



CBCS SCHEME

BCS613B

Sixth 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.	Define Computer Vision. List the real-world and consumer-level applications of computer vision.	6	L1	CO1
	b.	What is photometric image formation? Explain reflectance and shading with example.	8	L2	CO1
	c.	Describe Sampling and Aliasing with respect to image acquisition and transmission.	6	L2	CO1
OR					
Q.2	a.	Write a note on point operators.	10	L1	CO1
	b.	What you mean by Linear filtering? Explain band pass and steerable filters.	6	L2	CO1
	c.	Write a note on Color Cameras.	4	L1	CO1
Module – 2					
Q.3	a.	Differentiate between Median filtering and bilateral filtering.	4	L2	CO2
	b.	With example, explain distance transform using two pass raster algorithm.	8	L2	CO2
	c.	Define Fourier transforms. Explain filter response $h(x)$ when convolved with $s(x)$ with respect to one-dimensional and two-dimensional fourier transforms.	8	L2	CO2
OR					
Q.4	a.	Explain pyramid interpolation and decimation.	10	L2	CO2
	b.	With example, describe Mesh-based warping.	10	L2	CO2
Module – 3					
Q.5	a.	Describe the various sources of noise models and list the probability density functions for various noises.	8	L3	CO3
	b.	What is spatial filtering? List and explain mean filters used to restore image.	8	L2	CO3
	c.	How isolated points are detected? Explain.	4	L2	CO3

OR					
Q.6	a.	Briefly explain optimum notch filtering.	10	L2	CO3
	b.	Write a note on Canny Edge detector.	10	L2	CO3
Module – 4					
Q.7	a.	Explain converting colors from RGB to HIS and HIS to RGB models.	10	L2	CO4
	b.	Explain Color complements, Color slicing Tone and Color corrections.	10	L2	CO4
OR					
Q.8	a.	Write a note on Color Edge detection.	10	L2	CO4
	b.	Explain Color image Smoothing and Sharpening.	10	L2	CO4
Module – 5					
Q.9	a.	Briefly explain erosion and dilation.	10	L2	CO5
	b.	Write a note on boundary extraction and hole filling.	10	L2	CO5
OR					
Q.10	a.	Explain boundary following (tracing) algorithm used for pre processing.	10	L2	CO5
	b.	Write a note on pattern vectors and structural patterns.	10	L2	CO5
