CBCS SCHEME

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BEC/BTE613A

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Multimedia Communication

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain : i) Data Network ii) Broadband Multiservice Network in details with suitable figures.	10	L2	CO1
	b.	Explain the communication Modes available to transfer the information stream.	10	L2	CO1
		OR			
Q.2	a.	Explain with the aid of diagram, how a PSTN can support range of multimedia communication applications.	10	L2	CO1
	b.	Explain in Brief interactive applications over internet.	10	L2	CO1
		Module – 2			
Q.3	a.	Illustrate the different types of text data representation.	10	L2	CO2
	b.	Describe the function of Signal Encoder with the associated waveforms.	10	L2	CO2
		OR			
Q.4	a.	Explain Raster –Scan operation with associated waveforms.	10	L2	CO2
	b.	Derive the bit rate and the memory requirement to store each frame that result form digitization of both 525 and 625 line system assuring a 4 : 2:2 format. Also find the total memory required to store a 1:5 hour movie/video.	10	L3	CO2
		Module – 3			
Q.5	a.	Explain in detail each stage of JPEG Encoder with neat diagram.	10	L2	CO3
	b.	Explain Huffman coding procedure for encoding to the given data. " AAAABBCD" calculate the no. of bits to transmit the given data. Obtain the tree derivation.	10	L3	CO3
		OR			
Q.6	a.	Explain in detail Graphic Interchange Format (GIF) compression principles with neat diagram and different scanning orders.	10	L2	CO3
	b.	How the coding operation takes place in arithmetic coding? Consider the transmission of a message comprising a string of characters with probabilities, e = 0.3, n = 0.3, t = 0.2, w = 0.1 and * = 0.1. The word needed to be transmitted is "Went*".	10	L3	CO3
		Module – 4			
Q.7	a.	Discuss the principles of differential pulse code modulation with a neat block diagram.	10	L2	CO3
	b.	Explain principle of linear predicative coding with block schematic.	10	L2	CO3

		OR			
Q.8	**a.**	What are the video compression principles, explain with example frame sequence. i) I and P frames ii) I – P – B frames iii) PB frames	**10**	L2	CO3
	b.	Using block diagram, explain H -261 Video Encoder Principles.	**10**	L2	CO3
		Module – 5			
Q.9	**a.**	With the aid of flow diagram, explain the frame format of token Ring LAN.	**10**	L2	CO4
	b.	Explain the devices commonly used in LAN.	**10**	L2	CO4
		OR			
Q.10	**a.**	Explain the frame format and operational parameters of Ethernet / IEEE802.3.	**10**	L2	CO4
	b.	Explain FDDI Networking components along with physical interface schematics.	**10**	L2	CO4

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