



**2021/TDC(CBCS)/EVEN/SEM/  
GELSEC-601T/030**

**TDC (CBCS) Even Semester Exam.,  
September—2021**

**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*

**SECTION—A**

Answer any *fifteen* of the following questions :  
1×15=15

1. What is the shortest wavelength of the electromagnetic radiation?
2. Name one earth observation satellite.
3. Name the type of orbit for weather and telecommunication satellite.



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4. Mention one difference between an aerial photograph and a map.
5. Define scale of an aerial photograph.
6. In which type of aerial photograph the horizon is visible?
7. Which spectral band has the ability to penetrate the clouds?
8. Name one active remote sensor.
9. Write the abbreviation of MSS.
10. Name the methods of preprocessing in digital image processing.
11. Define vector data.
12. What is the difference between an image and a photograph?
13. Define principal point and isocentre.
14. What is called binocular vision?
15. Name the instruments used to produce 3-D image.

16. Define spectral reflectance curve.
17. Name the elements of visual photointerpretation.
18. Name the first Indian satellite.
19. What is the approximate altitude of geosynchronous orbit?
20. Name one weather and communication satellite.
21. What is photogeology?
22. What is nadir point?
23. What is the wavelength of infrared radiation?
24. What is the full form of ISRO?
25. What is pixel?
26. What do you mean by image interpretation?
27. What is sun-synchronous satellite?
28. Name two GIS tools for map analysis.



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29. What are the major components of GIS?
30. What do you mean by image enhancement?

SECTION—B

Write short notes on any five of the following :  $2 \times 5 = 10$

31. Vertical and oblique aerial photograph
32. Relief displacement
33. Sun-synchronous orbit
34. Electromagnetic spectrum used in RS
35. Types of camera used in aerial photography
36. Raster and vector data
37. Radiometric correction
38. Geometric corrections
39. Radar
40. Landsat series of satellites

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( Continued )

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SECTION—C

Answer any five of the following questions :  $5 \times 5 = 25$

41. Define aerial photography. Name the various types of aerial photographs. Add a note on scale of aerial photograph.
42. Define photogeology. Name the various elements of photointerpretation. Write about the geometry of aerial photographs.
43. What is remote sensing? Mention the important components of RS. Add a note on atmospheric window.
44. Write explanatory notes on the following :  $2\frac{1}{2} \times 2 = 5$ 
  - (a) Platforms
  - (b) Sensors and Scanners
45. Define microwave remote sensing and describe the advantages and the sensors used in microwave remote sensors.  $1+2+2=5$
46. Write notes on the following :  $2\frac{1}{2} \times 2 = 5$ 
  - (a) IRS
  - (b) Foreign remote sensing satellites

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( Turn Over )





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47. What do you know by image classification?  
Explain the methods of image classification.

1+4=5

48. Write explanatory notes on the following :

3+2=5

(a) Fundamental steps in DIP

(b) Georeferencing

49. Define GIS. Write the advantages of GIS over manual mapping system. Name one GIS software.

1+3+1=5

50. Explain the following :

2½×2=5

(a) Coordination system

(b) Data model in GIS

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