USN | | | | | | | | | |

10EC/TE841

Eighth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Multimedia Communications

Time: 3 hrs. Max. Marks:100

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

PART – A

1 a. List any four multimedia networks. **(02 Marks)**

b. Illustrate with a diagram, telephone network components and show how multiple services are obtained using high-speed modem on a telephone network. **(08 Marks)**

c. Illustrate centralized, decentralized and hybrid modes of multipoint conferencing. **(10 Marks)**

2 a. With the schematic of a audio/sound synthesizer, explain the functions of various blocks. **(06 Marks)**

b. With the help of diagram, show various colours that are obtained using additive color mixing and subtractive color mixing. Give one example each where additive and subtractive color mixing are used. **(06 Marks)**

c. Explain hypertext considering example of an electronic document. **(08 Marks)**

3 a. Obtain Huffman codes and Huffman tree for the following data :
A = 0.1, B = 0.25, C = 0.05, D = 0.32, E = 0.01, F = 0.07, G = 0.2. **(08 Marks)**

b. Explain ZigZag encoding and differential encoding as applied to JPEG compression. **(06 Marks)**

c. DCT is invariably used in JPEG. Give the expressions for DCT and IDCT. **(04 Marks)**

d. If given code words are A = 1, B = 01, C = 001, D = 000. If the received bit stream is 10110000011 from Huffman encoding scheme. Find the alphabets received. **(02 Marks)**

4 a. Give the composition and format for a MPEG–1 video bit stream structure. **(10 Marks)**

b. Explain with block diagram of encoder/decoder how ADPCM can be used for audio compression. **(10 Marks)**

PART – B

5 a. Explain in detail token ring network, token format, frame format and field descriptions. **(10 Marks)**

b. Explain FDDI network components with diagram. **(10 Marks)**

6 a. With the help of a diagram, explain internet network components and protocols. **(10 Marks)**

b. With an example topology describe the operation of the ARP–Address Resolution Protocol. **(10 Marks)**

7 a. Draw user network segment of ATM cell format and explain each field in the header. **(10 Marks)**

b. Explain protocol architecture to support classical IP over ATM LAN. **(10 Marks)**

8 a. Illustrate with diagram TCP/IP protocol suite and interlayer address selectors. **(10 Marks)**

b. List at least 4 socket primitives associated with UDP. **(02 Marks)**

c. Explain the following as related to the messages in RTCP.
i) Integrated media synchronization
ii) QOS reports
iii) Participation reports
iv) Participation details. **(08 Marks)**

* * * * *