C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59410

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Elective

Electronics and Communication Engineering

15UEC910 - MULTIMEDIA COMPRESSION AND COMMUNICATION

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which one of the following resource is not necessarily required on a file server? CO1- R

   (a) Secondary storage (b) Processor (c) Network (d) Monitor

2. Which image files are a lossy format? CO2- R

   (a) GIF (b) MPEG (c) JPEG (d) PNG

3. According to the Nyquist theorem, we need to sample an analog signal _____times the highest frequency. CO3- R

   (a) One (b) Two (c) Three (d) Four

4. The brain of an H.323 protocol is CO4- R

   (a) Terminal (b) Gatekeeper (c) Multicast Unit (d) Gateway

5. SSRC is ____ bits long CO5- R

   (a) 16 (b) 8 (c) 32 (d) 64

PART – B (5 x 3= 15 Marks)

6. Discuss raster scan principle. CO1- U

7. A discrete source emits one of six symbols for every milli seconds. The symbol probabilities are 1/2, 1/4, 1/8, 1/16, 1/32 & 1/32 respectively. Find the source entropy and information rate. CO2- App

8. Illustrate the I,P and B-frames. CO3- U

9. Describe any four functions of RAS signaling in H.323. CO4- U

10. Mention the protocols for real time interactive applications. CO5- U

PART – C (5 x 16= 80Marks)

11.	(a)	(i) Discuss the interactive applications over the internet and entertainment applications of multimedia.	CO1- U	(10)
		(ii) Distinguish the continuous media and block-mode media.	CO1- U	(6)
		Or		
	(b)	Explain the PCM speech technique.	CO1- U	(16)
12.	(a)	Explain the importance of arithmetic encoding algorithm and encode the string with the probabilities of the character "went$". The probabilities are: e=0.3, n=0.3, t=0.2, w=0.1, $=0.1	CO2- App	(16)
		Or		
	(b)	Consider a DMS with seven possible symbols x_i, i=1,2,….7 and the corresponding probabilities are $P(x_1)=0.46$, $P(x_2)=0.3$, $P(x_3)=0.12$, $P(x_4)=0.06$, $P(x_5)=0.03$, $P(x_6)=0.02$ and $P(x_7)=0.01$. Apply Huffman coding procedure to find the codeword and verify the properties of that coding technique. Also calculate its efficiency.	CO2- App	(16)
13.	(a)	Explain in detail about different coding techniques for audio compression.	CO3- U	(16)
		Or		
	(b)	Analyzing the H.261 video encoder and infer the relation to the macroblock and frame formats.	CO3- U	(16)
14.	(a)	Explain in detail about architecture and signaling methods used in H.323. Also mention the protocols used with this.	CO4- U	(16)
		Or		
	(b)	Explain the network architecture of SIP. Also discuss on how call can be established and released in SIP.	CO4- U	(16)
15.	(a)	Explain in detail about RSVP protocol.	CO5- U	(16)
		Or		
	(b)	Explain in detail about different streaming techniques for stored audio thus for making best service.	CO5- U	(16)