

**B.Tech. - VIEP - COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)**

**Term-End Examination**

**June, 2015**

00989

**BICS-024 : DIGITAL IMAGE PROCESSING**

*Time : 3 hours*

*Maximum Marks : 70*

*Note : Attempt any seven questions. All questions carry equal marks.*

1. (a) Draw the block diagram of Digital Image Processing. 5
- (b) Enumerate the main features of mean filter. 5
2. (a) Explain with the help of an example the concept of sampling and quantization. 5
- (b) Explain the Homomorphic filter. 5
3. What is Image Restoration ? Draw and explain the basic block diagram of the restoration process. 10
4. What is morphology ? Explain in detail the following two basic morphology algorithms : 10
- (a) Region Filling
- (b) Convex Hull

5. Explain the following in detail : 10
- (a) Geometric Transformation
  - (b) Stereo Imaging
6. Explain the thresholding approach of segmenting of an image. 10
7. Explain the term Image Segmentation. Also explain the segmentation based on discontinuities and segmentation based on similarities. 10
8. What do you mean by colour space ? Classify them and describe the CMY colour model. 10
9. (a) Compare and contrast the smoothing and sharpening filters. 5
- (b) What do you mean by unsharp and crisping ? Explain with suitable diagram. 5
10. Explain any *two* of the following : 2×5=10
- (a) Region Extraction
  - (b) Gaussian High Pass Filters
  - (c) Line Detection
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