Duration: 3hrs   **Max Marks: 80**

N.B. : (1) Question No 1 is Compulsory.
    (2) Attempt any three questions out of the remaining five.
    (3) All questions carry equal marks.
    (4) Assume suitable data, if required and state it clearly.

Q.1		Write short notes on	[20]
	A	Run Length Coding	
	B	Unitary Transform	
	C	Digital video processing	
	D	Sampling and Quantization	

Q.2	A	What do you mean by point operations? Explain any three point operations in detail	[10]
	B	Explain in detail DFT and Inverse DFT	[10]

Q.3   A   Explain Histogram Equalization. Equalize the following histogram. Plot   [10]
the Input histogram, transformation function and output histogram for
the 3bpp image given below:

0	1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	2	1	1	1
2	2	2	2	2	2	0	3	3	1
4	4	4	4	7	7	7	3	3	1
4	4	4	4	7	7	7	3	3	1
5	5	5	5	5	6	7	3	3	1
5	5	5	5	5	7	7	3	3	1
5	5	5	5	5	7	7	3	3	1
5	5	5	5	5	7	7	3	3	1
5	5	5	5	5	7	7	3	3	1

B   What do you understand by Image Compression? Differentiate   [10]
between Lossy and Lossless compression.

Q.4	A	Explain edge detection using Sobel and Prewitts mask	[10]
	B	Explain the split and merge technique in detail	[10]

Q.5	A	Explain in detail Sharpening filters	[10]
	B	Explain redundancy and fidelity criteria with respect to Image Compression	[10]

Q.6		Write short notes on	[20]
	A	Video File formats and applications	
	B	Hadamard Transform	
	C	Image segmentation	
	D	Neighbourhood processing	

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