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Question Paper Code : 60421

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Seventh Semester

Electronics and Communication Engineering

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

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate Serif and Sans serif fonts.
2. How are 2½ Dimension animations are created?
3. What are the different delays suffered by CELP coders?
4. What are the advantages of adaptive predictive coding?
5. Bring out the differences between loseless and lossy compression.
6. Define the term 'Run length coding'.
7. What is IP transport?
8. Write notes on SS7.
9. What are the limitations of best effort service?
10. What is meant by steaming?

PART B — (5 × 16 = 80 marks)

11. (a) (i) You are assigned to create an interface that Looks good across platforms. What is the difference between images as shown on different machines like Mac. PCs etc. How would you deal with those problems? (8)
- (ii) Describe the various output devices available for personal computers and explain how they may be used in multimedia production and delivery. (8)

Or

- (b) (i) Compare and contrast MIDI and digital audio. (8)
 - (ii) Discuss the skill set needed to develop a multimedia project. Also describe how this is different from the other skill sets. (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) Design a Huffman code and find average length for a source that puts out Letters from an alphabet $A = \{a_1, a_2, a_3, a_4, a_5\}$ with $P(a_1) = P(a_3) = P(a_4) = 0.1$, $P(a_2) = 0.3$ and $P(a_5) = 0.4$. (8)
- (ii) Describe dynamic Huffman code for the same output source with the above probabilities. (8)

Or

- (b) (i) Generate arithmetic code for the sequence 1233 with $cdf F_x(1) = 0.8$, $F_x(2) = 0.82$ and $F_x(3) = 1$. (8)
 - (ii) Explain in detail about LZW algorithm. (8)
14. (a) Explain the network architecture and protocols supporting the functionality of VOIP networks. (16)

Or

- (b) Give a detailed note on :
 - (i) CODEC methods. (8)
 - (ii) VOIP applications and its current status. (8)
15. (a) (i) Describe the different scheduling mechanisms suitable for multimedia systems with suitable diagrams. (8)
- (ii) Give an overview of integrated services. (8)

Or

- (b) (i) Explain the policing mechanisms adopted in multimedia networks with necessary diagrams. (8)
- (ii) Write a detailed note on differentiated services. (8)