Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 42411

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Seventh Semester
Electronics and Communication Engineering
EC 2029 – DIGITAL IMAGE PROCESSING
(Common to Electronics and Instrumentation Engineering)
(Regulations 2008)
[Also Common to PTEC 2029 – Digital Image Processing for B.E. (Part-Time)
Seventh Semester – ECE – Regulations 2009]

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. Define Tapered Quantization.
2. List the properties of twiddle factor.
3. Recognize the two categories of image enhancement.
4. Point out the applications of sharpening filters.
5. Restoration is called as unconstrained restoration. Give reasons.
6. Differentiate enhancement from restoration.
7. Define region growing.
8. Specify the steps involved in splitting and merging.
9. Write the need for compression.
10. Write the coding systems in JPEG.

PART – B **(5×16=80 Marks)**

11. a) Explain in detail the functions of elements of digital image processing system with relevant diagram.

(OR)

b) Write the forward and reverse 2D Fourier transform functions and detail the properties of 2D Fourier transform.

12. a) Analyse the performance of various gray level transformation used for image enhancement.

(OR)

b) Discuss the image enhancement techniques available for the transformed images in frequency domain.

13. a) Analyze the significance of Wiener filter in image restoration.

(OR)

b) Write the necessity for restoration process in image processing and explain the process in detail.

14. a) Define thresholding and explain various methods of thresholding in detail.

(OR)

b) Illustrate the use of watershed segmentation algorithm with a case study.

15. a) Tell the advantage of variable length coding and explain Huffman coding with an example.

(OR)

b) Explain in detail the schematics of JPEG-an image compression standard.
