8CS2A Digital Image Processing
8F8162
Common for CS & IT

Time: 3Hours **Maximum Marks: 80**
Min Passing Marks: 26

Attempt any **five questions,** selecting **one question** from **each unit**. All Questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No.205)

1._____ 2._____

UNIT -I

Q. 1 a) What is digital image processing? Explain its applications in detail. 8

b) What do you mean buy Image sampling? Explain with a suitable example. 8

OR

Q.1 a) What are the fundamental steps in digital image processing? 10

b) Explain image acquisition. 6

UNIT -II

Q. 2 a) What is Pseudo coloring ? 8

b) Explain histogram processing in detail. 8

OR

Q.2 a) Discuss the basic properties of fourier transform 8

b) What is histogram processing? 8

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UNIT -III

Q. 3 a) What is homomorphism filtering ? Discuss its advantages in detail. 8

b) What is Noise filter ? 8

OR

Q.3 a) Discuss Noise models in brief. 10

b) What is inverse filtering ? 6

UNIT -IV

Q. 4 a) Explain JPEG compression 8

b) What is arithmetics coding ? Explain with a suitable example. 8

OR

Q.4 a) What is redundancy in image compression ? Explain coding and pshychovisual redundancy in detail. 10

b) What do you mean by Image compression standards? 6

UNIT -V

Q. 5 a) What is image segmentation? Explain Point, Edge and Line detection. 10

b) What is boundary representation? 6

OR

Q.5 Write short note on (any two)

a) Hough transforms

b) Thresholding

c) Edge linking and Boundary descriptor

2 x8= 16