



13.b)(i) Explain in detail about the enhancement technique in spatial domain used for images. (8)

(ii) With a neat block diagram and necessary equations, explain about harmonic filtering in detail. (8)

14.a)(i) Explain in detail how a blurring caused by uniform linear motion could be removed. (8)

(ii) Explain with an example, how matching can be performed by using minimum distance classifier. (8)

(OR)

14.b)(i) Draw the Image degradation/restoration model and explain. (4)

(ii) How recognition of shapes is done using artificial neural networks (ANN). Discuss about the type of input, feature extraction and output format for ANN. (12)

15.a)(i) Briefly explain the arithmetic coding method for image compression in detail. (8)

(ii) The symbols and their probabilities are given below. Find the Huffman code for the following eight symbols and also determine the coding efficiency. (8)

| Symbol      | a <sub>1</sub> | a <sub>2</sub> | a <sub>3</sub> | a <sub>4</sub> | a <sub>5</sub> | a <sub>6</sub> | a <sub>7</sub> | a <sub>8</sub> |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Probability | 0.06           | 0.02           | 0.3            | 0.5            | 0.04           | 0.01           | 0.03           | 0.04           |

(OR)

15.b) Write a brief note on the following:

(i) Transform Coding

(ii) MPEG standard

(16)

---