Code: 9A04802 **R09**

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

DIGITAL IMAGE PROCESSING

(Electronics & Computer Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Describe about image model.

(b) Explain the following relationship between pixels:

(i) Connectivity.

(ii) Distance measures.

2 State and prove following 2D DFT properties:

(a) Translation in frequency domain.

(b) Scaling.

(c) Rotation.

3 (a) Discuss following image enhancement techniques:

(i) Grey level slicing.

(ii) Bit plane slicing.

(b) Explain the following spatial filtering techniques:

(i) Low pass filtering.

(ii) High boost filtering.

4 (a) Explain the need for image smoothing and sharpening.

(b) How high pass filtering is used in frequency domain for image enhancement?

5 (a) With the help of block diagram, explain about degradation model.

(b) Discuss about algebraic restoration.

6 Discuss about detection of image discontinuities in detail.

7 (a) Discuss the need for image compression.

(b) Discuss the transform domain image compression with the help of block diagram.

8 With the help of block diagram, explain about full-color image processing.

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