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10EC/TE841

**Eighth Semester B.E. Degree Examination, June/July 2017**  
**Multimedia Communication**

Time: 3 hrs.

Max. Marks: 100

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

**PART – A**

- 1 a. With the help of a diagram, describe the main components of PSTN. Show how a high speed modem provides multiple services in addition to basic telephony. (10 Marks)  
b. List the five basic types of communication networks that are used to provide multimedia services. Explain with neat diagram (i) Broadcast television network (ii) Integrated services digital network. (10 Marks)
- 2 a. Explain the principle of operation of a PCM speech codec with a block diagram. (06 Marks)  
b. Find out the time taken to transmit the following digitized images at both 64 kbps and 1.5 Mbps:  
(i) a 640×480×8 VGA compatible image  
(ii) a 1024×768×24 SVGA compatible image (04 Marks)  
c. With a neat diagram explain audio/sound synthesizer. (06 Marks)  
d. Write a note on 4 : 2 : 2 format? (04 Marks)
- 3 a. With a neat block diagram explain the working of JPEG encoder. (10 Marks)  
b. Encode the string "went." comprising characters with probabilities of e = 0.3, n = 0.3, t = 0.2, w = 0.1, . = 0.1 using arithmetic coding. (10 Marks)
- 4 a. With the help of a neat diagram explain LPC encoder and decoder. (08 Marks)  
b. Explain H.261 encoding format. (08 Marks)  
c. Give the meaning of motion estimation and compensation with respect to video compression. (04 Marks)

**PART – B**

- 5 a. Explain the principle of operation of token ring network with the help of a diagram. (10 Marks)  
b. Explain in detail the LAN protocols and protocol framework with diagram. (10 Marks)
- 6 a. With example explain fragmentation and reassembly in the internet. (10 Marks)  
b. Describe the operation of ARP and RARP. (10 Marks)
- 7 a. With the help of diagram explain broadband ATM cell formats. (10 Marks)  
b. Explain LAN emulation in ATM. (10 Marks)
- 8 a. Explain TCP/IP protocol suite. (10 Marks)  
b. Explain RTP and RTCP. (10 Marks)

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Important Note - 1. On completing your answers, conspicuously draw diagonal cross lines on the remaining blank pages.  
2. Only the answer of communication system is to be marked as correct. All other answers will be treated as inappropriate.