MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

End Exam Question Paper

Semester - v

Department: Electronics and Communication Engineering

Course/Module Code: ECE /Media

Course Title: VIDEO CODEC AND STANDARD (ECE - 4092) –SET 1

Session: NOV 2023 **Date:06 -12-2023**

Table 1: Distribution of Marks against Course Learning Outcomes

CLO Statements	Course Learning Outcome	AHEP 4	Marks
	CLOxxxx.1		
Multimedia Communication and Networking	CO1	1,2,18	13
Video Processing and Histogram Equalization	CO2	1,2,18	15
Compression Codes	CO3	1,2,18	12
TV Standards and coding standards	CO4	1,2,18	10

FIFTH SEMESTER BTECH. (E & C/MEDIA) DEGREE END SEMESTER EXAMINATION
Nov/Dec 2023
SUBJECT: (ECE 4092), SET-1

TIME: 3 HOURS **MAX. MARKS: 50**

Instructions to candidates
- Answer **ALL** questions.
- Missing data may be suitably assumed.

Q. No.	Questions	M*	C*	A*	B*
1A.	Explain TCP/IP layers with diagram in brief.	5	1	**1,2,18**	1
1B.	Explain the difference LAN, WAN and MAN	3	1	1,2,18	2

1C.	Describe advantages of compression	2	3	1,2,18	1
2A.	Form Histogram Equalization of the following image. K = 0 1 2 3 4 5 6 7 N_k = 0 14 15 12 0 0 0 0	5	2	1,2,18	3
2B.	Do Shannon Fano coding for the following pixel occurring with probability 0.5, 0.2 ,0.1, 0.1, 0.1 Determine efficiency.	3	4	1,2,18	2
2C.	Explain how compression is achieved using Psycho visual Redundancy	2	4	1,2,18	1
3A.	What are the different types of Image Compression and Video Compression Standards like JPEG, MPEG, H standards and their application	5	3	1,2,18	2
3B.	What are the advantages of averaging in image Processing? Explain with example.	3	2	1,2,18	2
3C.	A Signal is 5KHz ,512 level quantization What is the bit rate	2	2	1,2,18	3
4A.	What is Huffman Coding for following pixels and find their average length and Entropy The probabilities given are 0.5, 0.25, 0.125, 0.125.	5	3	1,2,18	3
4B.	What is Persistence of Vision. How many Frames are used by NTSC SECAM and PAL. Why odd and even Frames are done.	3	4	1,2,18	2
4C.	Explain Run Length Coding with example	2	4	1,2,18	1
5A.	What are the different Topologies in network What are the advantage and disadvantage of each	5	1	1,2,18	2
5B.	Describe how adding subtracting multiplying and dividing effects the image with example.	3	2	1,2,18	1
5C.	What are the different methods of Image Processing Discus Briefly	2	2	1,2,18	1

M*--Marks, C*--CLO, A*--AHEP LO, B* Blooms Taxonomy Level