

2018

M.Sc. 1st Seme. Examination

REMOTE SENSING & GIS

PAPER—RSG-103

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

RSG—103.1

[Marks : 20]

Answer any *two* questions :

2×2

1. Define orthophoto.
2. What is differential rectification ?
3. What are different types of distortion in vertical photograph ?
4. What is 'isocentre' of an oblique photograph ?

(Turn Over)

Answer any *two* questions :

2×4

5. How we can derive the scale of an aerial photograph ?
6. What are the factor that control the scale of an aerial photograph ?
7. Describe relief distortion in single vertical photograph, with a neat diagram.
8. How airbase can be measured from fiducial marks.

Answer any *one* question :

1×8

9. Assume a vertical photograph was taken at a flying height of 5000 m above MSL, with a camera of 152 mm focal length. Determine the photoscale at point A & B which lie at elevations of 1200 m and 1960 m. What distance corresponds to a 20.1 mm photo distance measured at each of these elevation ? 4+4
10. What is parallax ? With a neat diagram derive the parallax height equation. 2+6

RSG—103.2*Surveying and Navigational Satellite System***[Marks : 20]**Answer any *two* questions :

2×2

1. Define Back bearing and Fore bearing.
2. What are advantages and disadvantages of Plane Table surveying ?
3. Explain Dilution of Precision (DOP).
4. Explain in brief different factors that are responsible for GPS signal errors.

Answer any *two* questions :

2×4

5. What is multipath and its effect on GPS survey.
6. Write a note on the space segment of Indian Regional Navigational Satellite System (IRNSS).
7. What is triangulation method of surveying and what trilateration ?

8. In a triangulation survey, length of Base line AB is 500m, $\angle BAC = 30^\circ$ and $\angle ABC = 60^\circ$. Calculate lengths of sides AC and BC.

Answer any *one* question :

1×8

9. Explain the method of hydrographic survey for preparation of bathymetric chart of near shore area with special emphasis on SONAR & LIDAR survey.
10. Explain principle of differential GPS functionality with neat sketch. What is GPS Aided GEO Augmented Navigation System ?