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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.
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