Q. P. Code: 50908

(Time: 3 Hrs) [Total Marks 80]

N.B : 1. Question no 1 is compulsory, solve any 3 questions from remaining 5 questions.
2. Assume Suitable data whenever necessary.
3. Figures in the right indicate full marks.

Q 1)	a)	What is 4,8 and m-connectivity between pixels explain with example	5
	b)	Explain seperability property of 2-D DFT?	5
	c)	Explain Morphological Thickning operation with example?	5
	d)	Explain Homomorphic transform	5
Q 2)	a)	Explain fundamental steps in digital image processing?	10
	b)	Explain Histogram specification	10
Q 3)	a)	Explain the following frequency domain filters (1) Ideal Low Pass Filter (2) Butterworth High pass filter	10
	b)	Show that the median filter is not a Linear Filter	10
Q 4)	a)	Explain bit plain coding	10
	b)	Describe the basic principle of detecting the following in an image (i) Point's (ii) Lines (iii) Edges Give a 3x3 mask for the same.	10
Q 5)	a)	Perform LZW encoding and decoding for the following sequence abababba	10
	b)	Explain any two boundary descriptors	10
Q 6)		Write short notes on(Any four) a) Digital watermarking b) Content based image retrieval c) Hough Transform d) Log Transform and Identity transform and their application e) Hit and Miss transform	20