

**2024/TDC (CBCS)/EVEN/SEM/
GELSEC-601T/121**

TDC (CBCS) Even Semester Exam., 2024

GEOLOGY

(6th Semester)

Course No. : GELSEC-601T

(Photogeology and Remote Sensing)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

UNIT—1

1. Answer any three of the following questions :

1×3=3

- (a) What is aerial photography?
- (b) Write the altitudes of the orbits of geostationary and earth observation satellite.
- (c) Name one geostationary (weather) and one EOS satellite.
- (d) Write the wavelengths of visible spectrum of the EMS.

(2)

2. Write short notes on any one of the following : 2
- (a) Aerial camera
 - (b) Types of aerial photograph
3. Answer any one of the following question : 5
- (a) Define photogeology. Write about the advantages and limitations of aerial photography. 1+4=5
 - (b) Write notes on the following : $2\frac{1}{2}+2\frac{1}{2}=5$
 - (i) Aerial photograph
 - (ii) Relief displacement

UNIT—2

4. Answer any three of the following questions : 1×3=3
- (a) What are the full forms of ISRO and NRSC?
 - (b) Write a note stereoscope.
 - (c) Write the full forms of RADAR and SAR.
 - (d) Name the foreign satellite which is a joint venture of NASA and USGS.
5. Write short notes on any one of the following : 2
- (a) Advantages of RS
 - (b) Active and passive remote sensing

(3)

6. Answer any one of the following question : 5
- (a) Discuss the application of RS in geomorphological studies.
 - (b) Write short notes on the following : $2\frac{1}{2}+2\frac{1}{2}=5$
 - (i) Components of RS
 - (ii) Remote sensing sensors

UNIT—3

7. Answer any three of the following questions : 1×3=3
- (a) Define low oblique and high oblique aerial photo.
 - (b) Name the sensors of IRS series.
 - (c) Define GCP.
 - (d) Write the full forms of GPS and GIS.
8. Write short notes on any one of the following : 2
- (a) Spaceborne platforms
 - (b) FCC

9. Answer any *one* of the following question : 5

(a) Write notes on the following : $2\frac{1}{2}+2\frac{1}{2}=5$

(i) Advantages of microwave remote sensing

(ii) Electromagnetic spectrum

(b) Write the names of few Indian remote sensing satellites. Write in detail about the IRS series of satellites. $2+3=5$

UNIT—4

10. Answer any *three* of the following questions :

$1 \times 3 = 3$

(a) Name two GIS software, one from open-ware software.

(b) What are corrections in DIP?

(c) Name the steps of preprocessing.

(d) Define spectral resolution.

11. Write short notes on any *one* of the following : 2

(a) Application of RS in Geology

(b) Microwave remote sensing

12. Answer any *one* of the following question : 5

(a) Define GIS. Discuss the usefulness of GIS. Add a note on GIS tools for map analysis. $1+2+2=5$

(b) Write about the components of GIS. Describe any one of the components. $2\frac{1}{2}+2\frac{1}{2}=5$

UNIT—5

13. Answer any *three* of the following questions :

$1 \times 3 = 3$

(a) What is the colour of vegetation in a FCC satellite image?

(b) Define geospatial data.

(c) Name one use of GPS.

(d) What do you mean by 'pixel'?

14. Write short notes on any *one* of the following : 2

(a) Supervised classification

(b) Atmospheric window

15. Answer any one of the following question : 5

(a) Explain the following : $2\frac{1}{2} + 2\frac{1}{2} = 5$

(i) DIP

(ii) Product generation of GIS

(b) Name the fundamental steps in image processing. Add a note on pattern recognition. $2+3=5$
