

**B.TECH SEM – VII (2007 COURSE) (COMPUTER ENGG.) :**

**WINTER - 2017**

**SUBJECT : ELECTIVE – I : IMAGE PROCESSING**

Day : **Monday**

Time : **02.30 PM TO 05.30 PM**

Date : **22/01/2018**

**W-2017-2569**

Max. Marks : **80**

**N. B. :**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from each Section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the sections should be written in the **SEPARATE** answer books.
- 4) Draw neat and labeled diagram **WHEREVER** necessary.
- 5) Assume suitable data, if necessary.

**SECTION – I**

- Q. 1** a) Explain how image is formulated in human eye. **(05)**
- b) What is point processing? Explain with the help of example. **(05)**
- c) How discontinuity can be detected in image segmentation? **(04)**
- Q. 2** a) Explain different basic elements of Image processing. How they are related to each other. **(07)**
- b) Explain sampling in detail with suitable example. **(06)**
- Q. 3** a) What are different spatial domain methods? **(07)**
- b) Explain histogram modeling in detail with suitable example. **(06)**
- Q. 4** a) Explain point, line and edge detection in brief. **(07)**
- b) Explain the concept of region base segmentation. **(06)**

**SECTION - II**

- Q. 5** a) Explain dilation and erosion. **(05)**
- b) Explain fast fourier transform with the help of example. **(05)**
- c) Explain psychovisual redundancy. **(04)**
- Q. 6** a) Explain boundary extraction and region filling. Support your answer with suitable example **(07)**
- b) Explain HIT or MISS transformation. **(06)**
- Q. 7** a) Explain Decimation – In – Time FFT (DIT- FFT) **(07)**
- b) Explain Walsh Transform in detail with the help of example. **(06)**
- Q. 8** a) Explain Run Length Encoding in detail. **(07)**
- b) Explain Huffman encoding in detail. **(06)**

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