



# CBCS SCHEME

18EC743

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2023 Multimedia Communication

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain broadcast television network and ISDN. (10 Marks)  
b. Explain the concept of speech only in Interpersonal Communication. (10 Marks)

OR

- 2 a. Explain the interactive applications over the internet. (10 Marks)  
b. With neat diagram, explain the modes of communication. (10 Marks)

### Module-2

- 3 a. An analog signal has a dynamic range of 40 dB. Determine the magnitude of quantization noise relative to minimum signal amplitude if quantizer uses (i) 6-bits (ii) 10-bits. (10 Marks)  
b. With an example, explain formatted text and hyper text. (10 Marks)

OR

- 4 a. Derive the time to transmit the following digitized image at both 64 kbps and 1.5 Mbps:  
(i)  $640 \times 480 \times 8$  – VGA compatible image (10 Marks)  
(ii)  $1024 \times 768 \times 24$  – SVGA compatible image (10 Marks)  
b. Explain in brief the concept of PCM speech. (10 Marks)

### Module-3

- 5 a. Explain the concept of run-length coding and statistical encoding. (10 Marks)  
b. Explain GIF and TIFF format. (10 Marks)

OR

- 6 a. Explain IP multicast and RSVP protocol. (10 Marks)  
b. With neat diagram, explain JPEG encoder. (10 Marks)

### Module-4

- 7 a. With relevant figure, explain DPCM. (10 Marks)  
b. Write short note on:  
(i) Sensitivity of ear (ii) Frequency masking (iii) Temporal masking (10 Marks)

OR

- 8 a. Explain H.261 video encoder with a neat diagram. (10 Marks)  
b. Explain the coding principles of MPEG-4. (10 Marks)

### Module-5

- 9 a. Explain the frame-format and operational parameters of Ethernet/IEEE 802.3. (10 Marks)  
b. Explain the physical and MAC sub-layer of LAN protocol. (10 Marks)

OR

- 10 a. Write short note on ARP and RARP. (10 Marks)  
b. With neat diagram, explain the principles of resource reservation protocol. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg.  $42+8=50$ , will be treated as malpractice.