M. TECH.-II (ELECTRONICS V.L.S.I.) (CBCS – 2015 COURSE)
: SUMMER - 2018
SUBJECT: DIGITAL IMAGE AND VIDEO PROCESSING

Day : **Friday** **S-2018-3004** Time : **11.00 AM TO 02.00 PM**
Date : **15/06/2018** Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.
4) Assume suitable data, if **necessary.**

SECTION - I

Q.1 Explain fundamental steps in Digital Image processing with diagram. **(10)**

OR

Describe the process of sampling and quantization of an image. **(10)**

Q.2 What is histogram equalization? Explain with example. **(10)**

OR

Second derivative is suitable for image sharpening. Justify with an example. **(10)**

Q.3 What is image compression? Explain different redundancies in detail. **(10)**

OR

Draw the lossless predictive coding model. Explain how the compression of an image is done using lossless predictive coding. **(10)**

SECTION - II

Q.4 Explain point and line detection with respect to image segmentation. **(10)**

OR

Explain region splitting and merging used in image segmentation. **(10)**

Q.5 Explain the Hole filling algorithm for morphology with diagram. **(10)**

OR

What is order –statistic filter? Explain different order statistic filters with expression and use. **(10)**

Q.6 Explain general video coding scheme with diagram. **(10)**

OR

Explain motion estimation and compression concept in detail. **(10)**

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