

333672(33)

BE 6th Semester

Examination April-May 2021

Branch: IT (New Scheme)

Image Processing

Time Allowed : Three Hours

Maximum Marks : 80

Passing Marks : 28

Note-: Part (a) is compulsory and of 2 Marks, Attempt any 2 Questions from (b), (c), (d) of 7 marks each.

Question 1

- (a) Define Image Processing.
- (b) Draw and Explain the image formation Model in digital image processing.
- (c) How Image enhancement can be done in special domain. Explain it.
- (d) Explain canny Edge Detection Method.

Question 2

- (a) Define Frequency domain of Image Processing.
- (b) Explain 2D discrete Fourier transform & inverse discrete Fourier transform of an image?
- (c) Fast Fourier transform useful to reduce processing time in image processing. Justify.
- (d) Write Short Note on : [Any one]
 - (i) Thresholding (ii) Edge linking & boundary detection

Question 3

- (a) What is Dialation & Erosion?
- (b) What are different Logical operations involving in binary image?
- (c) Explain homomorphic filtering method.
- (d) Explain region filtering based and motion based segmentation techniques.

Question 4

- (a) What do you mean by Image Compression?
- (b) Explain Huffman coding method for Coding redundancy.
- (c) What is Lossy compression? Explain DCT.
- (d) Write Short note on : [any two]
 - (i)JPEG (ii) run length coding (iii) video compression.

Question 5

- (a) What do you mean by Boundary descriptors?
 - (b) Explain Projective geometry for image Representation.
 - (c) Explain Correlation based and feature based stereo correspondence.
 - (d) Write short Note on optical flow.
-