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10EC/TE841

Eighth Semester B.E. Degree Examination, Dec.2015/Jan.2016

Multimedia Communication

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. List out the different multimedia networks and explain telephone networks and broadcast television network using cable with relevant diagrams. (10 Marks)
b. With neat diagram, explain multipoint conferencing modes of operation. (07 Marks)
c. Determine the propagation delay associated with the following communication channels given velocity of propagation for case (i) and (ii) as 2×10^8 m/s and (iii) 3×10^8 m/s.
i) a connection through a private telephone network of 1 km.
ii) a connection through a PSTN of 200 km
iii) a connection over a satellite channel of 50000 km. (03 Marks)
- 2 a. With the aid of a diagram, explain color image capture using camera and also RGB signal generation methods for the above. (10 Marks)
b. With the aid of a diagram, explain audio/sound synthesizer. (07 Marks)
c. Derive the memory required to store a 10 minute passage of stereophonic music. Assume bandwidth of music is 15 Hz through 20 kHz and Nyquist rate is 16 bits per sample. (03 Marks)
- 3 a. Explain with a neat diagram JPEG encoder. (10 Marks)
b. Encode the string went comprising characters with probability of e = 0.3, n = 0.3, t = 0.2, w = 0.1, . = 0.1 using arithmetic coding. (10 Marks)
- 4 a. Explain with a diagram ADPCM subband encoder and decoder. (10 Marks)
b. Explain with diagram H.263 error tracking. (10 Marks)

PART – B

- 5 a. With the aid of a diagram, explain transparent bridge and give an example. (10 Marks)
b. Explain with diagrams FDDI networking components and interface. (10 Marks)
- 6 a. Explain IP datagram/packet format and header fields. (10 Marks)
b. What is QoS support for internet applications? Explain the control mechanism used in each class to meet QoS requirement. (10 Marks)
- 7 a. With relevant diagrams explain two types of routing in ATM network and also explain general structure of ATM switch. (10 Marks)
b. Explain LAN emulation in ATM and also unicast protocol architecture with relevant diagrams. (10 Marks)
- 8 a. Explain TCP connection establishment with the aid of a diagram (only client server). (10 Marks)
b. With the aid of a diagram, explain congestion control and avoidance for TCP (only diagram for congestion control). (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.