jan./Feb. 2021
Multimedia Communication

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Discuss applications of multimedia communication in brief. (07 Marks)
b. With the aid of diagrams, explain the principle of operation of connection oriented [CO] packet-mode network. (07 Marks)
c. Identify and explain the key parameters associated with application QoS. (06 Marks)
- 2 a. Explain PCM speech codec with neat block diagram. (06 Marks)
b. With the aid of diagrams, describe the following digitization format with its application.
i) SIF ii) 4 : 2 : 2. (06 Marks)
c. Derive the bit rate and the memory requirements to store each frame that result from the digitization of both a 525-line and 625-line system assuming a 4 : 2 : 2 format. Also find the total memory required to store 1.5hr movie. (08 Marks)
- 3 a. Compress the text string : “This is” using dynamic Huffman coding. (12 Marks)
b. Generate a codeword for a string “went.”. Using arithmetic coding having probability as $e = 0.3, n = 0.3, t = 0.2, w = 0.1, \bullet = 0.1$. (08 Marks)
- 4 a. Explain differential pulse code modulation (DPCM) principles using neat block diagrams. (10 Marks)
b. Explain MPEG-4 principles using neat block diagrams. (10 Marks)

PART – B

- 5 a. Explain operation of token ring with neat flow charts. (10 Marks)
b. Explain operation of source routing bridge. (05 Marks)
c. Explain LAN protocols with protocol framework and examples. (05 Marks)
- 6 a. Discuss IP adjunct protocols. (05 Marks)
b. Explain ARP and RARP protocol with one example. (10 Marks)
c. Discuss IP datagram format. (05 Marks)
- 7 a. Explain cell switching principles with routing schematics and virtual path routing and virtual channel routing. (10 Marks)
b. Discuss ATM protocol architecture with neat diagram. (10 Marks)
- 8 a. Explain real-time transport protocol with its usage and packet format. (10 Marks)
b. Explain TCP segment format with its header fields, MSS option format code bit format and pseudo header fields. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.