

**K. J. Somaiya Institute of Technology, Sion, Mumbai-22**  
**(Autonomous College Affiliated to University of Mumbai)**

Nov – Dec 2025-26

(B. Tech / M. Tech.) Program: Information Technology Scheme III  
 Regular: TY Semester: V

Course Code: **ITDLC 5043** and Course Name: **Computer Vision**

Date of Exam: 01/12/2025

Duration: 02.5 Hours

Max. Marks: 60

**Instructions:**

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
<b>Q 1</b>	<b>Solve any two questions out of three: (05 marks each)</b>	10		
a)	Explain co-occurrence matrix with given example, input image (0, 0,1, 1: 0,0,1,1 : 0,2,2,2 : 2,2,3,3).		CO1	U
b)	Explain binary shape analysis concept.		CO2	U
c)	Explain Line Detection concept in computer vision.		CO3	U
<b>Q 2</b>	<b>Solve any two questions out of three: (05 marks each)</b>	10		
a)	Describe Projection Schemes for 3D vision.		CO4	U
b)	Explain Triangulation motion detection		CO5	U
c)	Describe Face Recognition application.		CO6	U
<b>Q.3</b>	<b>Solve any two questions out of three. (10 marks each)</b>	20		
a)	Explain thickening and thinning methods for binary shape analysis.		CO2	U
b)	Explain distance functions for the pixels.		CO2	U
c)	Explain RANSAC algorithm for Straight Line Detection.		CO3	U
<b>Q.4</b>	<b>Solve any two questions out of three. (10 marks each)</b>	20		
a)	Describe Shape from Shading (SFS) algorithm for 3D vision.		CO4	U
b)	Explain Bundle Adjustment algorithm in motion detection		CO5	U
c)	Explain Specific Examples on Surveillance.		CO6	U