

**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; August - 2023****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***Note: I) PART - A is compulsory. Two marks for each question.****II) PART - B: Answer any Two 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			
1 a.	What is Multimedia? Mention its application.	2	L1	CO1	PO1
b.	Differentiate unformatted and formatted text.	2	L2	CO2	PO1
c.	List the difference between lossy and lossless compression techniques.	2	L2	CO3	PO3
d.	Explain the role of CGI scripts relating to e commerce over internet.	2	L1	CO4	PO1
e.	List two important social media services used in multimedia information sharing.	2	L2	CO5	PO2
II : PART - B		90			
UNIT - I		18			
2 a.	With a neat diagram, explain, i) Broadcast Television Network ii) Integrated Service Digital Network	9	L2	CO1	PO1
b.	Define network quality of service parameters. Explain packet switched network parameters.	9	L2	CO1	PO1
c.	With a neat diagram, explain multipoint conferencing modes of operations.	9	L3	CO1	PO2
UNIT - II		18			
3 a.	With schematic diagram, explain the operation of PCM signal encoding and decoding principles.	9	L2	CO2	PO1
b.	Explain in detail raster scan principles used in TV sets	9	L2	CO2	PO2
c.	With the aid of a diagram, explain color image capture using camera and also RGB signal generation methods for the above	9	L3	CO2	PO2

UNIT - III**18**

- 4 a. With the help of neat diagram, explain ADPCM signal encoder and decoder. 9 L2 CO3 PO2
- b. Explain image block preparation and forward DCT in JPEG image format with neat diagrams. 4+5 L3 CO3 PO3
- c. Explain basic principle of H.261 video encoder format. 9 L3 CO3 PO3

UNIT - IV**18**

- 5 a. Explain briefly the structure of packet mode networks for interpersonal communications in multimedia. 9 L2 CO4 PO2
- b. Explain the working of email over internet and the protocol stack to support and mail over internet. 9 L2 CO4 PO2
- c. A digitized video is to be compressed using MPEG-1 standard. Assuming a frame sequence of compression ratio of 10:1 (I), 20:1 (P) and 50:1 (B). Drive the average bit rate that is generated by encoder for NTSC digitization format with $y = 352 \times 240$ and $C_b, C_r = 176 \times 120$. 9 L2 CO4 PO2

UNIT - V**18**

- 6 a. Discuss the characteristics of you tube video. 9 L2 CO5 PO2
- b. With the help of a neat diagram, discuss peer to peer sharing in multimedia information sharing 9 L2 CO5 PO2
- c. Define cloud computing. Explain cloud service model with help of diagram. 9 L2 CO5 PO2

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