

Roll No.

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(CSE) (2011 Onwards E-III) (Sem.-7,8)

**DIGITAL IMAGE PROCESSING**

Subject Code : BTCS-915

M.Code : 71907

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

**SECTION-A**

**Explain briefly :**

- 1) Define Digital image.
- 2) Differentiate photopic and scotopic vision.
- 3) What is simultaneous contrast?
- 4) Define Sampling and Quantization.
- 5) Define arithmetic coding.
- 6) What are the three types of discontinuity in digital image?
- 7) Give the relation for Rayleigh noise.
- 8) What is maximum filter and minimum filter?
- 9) What is global, Local and dynamic or adaptive threshold?
- 10) How effectiveness of quantization can be improved?

### SECTION-B

- 11) Specify the properties of 2D Fourier transform.
- 12) What is data redundancy? Explain three basic data redundancy.
- 13) Discuss the various image representation approaches.
- 14) Specify the objective of image enhancement technique. What is contrast stretching?
- 15) What is JPEG? What are the coding systems in JPEG?

### SECTION-C

- 16) Explain the basic Elements of digital image processing.
- 17) What is Image restoration? Draw and explain the basic block diagram of the restoration process. Give two areas where restoration process can be applied.
- 18) What is Image Segmentation? Explain Edge Detection in details.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**