

19. (a) Explain the process of image enhancement.

Or

- (b) Mention important applications of GIS.
20. (a) Describe the remote sensing applications in identifying the structural features.

Or

- (b) Explain remote sensing applications in mineral exploration.

SECTION C — ( $3 \times 10 = 30$ )

Answer any THREE from the following.

21. Explain the interaction of electromagnetic energy with atmosphere and Earth's surface.
22. What is a plat form? Explain the ground borne, air borne and space borne plat forms.
23. Describe a relatively simple method to check quality of visual image interpretation
24. Explain digital image processing of remote sensing data.
25. Briefly explain remote sensing application in landslide detection.

**S.No. 3660**

**P 22 AGE 1 A**

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Applied Geology— Elective

REMOTE SENSING

Time : Three hours

Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL questions.

- I (A) Choose the correct answer out of the given options. ( $5 \times 1 = 5$ )
1. Which of the following colour have longer wavelength?
- (a) Yellow (b) Red
- (c) Green (d) Blue
2. Which of the following act as air-borne platform?
- (a) LISS-III (b) Dakota
- (c) MOS (d) LISS-II

3. Which of the following depends on meteorological and climatological factors, such as, atmospheric haze. Sun angle and cloud hazes?

- (a) Convergence evidence
- (b) Texture
- (c) Image tone
- (d) Rectangular drainage

4. The process of correcting the distortions in an image is called

- (a) Geometric correction
- (b) Radiometric correction
- (c) Noise removal
- (d) None of these

5. Which of the following is identified in short wave length infrared region?

- (a) Fe                      (b) Water molecules
- (c) Silicates              (d) Mn

(B) Fill in the blanks. (5 × 1 = 5)

6. \_\_\_\_\_ wave remote sensing is used to study the soil moisture.

7. Wi-FS stands for \_\_\_\_\_

8. \_\_\_\_\_ is defined as the relative brightness of a black/white image.

9. A transformation process used to project image onto a common image plane is called \_\_\_\_\_

10. \_\_\_\_\_ photographs are used for geomorphological mapping.

II. Answer the following questions in brief. (5 × 2 = 10)

11. State Stefan-Boltzmann law.

12. Mention any two examples of active and passive sensors.

13. What is texture?

14. Differentiate: vector and raster data sets.

15. Short notes on landslides.

#### SECTION B — (5 × 5 = 25)

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

16. (a) Write about energy interactions with water bodies?

Or

(b) Explain black body radiation.

17. (a) Mention the different factors that affect the spatial resolution.

Or

(b) Write a note on active and passive sensors.

18. (a) Explain drainage pattern and texture.

Or

(b) Describe image tone.