

**2 0 1 9**

( CBCS )

( 6th Semester )

**GEOGRAPHY**

TENTH PAPER

**( Remote Sensing and GIS )**

*Full Marks : 75*

*Time : 3 hours*

**( PART : A—OBJECTIVE )**

( *Marks : 25* )

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

SECTION—A

( *Marks : 10* )

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

1×10=10

**1.** RS techniques make use of the properties of \_\_\_\_ emitted, reflected or diffracted by the sensed objects.

(a) electric waves ( ) (b) sound waves ( )

(c) electromagnetic waves ( ) (d) wind waves ( )

**2.** The altitudinal distance of a geostationary satellite from the earth is about

(a) 26000 km ( ) (b) 30000 km ( )

(c) 44000 km ( ) (d) 36000 km ( )

- 3.** The change in the reflectivity/emissivity with time is called  
 (a) spectral variation ( ) (b) spatial variation ( )  
 (c) temporal variation ( ) (d) None of the above ( )
- 4.** The interaction of the electromagnetic radiation produced with a specific wavelength to illuminate a target on the terrain for studying scattered radiance is called  
 (a) passive remote sensing ( )  
 (b) active remote sensing ( )  
 (c) neutral remote sensing ( )  
 (d) None of the above ( )
- 5.** The arrangement of terrain features which provides attributes to shape, size and texture of object is called  
 (a) spectral variation ( ) (b) spatial variation ( )  
 (c) temporal variation ( ) (d) None of the above ( )
- 6.** Which one of the following geometric errors of satellite sensors is random?  
 (a) Scan ( )  
 (b) Panoramic distortion ( )  
 (c) Earth rotation ( )  
 (d) Altitude variation ( )
- 7.** Which one of the following frequency regions is a part of sun's radiation?  
 (a) Ultraviolet frequency region ( )  
 (b) Infrared frequency region ( )  
 (c) Radio frequency region ( )  
 (d) All of the above ( )
- 8.** The instruments which provide electromagnetic radiation of specified wavelength to illuminate the earth surface are called  
 (a) active sensors ( ) (b) passive sensors ( )  
 (c) visible light ( ) (d) None of the above ( )

9. What is the term that refers to the four marks at the centre of the four sides of an aerial photograph?

- (a) Caliper marks ( )                      (b) Focal length ( )  
(c) Fiducial marks ( )                      (d) Fiducial points ( )

10. Which one of the following factors determines the scales of AP?

- (a) Focal length ( )                      (b) Relief displacement ( )  
(c) Air base ( )                              (d) Isocentre ( )

SECTION—B

( Marks : 15 )

Write on the following :

3×5=15

1. Types of AP

**OR**

Principal point and fiducial marks

2. Landsat

**OR**

EMR interaction with atmosphere and earth surface

3. Georeferencing

**OR**

Editing and outlay in image processing

4. Raster and vector

**OR**

Attributed and non-attributed data

5. Forest monitoring

**OR**

Application of PS in urban planning

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

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

1. Briefly outline the historical development of aerial photograph. 10

**OR**

Discuss the uses and importance of aerial photograph in geographical studies. 5+5=10

2. Explain the principle and components of satellite remote sensing in geographical studies. 5+5=10

**OR**

Describe the types of platforms and sensors used in remote sensing. 5+5=10

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

**OR**

Briefly discuss enhancement and classification in data analysis and image processing. 5+5=10

4. What do you mean by GIS? What are the different components of GIS? 4+6=10

**OR**

Discuss the importance of data in GIS. Briefly explain spatial and non-spatial data. 2+4+4=10

5. Discuss the application of RS and GIS in land use/land cover interpretation. 10

**OR**

Explain the importance of GIS and RS in the analysis of urban land use. 10

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