Code No: **R41043** **R10** **Set No. 1**

IV B.Tech I Semester Supplementary Examinations, Oct/Nov - 2018

DIGITAL IMAGE PROCESSING

(Common to Electronics and Communications Engineering and Electronics and Computer Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	Describe the components of an image processing system with neat block diagram.	[8]
	b)	Explain discrete cosine transform with example.	[7]
2	a)	Discuss the smoothing linear filter and order static (non linear) filter.	[8]
	b)	Discuss the concept of histogram matching (specification).	[7]
3	a)	Discuss any two properties of 2-D discrete Fourier transform.	[8]
	b)	Discuss the Butterworth high pass filter and Gaussian high pass filter.	[7]
4	a)	Discuss the various noise models with neat sketch.	[8]
	b)	Discuss the constrained least squares filtering.	[7]
5	a)	Explain basics of full-color image processing.	[8]
	b)	Discuss the color complements, tone and color corrections.	[7]
6	a)	Define the discrete wavelet transform. Write the advantages of wavelet based image processing.	[8]
	b)	Discuss LZW coding with example.	[7]
7	a)	Discuss the erosion and dilation in grayscale morphology.	[8]
	b)	Explain the concepts of hole filling and pruning.	[7]
8	a)	Discuss region splitting and merging.	[8]
	b)	Explain the watershed segmentation algorithm.	[7]