

20P452

(Pages: 1)

Name:

Reg No:

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2022

(CBCSS-PG)

(Regular/Supplementary/Improvement)

CC19P CSS4 E04a – DIGITAL IMAGE PROCESSING

(Computer Science – Elective Course)

(2019 Admission onwards)

Time: Three Hours

Maximum: 30 Weightage

PART A

Answer any **four** questions. Each question carries 2 weightage.

1. Define Image and Digital image.
2. What is Discrete Fourier Transform (DFT)?
3. Define Hotelling Transform.
4. Define Spatial Filtering.
5. Explain about a brief model of Image Degradation/Restoration Process.
6. What is Thresholding?
7. Comprehend the need for Data Compression.

(4 × 2 = 8 Weightage)

PART B

Answer any **four** questions. Each question carries 3 weightage.

8. Differentiate between Spatial and Gray Level Resolution.
9. Specify the properties of 2D Fourier Transform.
10. Explain the basic steps of filtering in the frequency domain with a neat diagram.
11. Explain the different types of Noise Models.
12. Explain the Homomorphic filtering approach for image enhancement.
13. Describe Transform Coding with a neat diagram.

(4 × 3 = 12 Weightage)

PART C

Answer any **two** questions. Each question carries 5 weightage.

14. Explain Image sampling and quantization.
15. Discuss region-based segmentation in detail.
16. Describe Lossy and Lossless compression.
17. Explain Huffman coding with example.

(2 × 5 = 10 Weightage)
