MANIPAL INSTITUTE OF TECHNOLOGY
Manipal University

SIXTH SEMESTER B.Tech. (PME) DEGREE MAKEUP EXAMINATION
JUNE – JULY 2016
SUBJECT: VIDEO PROCESSING (PME - 314)

TIME: 3 HOURS   **MAX. MARKS: 50**

Instructions to candidates
- Answer **ANY FIVE** full questions.
- Missing data may be suitably assumed.

1A.   What is un sharp masking? How is high boost filtering different from un sharp masking?

1B.   Describe the process of Gamma Correction.

1C.   List imaging technique those do not use electromagnetic signals / spectrum.

(5+3+2)

2A.   Explain Laplacian Operator. Discuss t=its application in image processing.

2B.   Explain the difference between Histogram equalisation and Contrast stretching.

2C.   List the steps involved in filtering an image in the frequency domain.

(5+3+2)

3A.   Determine the YUV coordinates if the normalised RGB values are (0, 1 , 1).

3B.   Find the Linear Convolution of the two signals x= {1 2 3 4} and   h= {1 1 1} graphically and plot the output.

3C.   List the differences between Composite video and component video.

(5+3+2)

4A.   Explain with relevant diagrams progressive and interlaced scanning techniques with suitable diagrams and compare the two.

4B.   State and Explain the sampling theorem.

4C.   What is meant by aliasing? Explain.

(5+3+2)

5A.   With the help of a neat block diagram explain the video coding system.

5B.   What do you mean by stereopsis? Explain.

5C.   List the different types of frames used in MPEG -1.

(5+3+2)

6A.   Determine the Arithmetic Code for the word "cab" if the symbol probabilities are 0.2, 0.4 and 0.4 for a, b and c respectively.

6B.   Describe Binary encoding.

6C.   List the advantages and Disadvantages of Video Compression.

(5+3+2)