

2024

(CBCS)

(6th Semester)

GEOGRAPHY

TENTH PAPER

(Remote Sensing and Geographical Information System)

(Revised)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(Marks : 10)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Aerial photographs have ____ fiducial marks.

(a) three ()

(b) two ()

(c) eight ()

(d) six ()

2. Area covered is the largest in

(a) vertical photograph ()

(b) low oblique photograph ()

(c) high oblique photograph ()

(d) They cover the same area ()

3. Which among the following waves is having less wavelength range?
 (a) 0.03 mm () (b) 0.03 nm ()
 (c) 0.03 m () (d) 0.03 cm ()
4. Which is the first Indian remote sensing satellite?
 (a) Bhaskara () (b) IRS-1A ()
 (c) Cartosat-1 () (d) Resourcesat-1 ()
5. The altitudinal distance of a geostationary satellite from the earth's surface is about
 (a) 26000 km () (b) 30000 km ()
 (c) 36000 km () (d) 44000 km ()
6. For interpolation of satellite data used for monitoring dynamic changes that occur on the earth surface, the most suitable orbit for the satellite is
 (a) circular orbit ()
 (b) sun-synchronous orbit ()
 (c) near polar orbit ()
 (d) principal point ()
7. High oblique photograph is taken with the camera inclined about _____ from the vertical.
 (a) 90° () (b) 60° ()
 (c) 30° () (d) 10° ()
8. Which of the following is not included in imaging sensor system?
 (a) Multispectral sensor system ()
 (b) Thermal sensor system ()
 (c) Microwave sensor system ()
 (d) Radiowave sensor system ()
9. The capability of the sensor to discriminate targets based on its reflectance/emittance difference is
 (a) spatial resolution ()
 (b) spectral resolution ()
 (c) radiometric resolution ()
 (d) temporal resolution ()

10. In raster data structure, area is represented by

- (a) polygon () (b) group of cells ()
(c) string of cells () (d) single cell ()

(SECTION : B—SHORT ANSWERS)

(Marks : 15)

Write short notes on/Answer the following :

3×5=15

UNIT—I

1. Photogrammetry

OR

2. Geometry of aerial photograph

UNIT—II

3. Define aerial photography and write its applications.

OR

4. Electromagnetic spectrum

UNIT—III

5. Types of polar satellite

OR

6. Thermal remote sensing system

UNIT—IV

7. Discuss about the spatial and non-spatial data.

OR

8. Difference between Spatial and Attribute data

UNIT—V

9. Application of remote sensing in geographical studies

OR

10. RS and GIS in forest mapping

(SECTION : C—DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

10×5=50

UNIT—I

1. What are the different types of aerial photographs?

10

OR

2. Trace the historical development of aerial photography.

10

UNIT—II

3. Define remote sensing. Mention the advantages and its limitations.

2+4+4=10

OR

4. What is electromagnetic radiation? Describe the interaction of electromagnetic radiation with earth's atmosphere.

3+7=10

UNIT—III

5. Describe different kinds of platforms used for remote sensing studies.

10

OR

6. What do you mean by satellite orbit? Describe the characteristics and applications of geosynchronous and sun-synchronous satellite.

2+8=10

UNIT—IV

7. Define geographic information system. Discuss the various components of geographic information system.

2+8=10

OR

8. What is database model? Describe vector and raster overlays in GIS studies.

3+7=10

UNIT—V

9. Explain the significance of remote sensing and GIS in land use/land cover mapping.

5+5=10

OR

10. Discuss the elements of image interpretation in remote sensing with suitable examples.

10
