 PG/IIIS/RSG-304/18(CBCS)

M.Sc. 3rd Semester Examination, 2018

REMOTE SENSING AND GIS

PAPER – RSG-304(A + B)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

GROUP – A

(*Advanced Remote Sensing Techniques*)

Answer any **two** questions : 10×2

1. Describe three principal data formats for storing digital data. What are the different methods of supervised and unsupervised classification ? How can you assess the accuracy of a classification ? $3 + 5 + 2$

2. Briefly explain the process of end member collection from hyperspectral image using suitable illustration. Why hyperspectral images are preferred for rocks and minerals identification ? 6 + 4

3. Describe how the geometrical and electrical properties of the target influence the RADAR return. What do you mean by speckle supression ? How a narrow beam width can be achieved by synthesizing a virtual antena length ? 3 + 3 + 4

4. Write short notes on : 2 × 5

   (*i*) BIL, BSQ and BIP

   (*ii*) Types of image classification processes

   (*iii*) Different types of image resolutions

   (*iv*) Advantages of hyperspectral images over multispectral images

   (*v*) Wisk-broom and push broom scanners.

GROUP – B

(*Application of Geo-Informatics*)

Answer any **two** questions : 10×2

1. (*a*) Which is the most important single agent of denudation ?

   (*b*) What are the process and stages of fluvial action ? $2 + 8$

2. (*i*) What is erosion of rocks and how it is different from weathering ?

   (*ii*) Explain with examples the difference between hazard, and vulnerability.

   (*iii*) Write a note on seismic body waves and surface waves. $2 + 4 + 4$

3. (*i*) What are main causes and major triggers of landslides.

   (*ii*) Describe role of remote sensing in landslide hazard zonation studies. $5 + 5$

4. Write short notes on : 2×5

   (*i*) Ore, Minerals and rocks

(*ii*) Joint and Fault

(*iii*) Formation of Tsunami

(*iv*) Pyroclastic Flow

(*v*) Goal of disaster management.
