2017

M.Sc.

3rd Semester Examination

REMOTE SENSING AND GIS

PAPER—RSG-304

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Use Separate answer book for each Group.

(Advanced Remote Sensing Techniques)

Group–A

[Marks : 20]

Answer any *two* questions. 2×10

1. Briefly discuss the importance of hyperspectral remote sensing in mapping earth surface features. What are the difference between hyperspectral and multispectral remote sensing. What do you mean by end member? 4+4+2

2. (a) What LiDAR is ?

   (b) What are main three components of LiDAR ?

   (c) Illustrate LiDAR multiple returns with neat sketch. 2+3+5

3. With the help of neat diagram briefly describe the 'Range' and 'Azimuth' resolution of a SLR System. What is the nature of relief displacement in RADAR image and Why ? What is Speckle ? 6+3+1

4. (a) Describe three important data format for storing digital data.

   (b) Why it is necessary to rectify an image ?

   (c) Why RMS error is important in rectification ?

   (d) Discuss briefly unsupernised classification in digital image processing. 2+2+2+4

(Application of Geo-informatics)

Group–B

[Marks : 20]

Answer any *two* questions. 2×10

1. (a) What are the keys used in visual image interpretation. — Discuss them. 4+6

(b) What is spectral enhancement ? — Discuss with the help of a vegetation index.

2. Write a short note on application of geoinformatics in watershed management and ground water targetting. 5+5

3. Define 'topography' and 'Landform'. What are the crustal order of relief with suitable example. Discuss "Laws of Uniformitarianism". 3+3+4

4. Why do we study Earth ? Discuss very briefly about earth processes. Write a short note on application of geoinformatics in urban planning. 2+4+4

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