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Roll No. : .....

**322740(22)**

**B. E. (Seventh Semester) Examination,  
Nov.-Dec. 2021**

**(New Scheme)**

**(CSE, IT Engg. Branch)**

**DIGITAL IMAGE PROCESSING**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Attempt all the questions. Each question has four part (a), (b), (c) and (d). Part (a) is compulsory from each question. Attempt any two parts from (b), (c) and (d) each question.***

**Unit-I**

1. (a) What is Image?

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- (b) What is Image Processing? Explain and highlight the salient function of various building block in digital image processing. 7
- (c) Explore the use of sampling and quantization to form digital images and also demonstrate the basic relationship between pixel. 7
- (d) What is Histogram? Explain with their types and technique for image enhancement. 7

### Unit-II

2. (a) What is Thresholding Method? 2
- (b) What is Fourier Transform? What is its role in image processing? 7
- (c) How the Edge and boundary of object is identified in image? 7
- (d) What is Segmentation? Explain with their type and features. 7

### Unit-III

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3. (a) What is Morphological Technique? 2
- (b) What are the various logical operation involved in image processing? 7
- (c) How the region is filled in image processing technique? 7
- (d) Write short notes on : 7
- (i) Dialation & Erosion
- (ii) Opening & Closing

### Unit-IV

4. (a) What is Image Compression? 2
- (b) Explain the salient feature of Huffman coding approach. 7
- (c) Explain JPEG compression technique. 7
- (d) Write short notes on : 2×3=5
- (i) LZW coding
- (ii) Runlength coding

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**Unit-V**

5. (a) What is Texture? 2
- (b) How the boundary descriptor helps to represent the image? 7
- (c) Explain the correlation based and feature based stereo correspondence method. 7
- (d) Write short notes on : 2×3=5
- (i) Shape number
  - (ii) Projective geometry