
MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (INFORMATION TECHNOLOGY / COMPUTER AND COMMUNICATION ENGINERRING) MAKEUP EXAMINATIONS, JANUARY 2017

SUBJECT-PROGRAM ELECTIVE-IV: MULTIMEDIA COMMUNICATIONS

[ICT 435]

REVISED CREDIT SYSTEM
(02/01/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ANY FIVE FULL** questions.
- Missing data if any, may be suitably assumed.

1A.	Explain the speech recognition system with a neat diagram.	**5**
1B.	Consider the textual sequence "aaaaaaaaaccfffffffffddddfffffff". Compress the textual sequence and compare the compression of the textual sequence when applying following compression algorithms: i) Run-Length Coding ii) Shannon Fano Coding	**3**
1C.	Explain main properties of multimedia system.	**2**
2A.	Write LZW encoding and decoding algorithm, encode and decode the string "**SOLOLOLLOSSLESS"** using the LZW.	**5**
2B.	Why DCT is effective in JPEG encoding? List out the observations which justify the effectiveness of DCT.	**3**
2C.	What is the importance of Dithering? Specify the main idea used in dithering.	**2**
3A.	Consider Arithmetic coding with p(a) = 0.5, p(b)=0.3, p(g) = 0.2 and consider a word that has the encoded value 0.64 and length of the word is 3. What is the encoded word? Show the steps as you decode.	**5**
3B.	Write a note on i) I frame coding ii) P frame coding iii) B frame coding.	**3**
3C.	What is the entropy of rolling two dice.	**2**
4A.	Apply 1D-DCT for the data given below. 50, 100, -5, 18, -24, 32, 10, 75	**5**
4B.	Differentiate between EDF and Rate Monotonic algorithm.	**3**
4C.	Differentiate between Huffman coding and Adaptive Huffman coding.	**2**
5A.	Explain VOP based coding used in MPEG4.	**5**

5B.	Why we need RTCP? Explain different RTCP packets.	**3**
5C.	What is QoS? List out different parameters used to measure quality of service of multimedia transmission? Explain each one of them.	**2**
6A.	With a neat diagram explain RTP header format.	**5**
6B.	Encode the following data using lossless predictive encoding. 100, 150, 200, 125, 250, 175, 105, 115, 225	**3**
6C.	Explain inter object and intra object synchronization.	**2**