14 (GGY–3) 3156 (GI)

2022

GEOGRAPHY

Paper : GGY–3156

(Geoinformatics)

Full Marks : 80

Time : Three hours

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

UNIT–I

(Remote Sensing)

Answer **Q. no.1** and ***any two*** *questions from the rest.*

1. What does remote sensing mean ? Discuss the utility of electromagnetic radiation in remote sensing. Substantiate your answer using suitable diagrams. 16

Or

What are the data characteristics that have made remotely sensed optical images from ISRO and/or NASA so widely used in India/ globally ? What diverse applications have any one such data product been used for ?

2. Write short notes on ***any two*** of the following : 4×2=8

   (i) Geoid and ellipsoid

   (ii) Scale and ground coverage of aerial photographs

   (iii) Tilt and relief displacement in aerial photographs

3. Differentiate between spectral and spatial resolution in satellite images. Provide examples of both with suitable examples from existing sensors. 8

4. What is the main principle of satellite remote sensing ? 8

UNIT–II

(Geographic Information Systems)

Answer Q. no. **5** and ***any two*** *questions from the rest.*

5. What does a geographic information system ential ? What are its components and what are the importance of each of these components ? 16

6. What is a database and why is it important in a GIS ? 8

7. What is a query and why is it useful ? 8

8. What does raster to vector conversion (and vice versa) imply ? Why is it necessary ? 8

UNIT–III

(Global Positioning System)

Answer ***any two*** questions

9. What is a drone ? What are the applications to which drones are currently being used for spatial analysis ? 8

10. A handheld GPS is a handy piece of equipment. How so ? 8

11. A DGPS is indispensable inspite of its rather expensive costs. Do you agree ? 8

12. What are microsatellites ? Examine their advantages. 8
