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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Sixth Semester, B.E. - Electronics and Communication Engineering
Semester End Examination; July / Aug. - 2022
Multimedia Communication

Time: 3 hrs   Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Compare different networks in Multimedia Communication and its applications.

CO2: Apply the basic knowledge of digital data processing and representation to Analyze Multimedia information.

CO3: Analyse various compression techniques for different media types and design algorithms.

CO4: Inspect the various standards used in multimedia applications.

CO5: Analyse cloud sharing and retrieval of multimedia information.

<u>*Note*</u>: I) **PART - A** is compulsory. **Two** marks for each question.

   II) **PART - B**: Answer any <u>**Two**</u> sub questions (from a, b, c) for a Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
	I : PART - A	**10**			
I a.	State the different forms of media types.	2	L1	CO1	PO1
b.	Write the aid of diagram describe CIF format.	2	L2	CO2	PO1
c.	Explain the meaning of source encoders and destination decoders relating to compression.	2	L2	CO3	PO1
d.	List the reasons why standards are necessary.	2	L1	CO4	PO1
e.	Discuss the significance of user generated media content sharing.	2	L2	CO5	PO2
	II : PART - B	**90**			
	UNIT - I	**18**			
1 a.	With necessary diagrams explain Telephone network components and digital transmission using modems.	9	L2	CO1	PO1
b.	Explain the working on VOD entertainment application.	9	L2	CO2	PO1
c.	Explain QoS parameters of circuit switched network. Drive maximum block size that should be used over a channel which has mean BER probability of 10^{-4}. If probability of a block containing error and hence being discarded is to be 0.1.	9	L3	CO1	PO1
	UNIT - II	**18**			
2 a.	With block diagram and waveforms, explain PCM principles.	9	L2	CO2	PO1
b.	With waveforms, explain quantization procedure. An analog signal has dynamic range of 40 dB. Determine magnitude of the quantization noise relative minimum signal amplitude of the quantizes uses, (i) 6 bits (ii) 10 bits.	9	L3	CO2	PO3
c.	Derive the bit rate and the memory requirements to store each frame that result from the digitization of both 525 and 625 line system assuming 4:2:2 format. Also find total memory required store 1.5 hour movie/video.	9	L3	CO2	PO3

	UNIT - III	**18**			
3 a.	Explain image and block preparation process in JPEG encodes of DCT on blocks.	9	L2	CO3	PO2
b.	Explain H261 video compression standard with encoding formats.	9	L2	CO3	PO2
c.	Explain Huffman coding algorithm. Develop coding tree for message HELLO using Huffman algorithm. Find out average number of bits.	9	L3	CO3	PO2
	UNIT - IV	**18**			
4 a.	Explain the structure of H 323 interpersonal communication standard for packet-switched networks.	9	L2	CO4	PO2
b.	Explain information browsing with the aid of black diagram.	9	L2	CO4	PO2
c.	Explain MPEG1 encoder / decoder and output bit stream format, with the aid of block diagram.	9	L2	CO4	PO2
	UNIT - V	**18**			
5 a.	Discuss the characteristics of YouTube video.	9	L2	CO5	PO2
b.	Explain coordinating line streaming and outline storage.	9	L2	CO5	PO2
c.	Explain cloud assisted media sharing.	9	L2	CO5	PO2

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