Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – MARCH 2026

Date: 10 – 03- 2026 **Time:** 02:00pm – 03:30pm

School: SOIS	**Program**: Bachelor of Computer Application	
Course Code: CSA3036	**Course Name:** Computer Vision	
Semester: VI	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**56**	**34**			

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	Define Computer Vision and mention any two real-world applications.	**2 Marks**	**L1**	**CO1**
2	What is the role of quantization in image digitization?	**2 Marks**	**L1**	**CO1**
3	State any two-pixel relationships used in digital image processing.	**2 Marks**	**L1**	**CO1**
4	What is image smoothing? Name one smoothing technique.	**2 Marks**	**L1**	**CO2**
5	What is edge detection? Mention one edge detection operator.	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	Explain the history and applications of Computer Vision in detail.	**10 Marks**	**L2**	**CO1**
		Or			
7.	**a.**	Describe the pinhole camera model and explain image formation with neat diagrams.	**10 Marks**	**L2**	**CO1**

8.	**a.**	Explain sampling and quantization in image digitization. Discuss the effect of resolution.	**10 Marks**	**L2**	**CO1**
		Or			
9.	**a.**	Explain different color image models: RGB, BGR, Grayscale, and HSV.	**10 Marks**	**L2**	**CO1**

10.	**a.**	Explain spatial filtering techniques used for image enhancement with examples.	**10 Marks**	**L2**	**CO1**
		Or			
11.	**a.**	Describe pixel brightness transformations and geometric transformations.	**10 Marks**	**L2**	**CO2**

12.	**a.**	Explain noise models in digital images and discuss smoothing and blurring techniques.	**10 Marks**	**L3**	**CO2**
		Or			
13.	**a.**	Write an algorithm and explain the steps involved in implementing Canny edge detection using OpenCV.	**10 Marks**	**L3**	**CO2**