

**B.TECH. SEM -VII ELECTRONICS / (E & TC ENGG.) 2014 COURSE  
(CBCS) : WINTER - 2017  
SUBJECT: ELECTIVE-I 2) DIGITAL IMAGE PROCESSING**

Day: **Monday**  
Date: **22/01/2018**

Time: **02.30 PM TO 05.30 PM**  
Max Marks: **60**

**W-2017-2299**

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw diagrams or figures **WHEREVER** necessary.

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- Q.1** a) Discuss formation of image in human eye. (05)  
b) Describe the block diagram of components of Digital Image Processing system. (05)

**OR**

- Q.1** Describe sampling and quantization used in Image Processing and explain aliasing. (10)

- Q.2** Explain smoothing and sharpening used in spatial filtering. (10)

**OR**

- Q.2** What is Histogram? Explain Histogram equalization with suitable example. (10)

- Q.3** What is multiresolution analysis? Discuss wavelet transform used for multiresolution. (10)

**OR**

- Q.3** What is need of compression? Describe Lossless compression with example. (10)

- Q.4** What are the various morphological operations used in image processing. (10)

**OR**

- Q.4** Describe the concept of Image Watermarking. (10)

- Q.5** What is edge detection? Compare first order and second order edge detector operator. (10)

**OR**

- Q.5** Write a short note on: (10)  
a) Hough Transform  
b) Region based segmentation

- Q.6** Describe the various applications of Digital Image Processing. (10)

**OR**

- Q.6** What is Iris recognition? Explain its application in detail. (10)

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