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Total No. of Pages : 02

Total No. of Questions : 09

MCA (Sem.-4)
DIGITAL IMAGE PROCESSING
Subject Code : PGCA1963
M.Code : 91860
Date of Examination : 20-05-2023

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION - B & C** have **FOUR** questions each.
3. Attempt any **FIVE** questions from **SECTION B & C** carrying **TEN** marks each.
4. Select atleast **TWO** questions from **SECTION - B & C**.

SECTION-A

I. Write short notes on :

- a) Define Digital Image.
- b) Define Image Coordinate System.
- c) List the various Geometrical Transformations.
- d) Define Entropy.
- e) Define Fourier transformation pair.
- f) What is the purpose of Image averaging?
- g) Give the relationship of Gamma noise.
- h) What is image compression?
- i) Define Multivariable thresholding.
- j) Define Gradient operator.

SECTION-B

2. Explain the elements of digital image processing system with proper diagram.
3. What is histogram? Explain histogram equalization.
4. What are image sharpening filters? Explain the various types of it. Also list some of its explications.
5. Explain types of grey level transformation, used for image enhancement.

SECTION-C

6. Explain Image Segmentation techniques that are based on finding regions.
7. What is image compression? Explain any four variable length coding compression schemes.
8. Discuss in detail Image restoration and degradation process.
9.
 - a. Define global thresholding. Write algorithm to calculate global threshold.
 - b. Explain Wavelet packet analysis.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.