



12. (a) (i) Elaborate on smoothing spatial filters. (8)  
(ii) Explain the concept of homomorphic filtering in detail. (5)

Or

- (b) Compare and contrast Butterworth low and high pass filter, Gaussian low and high pass filter.

13. (a) Describe briefly a model of the image restoration process.

Or

- (b) Explain in detail about the order-statistics filters and adaptive filters.

14. (a) Describe fundamental operation of morphological image processing.

Or

- (b) (i) Discuss watershed segmentation algorithm in detail.

- (ii) Elaborate on dam construction.

15. (a) Explain the method of Huffman coding with an example.

Or

- (b) Describe the various boundary descriptors in detail with a neat diagram.

PART C — (1 × 15 = 15 marks)

16. (a) Evaluate the effectiveness of region splitting and merging techniques for segmenting complex images.

Or

- (b) Design a novel approach for color image enhancement by integrating histogram equalization with adaptive filtering.