CBCS SCHEME

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BAI515A

Fifth Semester B.E./B.Tech. Degree Examination, June/July 2026
Computer Vision

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.	What is Computer Vision? And discuss the real world examples of computer vision.	6	L2	CO1
	b.	Compare Diffuse and Specular reflections.	8	L2	CO1
	c.	Explain the histogram equalization.	6	L2	CO1
		OR			
Q.2	a.	Explain image sensing pipeline with block diagram.	6	L2	CO1
	b.	Explain Phong shading model with diagram.	8	L2	CO1
	c.	Explain the linear filtering with example.	6	L2	CO1
		Module – 2			
Q.3	a.	What is guided image filtering? Explain.	6	L2	CO2
	b.	Compare FFT and DCT.	6	L2	CO2
	c.	What are morphological operations explain any two?	8	L2	CO2
		OR			
Q.4	a.	Explain interpolation and decimation of an image.	6	L2	CO2
	b.	Explain two dimensional wavelet decomposition.	6	L2	CO2
	c.	Compare forward and inverse warping algorithm.	8	L2	CO2
		Module – 3			
Q.5	a.	Explain the image degradation and restoration process.	10	L2	CO3
	b.	What is thresholding? Explain basic global thresholding with example.	10	L2	CO3

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		OR			
Q.6	**a.**	Explain Gaussian and Gamma noise model.	**10**	**L2**	**CO3**
	b.	Compare segmentation by region growing and region splitting and merging.	**10**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	Explain primary and secondary colors of light and pigments.	**6**	**L2**	**CO4**
	b.	Explain CMY and CMYK color models.	**8**	**L2**	**CO4**
	c.	Explain intensity slicing and color coding.	**6**	**L2**	**CO4**
		OR			
Q.8	**a.**	Explain pseudocolor image processing with neat block diagram.	**6**	**L2**	**CO4**
	b.	Explain how color is used in image segmentation.	**8**	**L2**	**CO4**
	c.	How you convert colors from HSI to RGB?	**6**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Explain erosion and dilation with example.	**8**	**L2**	**CO5**
	b.	How chain codes are used to represent boundary?	**6**	**L2**	**CO5**
	c.	Explain importance of structural patterns.	**6**	**L2**	**CO5**
		OR			
Q.10	**a.**	Illustrate minimum distance classifier for two classes in 2D.	**8**	**L2**	**CO5**
	b.	Explain thinning and thickening in morphological image processing.	**6**	**L2**	**CO5**
	c.	Explain signatures and how these are generated.	**6**	**L2**	**CO5**

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