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

- 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.
 - 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)

- 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, $\bullet = 0.1$ 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
- 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.
- 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)
