CBCS SCHEME

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BCI515D

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
Image and Video Processing

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Clearly mention the components of an image processing system. Give diagram.	10	L1	CO1
	b.	What is image sensing and acquisition? With appropriate equations, explain the image sampling and quantization.	10	L1	CO1
		OR			
Q.2	a.	What is Digital image processing? Mention atleast 8 examples of fields where Digital image processing used in detail.	10	L1	CO1
	b.	With neat diagram, elucidate the fundamental steps in digital image processing.	10	L1	CO1
		Module – 2			
Q.3	a.	Briefly explain the preliminary concepts in frequency domain. Give background details.	10	L1	CO2
	b.	In detail explain histogram processing. Give necessary equations and diagrams.	10	L1	CO2
		OR			
Q.4	a.	What is special filtering? Give its types. Give intensity transformation functions List.	10	L1	CO2
	b.	In detail explain the following : (i) Sampling (ii) Fourier transform of sampled functions.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain the periodic noise reduction by frequency domain filtering.	10	L2	CO3
	b.	With respect to the Image segmentation, explain the point, Line and edge detection. Clearly show these detections are applied an image segmentation.	10	L3	CO3
		OR			
Q.6	a.	Explain the model of image degradation / restoration process.	10	L2	CO3
	b.	Illustrate how is restoration is performed in the presence of noise only. Give restoration details.	10	L3	CO3
		Module – 4			
Q.7	a.	Define Video processing. Write how buffer data are managed in Video transmission. Give suitable diagram.	10	L3	CO4
	b.	Explain motion detection in detail with neat diagram.	10	L2	CO4
		OR			
Q.8	a.	Explain Spatio-temporal sampling structures. Explain its types.	10	L2	CO4

	b.	How are sampling structure conversion helps video processing to maintain its accuracy and clarity to display. Explain.	10	L3	CO4
		Module – 5			
Q.9	a.	Explain Koinescope Moire removal and scratch removal.	10	L2	CO5
	b.	How are video enhancement is stable in video processing? Draw and explain with neat diagram.	10	L3	CO5
		OR			
Q.10	a.	Write short notes : (i) Spatio-temporal noise filtering. (ii) Coding artifact reduction.	10	L3	CO5
	b.	How blotch detection used to removal of video enhancement to gain video quality. Give the steps.	10	L3	CO5

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