

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)

(2)

- (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 : $2 \times 4 = 8$

- (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 :

$5 \times 3 = 15$

- (a) State the different elements of vertical photographs with suitable diagram.
- (b) Citing appropriate examples, describe the various types and nature of geographical data.

(3)

- (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.

$2+4+4=10$

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
