2019

GEOGRAPHY

(Major)

Paper : 6·4

(Principles and Applications of Remote Sensing, GIS and GPS)

Full Marks : 60

Time : 3 hours

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

1. Answer the following as directed : 1×7=7

   (a) What is pixel?

   (b) LISS is a sensor. Give the full form of LISS.

   (c) What is the wavelength of visible range of the EMR?

   (d) ERDAS IMAGINE is

       (i) an American satellite

       (ii) a satellite image

       (iii) a GIS software

       (iv) an India-made GPS

           (Choose the correct answer)

(e) GPS is a technology based on a set of

    (i) 16 satellites placed in 4 planes

    (ii) 24 satellites placed in 6 planes

    (iii) 36 satellites placed in 12 planes

    (iv) 12 satellites placed in 3 planes
                (Choose the correct answer)

(f) What is an FCC image?

(g) What do you mean by the term 'Geoinformatics'?

2. Answer the following questions briefly :   2×4=8

(a) Give examples of any two polar orbiting satellites.

(b) Mention any two components of GIS.

(c) Distinguish between active and passive sensors.

(d) Distinguish between GIS and GPS.

3. Answer any *three* of the following questions :
                                 5×3=15

(a) State the different elements of vertical photographs with suitable diagram.

(b) Citing appropriate examples, describe the various types and nature of geographical data.

                                      (Continued)

(c) Explain the functions of GIS with suitable diagrams.

(d) Give an account of development of aerial remote sensing in India.

(e) Describe the steps involved in space data acquisition through satellite remote sensing.

4. What types of data are provided by GPS? Explain how these data can be obtained by GPS.   2+8=10

Or

Describe the procedures involved in GPS survey and mapping an area with some point features.   5+5=10

5. Explain the characteristics of Electro-Magnetic Radiation (EMR) with reference to the remote sensing bands.   5+5=10

Or

What are sensors? Explain the spatial and temporal resolutions of sensors citing examples from Indian Remote Sensing Satellites.   2+4+4=10

                                       (Turn Over)

6. Distinguish between raster and vector data structures in GIS platform with neat diagrams. 5+5=10

Or

Explain how GIS can be applied in assessing forest cover changes in a region. 10

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