

lib

(REVISED COURSE)
(3 Hours)

B10M

14/12/10

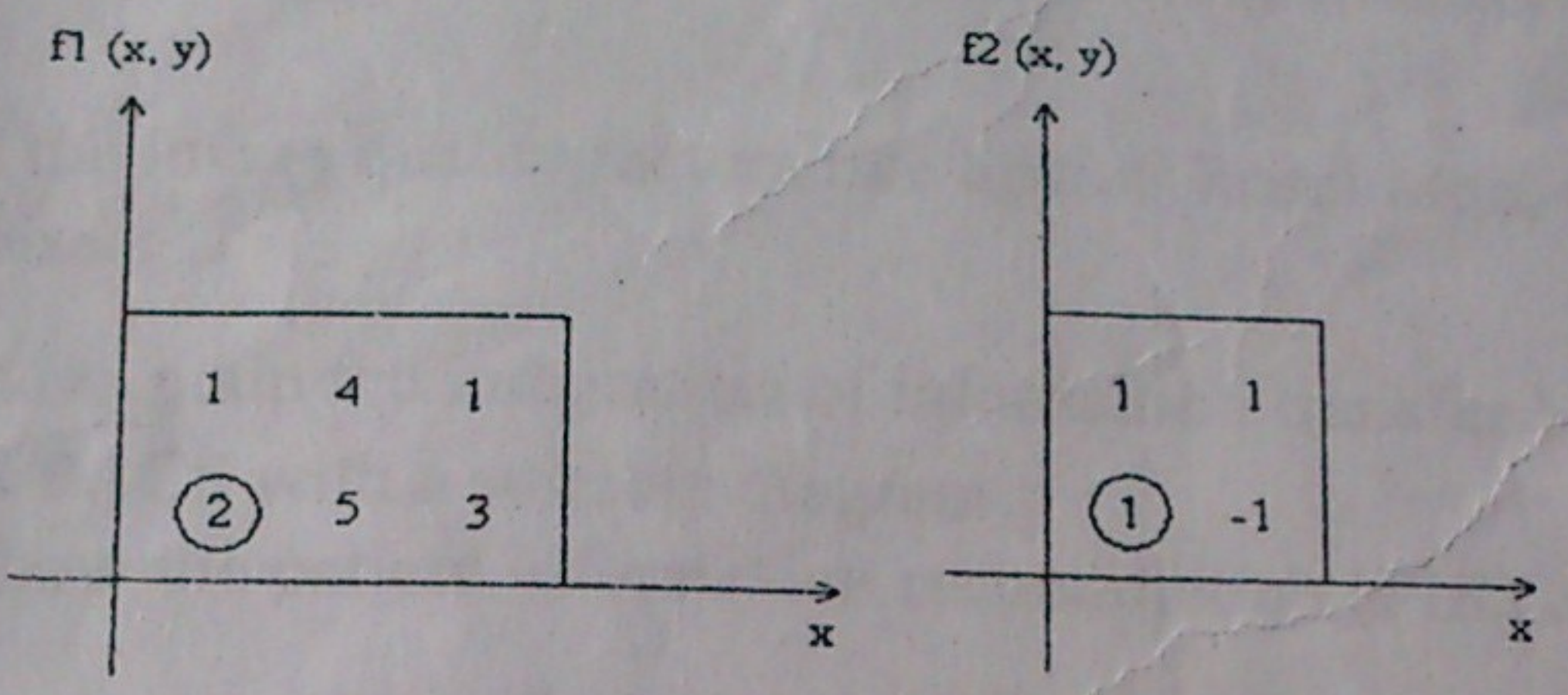
GT-9030

[Total Marks : 100]

- N.B. : 1) Question No. 1 is compulsory
2) Attempt any four Questions from remaining Six Questions.
3) Figures to the right indicating Full Marks.

1. Attempt any four:-
A) Explain run length encoding in detail. 20
B) Explain Sampling and Quantization.
C) Explain Chain codes.
D) Differentiate between Histogram Specification and Histogram Equalization.
E) Distinguish between point operation and neighborhood operations

- 2.A) Perform discrete convolution on the following Image arrays. Assume that the left bottom corner elements are at the origin in both the cases f1 and f2 are two images.



- B) Explain Gaussian noise & salt & pepper noise. Suggest ways to eliminate those using examples. 10

- 3.A) What are blurring & ringing effects? How can they be avoided? 10

- B) Compare the basic frequency domain filters.
i) Ideal low pass ii) Butterworth low pass iii) Gaussian low pass 10

4. A) Explain image compression model. 10

- B) Explain in detail Region base Segmentation. 10

- 5.A) Explain the following operations
i) Erosion ii) Dilation iii) Opening iv) Closing 10

- B) Explain HIT-or-MISS Transformation 10

- 6.A) Find the Huffman code for the following stream of data. 10

{1,1,1,1,1,1,1,2,2,2,2,2,2,3,3,3,3,3,4,4,4,4,5,5,5,6,6,7}

- B) Derive the separability property of the Discrete Fourier Transform Using the above property evaluate the 2D-DFT of the given image. 10

0	1	2	1
1	2	3	2
2	3	4	3
1	2	3	2

Write short notes on (any four) :

20

- A) Bit Plane Slicing
B) Homomorphic Filtering
C) Laplacian Operator for Edge Detection
D) Connectivity of Pixels
E) Brightness adaption & Discrimination,