

Total number of printed pages—4

3 (Sem-4/CBCS) GGY HC 3

2022

GEOGRAPHY

(Honours)

Paper : GGY-HC-4036

(Remote Sensing, GIS and GPS)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer **any seven** from the following questions : 1×7=7

- (a) What are sensors ?
- (b) Write full form of DEM.
- (c) What is EMR ?
- (d) What is the visible range of electromagnetic spectrum ?
- (e) What type of satellite is used in GPS ?

Contd.

- (f) What is the full form of PSLV ?
- (g) Define topology.
- (h) Give an example of sensor.
- (i) What is Cartosat ?
- (j) What is geocoding ?

2. Answer **any four** questions from the following very briefly : 2×4=8

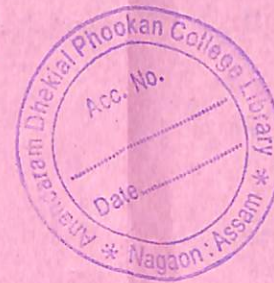
- (a) What is refraction ?
- (b) What is atmospheric window ?
- (c) What is nadir ?
- (d) What do you mean by path and row ?
- (e) What are the components of GIS ?
- (f) What do you mean by spatial data and attribute data ? Give examples.
- (g) Mention the basic spatial entities in GIS.
- (h) Distinguish between census data and survey data.

3. Answer **any three** from the following questions : 5×3=15

- (a) Explain in brief the advantages and limitations of remote sensing.
- (b) Discuss about the important sources of data in GIS.
- (c) Discuss the utilities of GPS in map making process.
- (d) Distinguish between aerial photograph and satellite imagery.
- (e) What are the different types of camera used in aerial photography ?
- (f) Discuss the elements of image interpretation in remote sensing.
- (g) Explain the importance of map projection in GIS operations.
- (h) Explain briefly how features are measured in GIS.

4. Answer **any three** from the following questions : 10×3=30

- (a) Discuss in detail the development of remote sensing with special reference to India.



- (b) Discuss the application of remote sensing in flood damage estimation.
- (c) Describe the geometry of vertical aerial photography with suitable diagrams.
- (d) Describe the application of GPS in surveying and mapping.
- (e) Explain the difference between database and database management system in GIS.
- (f) What are the different types of GPS ? Discuss its principles. 3+7=10
- (g) Discuss the application of remote sensing in urban land management.
- (h) Explain how databases are linked with GIS.
- (i) Discuss in detail analog (visual) image processing and digital image processing for analysing remote sensing data.

