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**Question Paper Code : 52900**

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Eighth Semester

Electronics and Communication Engineering

EC 6018 — MULTIMEDIA COMPRESSION AND COMMUNICATION

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define multimedia.
2. What are the types of video signals?
3. Name the three features that determine the perception of the ear.
4. What is the functionality of loop filter in H.261?
5. How will you differentiate a typeface from a font?
6. Differentiate fixed length from variable length code.
7. Name any two access service signaling protocols of VoIP.
8. Why IP telephony is important?
9. What is Round Robin scheduling?
10. Give the reservation styles in RSVP.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Describe briefly about the use of multimedia in business. (5)  
(ii) Explain any four popular image file formats. (8)

Or

- (b) (i) Describe the use of colors and palettes in multimedia. (8)  
(ii) Write a brief note on ASCII character set. (5)

12. (a) Draw and explain the blocks in ADPCM encoder and decoder. (13)

Or

- (b) (i) Discuss about error resilience techniques. (5)  
(ii) Explain MPEG with a neat sketch. (8)

13. (a) (i) Encode the following data using static Huffman coding and find the efficiency of the code with  $m_1 = 0.4$ ,  $m_2 = 0.15$ ,  $m_3 = 0.15$ ,  $m_4 = 0.15$ ,  $m_5 = 0.15$ . (9)

- (ii) Describe briefly about lossy and lossless compression. (4)

Or

- (b) Draw and explain the baseline sequential JPEG encoding process. (13)

14. (a) (i) Discuss about the components of VoIP systems. (9)  
(ii) Describe the need of SS7. (4)

Or

- (b) (i) Draw and explain the H.323 architecture. (8)  
(ii) State the advantages of SIP over H.323. (5)

15. (a) Name the classes of multimedia networking applications and Explain any one in detail. And also mention the fundamental characteristics of multimedia applications. (13)

Or

- (b) (i) Explain the working of real time protocol (RTP) for multimedia networking applications. (9)  
(ii) Discuss about the limitations of the best effort service. (4)

PART C — (1 × 15 = 15 marks)

16. (a) (i) A digitized video is to be compressed using the MPEG-1 standard assuming the frame sequence of IBBPBBPBBPBBBI..... And average compression ratios of 10:1(I), 20:1(P) and 50:1(B). Derive the average compression ratio, average bit rate that is generated by the encoder for NTSC. (7)

(ii) What is the role of RSVP and Analyze the work flow of RSVP. (8)

Or

(b) (i) Explain with an example arithmetic coding (or) Lempel-Ziv coding. (7)

(ii) Explain with a neat call setup phase how integrated services can be Implemented to achieve the desired QoS. (8)

