

U.G. 3rd Semester Examination - 2025

GEOGRAPHY

[MAJOR]

Course Code : GEOG-M-T-3

(Fundamentals of Remote Sensing, GIS and GNSS)

[NEP-2020]

Full Marks : 60

Time : 2½ 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.

1. Answer any ten of the following questions:

2×10=20

- a) Differentiate active sensor from passive sensor.
- b) Why is FCC significant?
- c) What is *spectral signature*?
- d) What is *black body*?
- e) Define *focal length* in aerial photographs.
- f) What is meant by *orthophoto*?
- g) What is *parallax*?
- h) Write the advantages of photogrammetry.
- i) What is *atmospheric window*?

[Turn over]

- j) Mention the importance of *topology* in GIS.
- k) What is *shape file* in GIS?
- l) Define *metadata*.
- m) What is meant by *GIS queries*?
- n) What is *stereo-pair* in aerial photo?
- o) Distinguish between *spatial* and *non-spatial data*.

2. Answer any **four** of the following questions:

5×4=20

- a) Compare supervised and unsupervised method of image classification.
- b) Classify aerial photographs mentioning their bases.
- c) Specify the major components of GIS.
- d) Connote the significance of buffer preparation.
- e) Highlight the principles of preparing attribute tables.
- f) State the applications of remote sensing in managing forest resources.

3. Answer any **two** of the following questions:

10×2=20

- a) Elucidate the interaction of EMR with atmosphere and surface materials with respect to remote sensing stages.
- b) Describe different types of platforms used in remote sensing.
- c) Discuss and compare the advantages of vector data in relation to raster data.
- d) Bring out the basic concept of GPS and comment on the utility of GIS-GPS integration.