

**M.Sc. 1st Semester Examination, 2023**  
**REMOTE SENSING AND GIS**

*( Photogrammetry, Geodesy, Surveying and Navigational Satellite System )*

PAPER – RSG-103

*Full Marks : 50*

*Time : 2 hours*

Answer all questions

*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*

PAPER – RSG-103.1

*(Photogrammetry and Geodesy)*

GROUP—A

Answer any two questions :  $2 \times 2$

1. Define orthophoto.

2. What is 'isocentre' of an oblique photograph ?
3. What are key features of WGS-84 ?
4. What characteristics define the Universal Transverse Mercator (UTM) ?

GROUP - B

Answer any **two** questions : 4 × 2

5. What are the differences between high and low oblique aerial photographs ?
6. Define the following photogrammetric terms :
  - (a) End lap
  - (b) Stereopair.
7. Write a brief note on 'Geodetic' and 'Vertical Datum'.
8. Write a note on Mean Sea Level.

GROUP – C

Answer any one question :  $8 \times 1$

9. (a) Draw a frame of an aerial photograph and construct fiducial marks, fiducial axes and principal point.
- (b) A vertical aerial photograph was taken with a camera having 6 inch focal length with the flying height of 6000 feet above MSL. Calculate the scale of the aerial photograph.  $4 + 4$
10. What is a geoid and how does it differ from an ellipsoid ?

PAPER – RSG-103.2

( *Surveying and Navigational Satellite System* )

GROUP – A

Answer any two questions :  $2 \times 2$

1. What do you mean by cadastral map ?
2. What is EDM ?
3. Write different positioning modes of GPS survey.
4. What is a Total Station ?

GROUP-B

Answer any two questions :  $4 \times 2$

5. Write a short note on field verification and Ground Truthing.
6. What do you mean by triangulation & traversing in surveying ?
7. What is the absolute and differential positioning ?

( 5 )

8. Discuss briefly the space segments of NAVSTAR GPS.

**GROUP-C**

Answer any **one** question : 8 × 1

9. Compose a brief overview of IRNSS & highlights its advantages over NAVSTAR GPS.
10. Explain the basic principle, signal characteristic and operational concept of Global Navigational Satellite System.

**[ Internal Assessment – 10 Marks ]**

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