Reg. No.

Question Paper Code : 51421

B.E/B.Tech. DEGREE EXAMINATION, MAY/JUNE 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. Compare serif and sanserif font.

2. How are GIF images generated ?

3. If the sampling frequency is 1.5 times the true frequency then what is the alias frequency ?

4. Write down the basic principle of vector quantization technique.

5. Define entropy encoding.

6. What are the advantages of adaptive Huffman coding over Huffman coding ?

7. List the challenges of VOIP.

8. Enumerate the equipments needed for IP enabled voice transfer.

9. Is there any advantage in combining RTP and RTSP protocol ? Why ?

10. Define latency.

PART – B (5 × 16 = 80 Marks)

11. (a) (i) With the aid of a diagram, explain the term interlaced scanning and progressive scanning in detail. (8)

    (ii) Differentiate MIDI and Digital audio. (8)

OR

(b) (i) Explain any two animation techniques with an example. (8)

    (ii) Discuss on the text representation techniques. (8)

12. (a) (i) The LPC – 10 speech coders quality deteriorates rapidly with strong background noise. Discuss why MELP works better in the same noisy condition ? (8)

    (ii) Explain the process of intra frame and inter frame predictive coding in H.261 algorithm. (8)

OR

(b) (i) How is motion compensation performed in MPEG 4 coding ? (8)

    (ii) Explain the operation of channel vocoders. (8)

13. (a) (i) Let a simple dictionary contain the following string with their respective codes.

String	Code
A	1
B	2
C	3

Now if the input string is ABAABBABCABABBA, how does the LZW compression algorithm work ? (8)

    (ii) Explain the GIF interlaced mode of compression. (8)

OR

(b) (i) The symbol probability table is given below. Write the code word for CAEE$ using Arithmetic Encoding scheme. (8)

Symbol	Probability
A	0.2
B	0.1
C	0.2
D	0.05
E	0.3
F	0.05
$	0.1

(ii) Identify the five main stages associated with the baseline mode of operation of JPEG and give a brief description of each stage. (8)

14. (a) For VoIP to be a realistic replacement for standard public switched telephone network (PSTN) telephony services, customers need to receive the same quality of voice transmission they receive with basic telephone services. How is this achieved? Explain with various quality of service parameters. (16)

OR

(b) Compare and contrast H.323 and SIP protocols in detail with respect to complexity, reliability, message encoding, scalability and address resolution. (16)

15. (a) (i) How will you classify multimedia applications based on QOS parameters ? (8)

(ii) Explain the various bit rates ATM forum supports. (8)

OR

(b) Explain the various broadcast schemes for video on demand scenario in detail. (16)