Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 71421

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Seventh Semester

Electronics and Communication Engineering

EC 2037/EC 706/10144 ECE 35 — MULTIMEDIA COMPRESSION AND COMMUNICATION

(Regulation 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the responsibilities of interface and information designers in the development of a multimedia project?

2. Write any two advantages of MIDI over digital audio.

3. What are the different delays suffered by CELP coders?

4. What are the advantages of adaptive predictive coding?

5. When does a codeword said to have prefix property?

6. Give the principle of differential encoding.

7. What is meant by IP telephony?

8. What are the different factors that determine the QoS of VoIP systems?

9. Give the applications of real time streaming protocol.

10. Write the shortcomings of integrated services.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write the advantages of digital video over analog video. Discuss the applications of digital video in multimedia systems. (8)

(ii) Describe the capability and limitations of bitmap and vector images. (8)

Or

(b) (i) Explain the technique of computer animation and compare it with the traditional cel animation. (8)

(ii) Explain the modern storage and communication system facilities and their contribution to the development of multimedia systems. (8)

12. (a) (i) Discuss the technique of DPCM with neat diagrams. What are the advantages of ADPCM over DPCM? (8)

(ii) Write a brief note on MPEG perceptual coders. (8)

Or

(b) (i) Describe the principle of MPEG 4 with diagrams of encoder and decoder. (10)

(ii) Give a brief note on H.263 video compression standard. (6)

13. (a) (i) Describe the operation of JPEG encoder and decoder with neat diagrams. (10)

(ii) Give a brief note on GIF and TIFF formats. (6)

Or

(b) (i) A series of message is to be transferred between two computers. The message comprises of the characters A, B, C, D and E. The probabilities of occurrence of the above characters are 0.4. 0.19, 0.16, 0.15 and 0.1 respectively. Use Huffman coding to obtain a codeword for the above characters. Determine the average number of bits per codeword. (10)

(ii) Discuss the principle of Lempel Ziv-Welsh coding. (6)

14. (a) (i) Explain the H.323 architecture and protocol in detail and write its applications. (10)

(ii) Write a brief note on the challenges arid applications of VoIP. (6)

Or

(b) (i) Describe the principle and architecture of SS7 and discuss the need for SS7 signaling in VoIP. (8)

(ii) Give a brief note on CODEC methods. (8)

15. (a) Describe the principle and applications of scheduling and policing mechanisms for providing QoS guarantees. (16)

Or

(b) (i) Explain the principle of RSVP. (8)

(ii) Compare best effort and differentiated services. (8)
