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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