

Time: 3 Hours

Max. Marks: 80

- N.B.:** 1) Question No.1 is **compulsory**.  
2) Attempt any **three** from the remaining **five** questions.  
3) Figures to the right indicate full marks

- Q.1** Write a short note on any four **20**
- a) Vector quantization
  - b) Inverse Filtering
  - c) Digital Camera working principles Brightness
  - d) Properties of 2-D DFT
  - e) Homomorphic filter.
- Q.2** **10**
- a) Describe Image compression standards- JPEG & MPEG. **10**
  - b) Explain Hough Transform in detail. **10**
- Q.3** **10**
- a) What is meant by Discrete Cosine Transform? Explain . **10**
  - b) Describe image averaging Spatial filtering- smoothing filters? **10**
- Q.4** **10**
- a) Explain Image restoration Model in detail. **10**
  - b) What is meant by Handwritten and Printed Character Recognition ? Explain. **10**
- Q.5**
- a) Explain Thresholding Region based segmentation Chain codes in detail.
  - b) Describe Image restoration Model in detail.
- Q.6** **10**
- a) Discuss about classification of image compression schemes **10**
  - b) Explain Vehicle Number Plate Detection and Recognition techniques