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3 (Sem-4/CBCS) GGY HC 3

2024

GEOGRAPHY

(Honours Core)

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 the following questions objectively :
1×7=7

- (a) What is a sensor ?
- (b) Give the full form of RADAR.
- (c) Name *any four* EMR bands used in remote sensing.
- (d) What is “.shp”?
- (e) Give an example of WebGIS.

Contd.

(f) State the minimum number of satellites required to fix precise position on earth.

(g) Name an open source GIS software.

2. Answer the following questions in brief :

2×4=8

(a) What is trilateration in GPS ?

(b) Mention the data types of GIS.

(c) What is FCC ? What is its purpose ?

(d) Mention the major sources of data in GIS.

3. Answer the following questions in short :

(any three)

5×3=15

(a) Illustrate with a suitable diagram the elements of a vertical photograph.

(b) Distinguish between raster and vector representations of real world features.

(c) Elaborate on different sensor resolutions.

(d) Explain the key components of GIS and their interrelations.

(e) State the procedures involved in recording spatial information using a GPS device.

4. Answer **any three** of the following questions :

10×3=30

- (a) What do you mean by image interpretation? How would you interpret an aerial photograph of a typical Indian urban area? 3+7=10
- (b) Define image classification. Compare between supervised and unsupervised classification techniques. 3+7=10
- (c) Describe the development and progress of the Indian Remote Sensing (IRS) satellite programme.
- (d) What is meant by geospatial analysis? Discuss its application in the site suitability analysis of solid waste disposal plant. 3+7=10
- (e) Provide a detailed analysis on the integration of remote sensing and GIS in managing flood hazard.
- (f) Describe the basic principles of GPS. Explore various applications of GPS in our day-to-day life. 5+5=10