Reg. No. : [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

**Question Paper Code: 92032**

M.E. DEGREE EXAMINATION, MAY 2014.

Elective

Computer Science and Engineering

01PCS506-DIGITAL IMAGING

(Regulation 2013)

Duration: Three hours                                        Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Define sampling and quantization.

2. Write a formula of city-block distance.

3. Compare smoothing and sharpending.

4. Draw the block diagram for homomorphic filtering approach for image enhancement.

5. What is meant by Watershed segmentation?

6. State Accumulator cell.

7. What is the use of a scaling function?

8. List out the three basic data redundancies in digital image compression.

9. State the objective of image classification.

10. List out some of the applications of Mosaicing in digital image processing.

PART - B (5 x 14 = 70 Marks)

11. (a)  Explain the fundamental steps used in digital image processing with neat diagram.
                                                                                                          (14)

Or

(b) What is use of colour models? Describe any two colour models in detail. (14)

12. (a) (i) Explain histogram equalization in detail. (7)

     (ii) Explain Discrete Fourier transform and Fast Fourier transform related to image enhancement. (7)

Or

(b) Elaborate the following in smoothing

     i. Gaussian low pass filters. (7)

     ii. Butterworth low pass filters. (7)

13. (a) Explain the following

     (i) Basic Global Threshold. (7)

     (ii) Basic Adaptive Threshold. (7)

Or

(b) Explain about region – based segmentation in detail. (14)

14. (a) (i) Explain Image Pyramids in detail. (7)

     (ii) Explain the various image compression standards. (7)

Or

(b) Describe any two binary Image Compression standards. (14)

15. (a) Briefly discuss the following

     (i) Image Understanding. (7)

     (ii) Video Motion Analysis. (7)

Or

(b) (i) Elaborate Steganography in detail. (7)

     (ii) Write short notes on image fusion. (7)

PART - C (1 x 10 = 10 Marks)

16. (a) What is need for Image Compression Models? Describe it. (10)

Or

(b) Discuss LZW coding with example. (10)

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