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**PRESIDENCY UNIVERSITY
BENGALURU**

SET-A

SCHOOL OF ENGINEERING

END TERM EXAMINATION –MAY/JUNE 2024

Semester : Semester IV-2023-24 – BCA - 2022

Date : JUNE 06-2024

Course Code : CSA3035

Time : 9:30 AM-12:30 PM

Course Name : Image Processing

Max Marks :100

Program : BCA

Weightage : 50%

- Note:**
- 1. Answer ALL 5 FULL Questions.**
 - 2. Each Full Question carries 20 Marks**
 - 3. Scientific and non-programmable calculator are permitted.**
 - 4. Do not write any information on the question paper other than Roll Number.**

- 1.a. Illustrate any four steps of color image processing [Knowledge] (C01) (04 Marks)
- 1.b. Illustrate morphological Processing with suitable example [Comprehension] (C01) (06 Marks)
- 1.c. Explain the process involved in image representation [Application] (C01) (10 Marks)
- or**
- 2.a. Compute the difference between Image restoration and image Enhancement [Knowledge] (C01) (04 Marks)
- 2.b. Explain the applications of Image Processing [Comprehension] (C01) (06 Marks)
- 2.c. Describe the key stages of Digital image Processing along with suitable diagram [Application] (C01) (10 Marks)
- 3.a. Explain the types of spatial filters [Knowledge] (C02) (04 Marks)
- 3.b. Explain basic grey level transformations techniques [Comprehension] (C02) (06 Marks)
- 3.c. Describe smoothing and sharpening filters [Application] (C02) (10 Marks)
- or**
- 4.a. Explain histogram sliding with suitable diagram [Knowledge] (C02) (04 Marks)
- 4.b. Explain the applications of homomorphic filters [Comprehension] (C02) (06 Marks)

4.c.	a. Explain frequency domain Filters b. State the applications of histogram processing. [Application]	(C02)	(10 Marks)
5.a.	List out any four types of noises [Knowledge]	(C03)	(04 Marks)
5.b.	Explain gaussian noise with suitable equations. [Comprehension]	(C03)	(06 Marks)
5.c.	Illustrate image restoration and degradation Model. [Application]	(C03)	(10 Marks)
OR			
6.a.	Define impulse with its equation [Knowledge]	(C03)	(04 Marks)
6.b.	Illustrate the applications of uniform noise [Comprehension]	(C03)	(06 Marks)
6.c.	Describe the steps involved in the process of Spatial Filtering [Application]	(C03)	(10 Marks)
7.a.	Explain any four steps involved in thresholding [Knowledge]	(C04)	(04 Marks)
7.b.	Explain the applications of image restoration [Comprehension]	(C04)	(06 Marks)
7.c.	Explain point line and edge detection process along with its equation [Application]	(C04)	(10 Marks)
OR			
8.a.	list out any four applications of psuedo color modelling [Knowledge]	(C04)	(04 Marks)
8.b.	Explain color models in image processing [Comprehension]	(C04)	(06 Marks)
8.c.	Explain segmentation strategy [Application]	(C04)	(10 Marks)
9.a.	Describe any four steps involved in image degradation process [Knowledge]	(C05)	(04 Marks)
9.b.	Illustrate psuedo color image processing steps [Comprehension]	(C04)	(06 Marks)
9.c.	Explain the types of threshold [Application]	(C05)	(10 Marks)
OR			
10.a.	Illustrate any four steps involved in object reconition [Knowledge]	(C05)	(04 Marks)
10.b.	Explain the frequency noise with equation [Comprehension]	(C03)	(06 Marks)
10.c.	Explain the applications of region based segmentation [Application]	(C05)	(10 Marks)