

Code No: **R41043****R10****Set No. 1****IV B.Tech I Semester Supplementary Examinations, February - 2019****DIGITAL IMAGE PROCESSING****(Common to Electronics and Communications Engineering and Electronics and Computer Engineering)****Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions
All Questions carry equal marks***********

- 1 a) Discuss the basic relationships between pixels. [8]
b) Discuss the properties, applications, advantages and disadvantages of homology transform. [7]
- 2 a) Explain intensity transformation functions of
(i) image negatives (ii) Gamma transformations [8]
b) Discuss the concept of using fuzzy sets for intensity transformation and spatial filtering. [7]
- 3 a) Discuss the sampling theorem and aliasing. [7]
b) Discuss the band reject, Band pass, and notch filters. [8]
- 4 a) Estimate the degradation function by experimentation and modeling. [8]
b) Discuss the projections and the Radon transform for image reconstruction. [7]
- 5 a) Describe the HSI color model. [7]
b) Explain the segmentation in HSI color space and RGB vector space. [8]
- 6 a) Explain the wavelet series expansions. [8]
b) Discuss the Huffman coding with example. [7]
- 7 a) Explain the concepts of extraction of connected components and skeletons. [7]
b) Discuss the hit- or -miss transformation. [8]
- 8 a) Explain the edge linking and boundary detection. [8]
b) Discuss the multiple thresholds and variable Thresholding. [7]