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
Paper ID : [A2997]

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. Sampling

2. Image Filter

3. Threshold

4. Pseudo Color Image

5. Boundary Descriptor

6. Image Blurring

7. Image Restoration

8. Gray Scale

9. Coding Redundancy

10. Pixel Neighborhood *vs.* Pixel Connectivity

SECTION-B

11. Why are images compressed? Discuss any two techniques of Image Compression.

12. Explain the concept of Region based segmentation in image processing.

13. What is Color image processing? Elaborate conversion of RGB to HSI and vice versa.

14. What is the meaning of noise in an image? Explain Noise models.

15. What is the role of image histogram in digital image processing? Explain with example of Histogram.

SECTION-C

16. What do you mean by Image degradation and restoration process? Explain various Noise filters in detail.

17. What is the use of image representation and description methods? Explain with the help of an example the run length and tree approaches for region representation.

18. What are the various steps in image processing? Explain in detail.