Roll No. ....

Total Pages : 3

BT-8/M-13   **8812**

MULTIMEDIA COMMUNICATION

Paper–ECE-406-E

Time Allowed : 3 Hours]   [Maximum Marks : 100

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit.

UNIT–I

1. (a) Explain the basic form of representation of the following:

    (i) Text

    (ii) Image

    (iii) Audio

    (iv) Video.   8

    (b) With the help of an appropriate diagram, discuss the function of a telephony gateway in relation to Internet telephony.   8

    (c) A Web page of 10 Mbytes is being retrieved from a Web server. Assuming negligible delays within the server and trunk network, determine the time to transfer the page over a PSTN modem operating at 28.8 kbps.   4

2. (a) Explain the operating principle of video-on-demand. Also justify the bandwidth requirements for this application.   10

8812/K/1698/6,400   P. T. O.

(b) Determine the bit are that results from the digitization of a 525-line and a 625-line system using the 4:2:0 digitization format and interlace scanning. Also calculate the amount of memory required to store a 2-hour movie.   10

UNIT–II

3. (a) Explain the following in brief:

    (i) Run-length encoding

    (ii) Statistical encoding

    (iii) Source coding

    (iv) Differential encoding

    (v) Transform encoding.   10

    (b) Disuss the operating principle of LZ compression algorithm. Assuming a dictionary of 16,000 words and an average word length of 5 bits, determine the average compression ratio achieved relative to using 7-bit ASCII codewords.   10

4. (a) What is Graphics Interchange Format? Explain its compression principle.   10

    (b) Discuss the following:

    (i) Tagged Image File Format

    (ii) JPEG.   10

UNIT–III

5. (a) With the help of appropriate schematics and timing diagram, explain the working principle of differential pulse code modulation.   10

    (b) Discuss Dolby audio coders in detail.   10

8812/K/1698/6,400   2

6. (a) Explain the basic principles of the Video compression. 10

   (b) Explain how the compression algorithm used with MPEG–1 differs from that used in the H.261 standard. 10

UNIT–IV

7. (a) What is the need of domain name system? Explain the name structure and administration. 10

   (b) With the help of an appropriate diagram, discuss the sequence of query/response messages that are exchanged to carry out an iterative name-to-address resolution. 10

8. (a) Show the structure of E-mail message and explain it. 10

   (b) Write a detailed note on Internal Telephony. 10