Reg. No. | | | | | | | | | |

CSS 204

II Semester M.Sc. Examination, Sept./Oct. 2022
COMPUTER SCIENCE
Image Processing

Time : 3 Hours Max. Marks : 70

Note : *1) Answer **any five** questions.*
*2) **Each** question carries **fourteen** marks.*

1. a) Explain with block diagram, the basic steps in digital image processing. **8**
   b) Discuss the role of sampling and quantization process in image analysis. **6**

2. a) Explain with plots, any three intensity transformation functions. **9**
   b) Discuss the importance of histogram equalization in image pre-processing. **5**

3. a) Define edge. Discuss the procedure of detecting edges using Laplacian of Gaussian method. **8**
   b) Discuss the procedure of detecting lines in an image using Hough Transform. **6**

4. a) Define segmentation. Discuss split and merge approach of segmentation. **8**
   b) Explain global thresholding and local thresholding with an example. **6**

5. a) Discuss any three methods to represent boundary of an image. **9**
   b) Discuss the different distance metrics that are used for image understanding. **5**

6. a) Define morphology. Discuss how dilation and erosion are useful for image analysis. **8**
   b) Discuss the procedure of watershed segmentation. **6**

7. a) Define image compression. Discuss the basic steps in image compression. **7**
   b) Explain Huffman coding technique used for image compression with an example. **7**

8. a) Discuss, how principal component analysis is used for dimensionality reduction. **8**
   b) Develop a python code to recognize face, given a set of faces using PCA. **6**
