

20. (a) Application of remote sensing techniques in lithological studies.

Or.

- (b) How remote sensing techniques are helpful for landslides and flood studies.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

21. Explain the fundamentals of remote sensing with neat sketch.
22. Write a history of Indian remote sensing satellites and their uses.
23. Briefly explain visual interpretation techniques.
24. Explain Data merging and Overlay analysis in GIS.
25. Write an essay on how remote sensing techniques are useful to groundwater exploration.
- _____

S.No. 6019

P 22 AGE 1 A

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Applied Geology — Elective

REMOTE SENSING

Time : Three hours

Maximum : 75 marks

PART A — (20 Marks)

Answer ALL questions.

- I. (A) Choose the correct answer ($5 \times 1 = 5$)
1. The wave length ranges of "Orange" colour in the spectrum is _____ μm
- (a) 0.4-0.445 (b) 0.446-0.500
- (c) 0.501-0.578 (d) 0.592-0.620
2. GCP stands for
- (a) Ground change points
- (b) Ground control points
- (c) Global control points
- (d) Global change points
3. The process of correcting the distortions in an image is called _____
- (a) Geometric correction
- (b) Radiometric correction
- (c) Noise removal
- (d) Spatial correction

4. Which one of the following method of clustering, the pixels are analysed one at a time, pixel by pixel and line by line.
 - (a) One-pass
 - (b) Sequential
 - (c) statistical
 - (d) K means
5. Which one of the following is not representing the land use pattern?
 - (a) Residential
 - (b) Agricultural
 - (c) Urban
 - (d) Water
- (B) Fill in the blanks (5 × 1 = 5)
6. Multispectral data can provide information on lithology or rock composition based on _____ reflectance.
7. The wave length of "yellow" colour in the spectrum is _____ μm .
8. IRS stands for _____
9. _____ operations change the value of individual Pixels in the context of the values of neighbouring pixels.
10. _____ corresponds to the physical condition of the ground surface.
- II. Answer the following questions (5 × 2 = 10)
11. Define remote sensing.
12. Short note on passive sensor.
13. Define photogrammetry.

14. Define radiometric correction:
15. Notes on DEM.

PART B — (5 × 5 = 25)

Answer ALL questions, Choosing either (a) or (b).

16. (a) Explain Stefan-boltzman law.
 Or
 (b) Explain Wien's displacement law and their uses.
17. (a) How sensors are used in satellites. Explain different types of sensors with their specifications
 Or
 (b) Explain Detectors with suitable example.
18. (a) Briefly explain Thermal image interpretation.
 Or
 (b) Explain Radar image interpretation.
19. (a) Explain digital image processing.
 Or
 (b) Explain supervised and unsupervised classification techniques in remote sensing.