Code No.: CS864PE	R20	H.T.No.			8	R					

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–II–Semester End Examinations (Regular) – April - 2025
COMPUTER VISION
(CSE)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	What is the role of thresholding in image processing?	[2M]
b)	How does noise affect edge detection?	[2M]
c)	What is the role of Fourier descriptors in object recognition?	[2M]
d)	Why is occlusion handling important in shape analysis?	[2M]
e)	What is the basic concept of the Hough Transform?	[2M]
f)	What is spatial matched filtering used for?	[2M]
g)	Define translational alignment in motion tracking.	[2M]
h)	What is volumetric representation in 3D object recognition?	[2M]
i)	What is human gait analysis?	[2M]
j)	What are particle filters used for in computer vision?	[2M]

PART-B **(50 Marks)**

2.	Describe edge detection techniques and their applications in image processing.	[10M]
	OR	
3.a)	Explain about corner and interest point detection.	[5M]
b)	Explain about edge detection methods and their advantages and disadvantages.	[5M]
4.	Describe boundary tracking procedures and their applications.	[10M]
	OR	
5.	How do active contours help in shape recognition?	[10M]
6.	Describe the foot-of-normal method for line localization.	[10M]
	OR	
7.	Explain about Hough Transform-based circular object detection.	[10M]
8.	Describe different surface representations used in 3D object recognition.	[10M]
	OR	
9.	Explain the importance of triangulation in 3D reconstruction.	[10M]
10.	Compare different foreground-background separation techniques in surveillance.	[10M]
	OR	
11.	Discuss how active appearance models used for face detection.	[10M]

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