H Roll No. .....

TCS–713

B. TECH. (CSE)
(SEVENTH SEMESTER)
MID SEMESTER EXAMINATION, 2018

DIGITAL IMAGE PROCESSING

Time : 1:30 Hours

Maximum Marks : 50

Note :(i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Fill in the blanks/True/False : (1×5=5 Marks)

   (a) Digital image processing is more flexible and agile techniques as it is fast, accurate and reliable. (True/False)

   (b) Black and white images have only ..... levels.

   (c) An image is a collection of individual points referred as pixel, thus a pixel is the element of a digital image. (True/False)

(d) DPI stands for ..... .

(e) The total number of pixels in the region defines ..... .

2. Attempt any *five* parts : (3×5=15 Marks)

(a) What is Histogram ?

(b) Define Image Enhancement.

(c) Explain Image Restoration.

(d) Explain Grey level.

(e) Explain Image negative.

(f) Explain Image file format.

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) Explain Visual perception in detail.

(b) Explain various steps involved in image digitization process.

(c) Draw the block diagram of digital image processing and explain its goals.

4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) Explain in detail Sampling and Quantization.

(b) What is Histogram and Histogram equalization ?

(c) Explain smoothing and sharpening of digital images using spatial filters.

5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) Explain 2D-Discrete Fourier transform (DFT).

(b) Define connectivity. What is the difference between 8-connectivity and m-connectivity ?

(c) Define noise. How does it affect the efficiency of image segmentation algorithm ? Explain various types of techniques for filtering the image.

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