Total No. of Questions : 09

Total No. of Pages : 02

B.Tech. (CSE) (Sem.–6) DIGITAL IMAGE PROCESSING Subject Code : BTCS-610-18 M.Code : 79253 Date of Examination : 12-01-2023

Time: 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

- 1. Write briefly :
 - a) What are the main applications of Digital image processing?
 - b) What is the difference between Zooming and Scaling?
 - c) Define bit plan and bit plan slicing.
 - d) Define Pixel.
 - e) What do you mean by noisy image?
 - f) Define histogram equalization.
 - g) What is the importance of segmentation?
 - h) What is erosion and dilation?
 - i) Define the various types of images.
 - j) What is contrast stretching?

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SECTION-B

- 2. Explain image sampling and quantization with example.
- 3. Explain distance measures between pixels.
- 4. Describe :
 - a) Butterworth High Pass Filter
 - b) Gaussian High Pass Filter.
- 5. Explain the following two properties of 2D-DFT:
 - a) Convolution
 - b) Correlation
- 6. Explain minimum mean square error (Wiener) filtering with example.

SECTION-C

- 7. What is image compression? Discuss Huffman coding with example.
- 8. a) What do you mean by Feature Extraction in image processing? How is it useful?
 - b) What is the role of image histogram in digital image processing?
- 9. Describe region based segmentation with the help of example.

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