

FACULTY OF INFORMATICS

B. E. 3/4 (IT) II-Semester (Old) Examination, December 2009

Subject : Image Processing

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A. Answer any Five questions from Part-B.

Part – A (10 x 2.5 = 25 Marks)

1. List out the components of an Image processing system.
2. Define sampling.
3. Define “noise” of an image.
4. Define Walsh transform.
5. What is color model? List types of color models?
6. What is meant by color slicing?
7. What is histogram processing? Explain.
8. What are the principle logic operations used in image processing? With truth table.
9. List 3-different types for detection at discontinuities.
10. What is pattern class?

Part – B (50 Marks)

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| 11.a) How do you acquire an image? Explain in detail. | 5 |
| b) Define and explain image sliding and image stretching. | 5 |
| 12. Explain an algorithm for FFT with appropriate equations? | 10 |
| 13.a) Explain in detail about RGB color model with appropriate diagrams. | 7 |
| b) Illustrate about CMY and CMYK color models. | 3 |
| 14.a) What is meant by image compression and discuss the source encoder and decoder compression logic with neat diagrams? | 7 |
| b) Give an explanation of Huffman coding. | 3 |
| 15.a) Explain in detail about Dilation and Erosion morphological operations. | 6 |
| b) Give the properties of opening morphological operation. | 4 |
| 16.a) Describe hit-or-miss transformation. | 6 |
| b) Explain how morphological operations can be extended to gray | |