

SUBJECT: DIGITAL IMAGE PROCESSING

Day: Thursday
Date: 15/11/2018

W-2018-1243

Time: 02.00 PM TO 05.00 PM
Max Marks. 60

N.B.

- 1) Answer any **FIVE** questions.
 - 2) Figures to the right indicate **FULL** marks.
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- Q.1** a) Show diagrammatically the various steps involved in the digital image processing of a satellite image. (06)
- b) Describe the significance of the histogram in digital image processing. (06)
- Q.2** a) Define variance, skewness and kurtosis. (06)
- b) Why are radiometric and atmospheric corrections essential preprocessing operations? (06)
- Q.3** a) Differentiate between image rectification and image registration. (06)
- b) What do you understand by principal component analysis? Describe it diagrammatically and add a note on its significance. (06)
- Q.4** a) Why are mid infrared bands used for identifying water stress in plants? (06)
- b) Differentiate between linear and non-linear edge enhancement techniques. (06)
- Q.5** a) What are the pre-requisites for change detection of two images? (06)
- b) Describe the process of object based classification? What are its applications? (06)
- Q.6** Write short notes on any **THREE** (12)
- a) Fuzzy classification
 - b) Band ratioing
 - c) Spatial filtering
 - d) Steps in hyperspectral image analysis