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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 :  $2 \times 4 = 8$

- (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 :  $5 \times 3 = 15$

- (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 :  $10 \times 3 = 30$

- (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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