ED-636

M.Sc. 3rd Semester
Examination, March-April 2021

COMPUTER SCIENCE

Paper - IV

Digital Image Processing

Time : Three Hours] [*Maximum Marks* : 100
[*Minimum Pass Marks* : 40

Note : Answer any **two** parts from each question. All questions carry equal marks.

Unit-I

1. (*a*) Explain the fundamental steps in Digital image processing with example.

(*b*) Explain the concept of Sampling and Quantization ?

(*c*) Explain Image model and Imaging geometry.

Unit-II

2. (*a*) Explain FFT algorithm and other separable image transforms.

(*b*) What is KL transform ? Explain KL transforms and their properties.

(*c*) Discuss the properties of 2-D Fourier transform with example.

Unit-III

3. (*a*) What is Image enhancements ? Explain the various methods of Image enhancements.

(*b*) Differentiate between Spatial domain enhancement and Frequency domain enhancement.

(*c*) Explain the Least mean squares and Interactive restoration with example.

Unit-IV

4. (*a*) Explain various image compression techniques for reducing the size of images.

(*b*) Differentiate between Error free and Lossy compression with suitable example.

(*c*) Explain the Image segmentation based on various techniques.

Unit-V

5. (*a*) Explain the Representation and Description. Also explain various schemes for representation.

(*b*) Differentiate between boundary descriptons and regional descriptons with example.

(*c*) What is Convolution/Filter back project algorithms ?

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