

- 5 a. Explain Gaussian, Rayleigh and Erlang noise models with equations and graphs. (06 Marks)
b. Describe adaptive local noise reduction filter and adaptive median filter used for removing noise in images. (10 Marks)
- 6 a. Explain arithmetic mean, geometric mean and median filter with equations and their usage for noise removal in images. (06 Marks)
b. Describe bandreject, bandpass and notch filters used for reduction of periodic noise with equations and figures. (10 Marks)
- 7 a. Explain the RGB color model with a cube structure and color equivalent values. Write the equations to convert RGB to HIS and HIS to RGB for color components. (10 Marks)
b. Briefly explain the subband coding with a block diagram of a simple digital filter and impulse response for the input $f(n) = \delta(n)$. (06 Marks)
- 8 a. Explain erosion and dilation operations along with their duality equations and examples with images. (08 Marks)
b. Describe opening and closing operations along with their duality equations and examples with images. (08 Marks)
- 9 a. Explain how isolated points and lines can be detected in images using derivatives and Laplacian mask respectively. (08 Marks)
b. Describe Canny edge detection method with equations and figures. (08 Marks)
- 10 a. Explain boundary following and chain codes used for representation for describing regions. (08 Marks)
b. Describe the MPP algorithm and its illustration with an example of vertices. (08 Marks)

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