2022

(CBCS)

(6th Semester)

GEOGRAPHY

TENTH PAPER

(Remote Sensing and GIS)

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. Overlap is usually _____ in percentage.

(a) 60 ( )

(b) less than 40 ( )

(c) about 3 ( )

(d) 5-10 ( )

2. Allowable tilt tolerance is usually _____ from the perpendicular line to the camera axis in vertical photo.

(a) 33° ( )

(b) 30° ( )

(c) 3° ( )

(d) 1° ( )

3. Which among the following is the first Indian remote sensing satellite?

(a) INSAT-1A ( )

(b) INSAT-1B ( )

(c) IRS-1A ( )

(d) IRS-1B ( )

4. Landsat-1 was launched on

(a) July 23, 1962 ( )

(b) July 23, 1972 ( )

(c) July 23, 1982 ( )

(d) July 23, 1992 ( )

5. In which of the following, fundamental parameters of remote sensing like size, shape, tone, texture, site, association, shadow and pattern are used?

(a) Image interpretation ( )

(b) Image classification ( )

(c) Image correction ( )

(d) Image compression ( )

6. 'Pixel' is the smallest unit of

(a) an analogue image ( )

(b) a photograph ( )

(c) a photographic film ( )

(d) a digital image ( )

7. Which of the following does not come under the components of GIS?

(a) Software ( )

(b) Hardware ( )

(c) Compiler ( )

(d) User ( )

8. The term 'GIS' was coined by

(a) Roger Tomlinson ( )

(b) Albert Einstein ( )

(c) Evelyn Pruitt ( )

(d) Gaspard Felix ( )

9. Which one of the following is an advantage of GIS?

(a) Maintaining geospatial data ( )

(b) Data sharing ( )

(c) Accurate data information ( )

(d) Presence of data retrieval service ( )

10. In GIS urban planning, analysis, linking spatial data and attribute data leads to formation of

(a) administration ( )

(b) topology ( )

(c) jurisdiction ( )

(d) land cover ( )

(SECTION : B—SHORT NOTE)

(*Marks* : 15)

Write short notes on the following : 3×5=15

UNIT—I

1. Principal point

OR

2. Crab distortion

UNIT—II

3. Active sensors

OR

4. Spaceborne platforms

UNIT—III

5. Unsupervised classification

OR

6. Georeferencing

UNIT—IV

7. Spatial data

OR

8. Attribute data

UNIT—V

9. Meaning of urban sprawl

OR

10. Need for urban planning

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following questions : 10×5=50

UNIT—I

1. Define aerial photography. What are the different types of aerial photography? 4+6=10

OR

2. Outline the historical development of aerial photography in detail. 10

UNIT—II

3. Explain the principles and components of satellite remote sensing. 5+5=10

OR

4. Describe how electromagnetic radiation interacts with the atmosphere. What is atmospheric window? 8+2=10

UNIT—III

5. Explain the importance of radiometric and geometric correction in image processing and data analysis. 5+5=10

OR

6. What is filtering? What are the different spatial filtering techniques used in image processing? 2+8=10

UNIT—IV

7. What is GIS? What are its components? 4+6=10

OR

8. Differentiate between raster and vector data. What are the advantages and disadvantages of raster and vector data? 2+2+3+3=10

UNIT—V

9. Discuss the importance of RS and GIS in land use/land cover mapping and planning. 10

OR

10. Explain the importance of RS and GIS in forest monitoring.

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