

# Paper ID [CS502]

(Please fill this Paper ID in OMR Sheet)

M. Tech.

## DIGITAL IMAGE PROCESSING (CS - 502)

Time : 03 Hours

Maximum Marks : 100

### Instruction to Candidates:

- 1) Attempt any **Five** questions.
- 2) All questions carry equal marks.

- Q1)* Explain in detail the two processes that are used to convert the continuous sensed data into digital form.
- Q2)* (a) Why image filtering is done in the frequency domain?  
(b) What is spatial filtering? Why are smoothing spatial filters used?
- Q3)* (a) Explain the effect of noise on color channels?  
(b) List the advantages and disadvantages of RGB color model..
- Q4)* What are wavelet functions? Derive wavelet transforms in one dimension.
- Q5)* What is the need of error free compression? List the various coding techniques to achieve this.
- Q6)* List the techniques for detecting gray level discontinuities in digital image.
- Q7)* Explain the various Decision theoretic approaches to recognition.
- Q8)* Write short notes on:
- (a) Image sensing
  - (b) Region growing
  - (c) Adaptive filters