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Question Paper Code : 91380

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

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. Write the difference between multimedia and hypermedia.
2. Mention any four methods for word searching in hypermedia systems.
3. Give the principle of DPCM.
4. Write the applications suitable for H.261 standard.
5. Give the objectives of lossy compression algorithms.
6. Write the principle of dynamic Huffman coding.
7. What is meant by Internet telephony?
8. What are the services supported by VoIP?
9. What is meant by streaming stored audio and video?
10. Define the best effort service and give an example.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Define MIDI and write its attributes and applications in multimedia. (6)
- (ii) Compare the capabilities and limitations of bitmap and vector images. (6)
- (iii) Write the importance and attributes of text. (4)

Or

- (b) (i) Explain briefly the storage, input and communication devices for multimedia systems. (10)
 - (ii) Give a brief note on computer animation for multimedia applications. (6)
12. (a) (i) Draw and explain the adaptive differential PCM encoder and decoder. (8)
- (ii) Give a brief note on linear predictive coding and code excited LPC. (8)

Or

- (b) (i) Compare the principle and implementation of H.261 and H.263 video compression standards. (8)
 - (ii) Discuss the MPEG-4 encoder and decoder with necessary diagrams. (8)
13. (a) (i) Discuss the principle of Lempel-Ziv and Lempel-Ziv-Welsh coding techniques. (8)
- (ii) A series of messages is to be transferred between two systems. The message comprises of the characters A through E. The probabilities of occurrence of the characters A through E are 0.4, 0.19, 0.16, 0.15 and 0.1 respectively. Use Huffman coding to derive a code word set and also obtain the average code length. (5 + 3)

Or

- (b) (i) Explain the JPEG encoder and decoder with neat diagrams. (10)
 - (ii) Write a brief note on image file formats. (6)
14. (a) (i) Explain the session initiation protocol and write its application for VoIP. (10)
- (ii) Give a brief note on QoS issues in VoIP. (6)

Or

- (b) (i) Explain briefly the H.323 architecture and protocols. (10)
 - (ii) Give a brief note on application of SS7 for VoIP services. (6)
15. (a) Describe the different scheduling and policing mechanisms suitable for multimedia systems with suitable diagrams. (16)

Or

- (b) (i) Explain the integrated services with necessary diagrams. (8)
- (ii) Write a brief note on RSVP. (8)