

**Question Paper Code : 50562**

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

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Fifth/Sixth Semester

Electronics and Communication Engineering

CEC 348 — REMOTE SENSING

(Common to: Electronics and Telecommunication Engineering)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State Stefan's Boltzmann's law.
2. Define remote sensing.
3. List the difference between specular and diffuse reflectors.
4. How solid surface scattering occur in microwave region?
5. State Kepler's law of planetary motion.
6. What is Lagrange orbit?
7. What is the use of UAV?
8. Distinguish between spatial and spectral resolution.
9. State the use of contrast stretching.
10. What is Digital Image Processing?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Describe the electromagnetic specific with neat sketch for remote sensing data. (8)
- (ii) Distinguish between Active and Passive remote sensing. (5)

Or

- (b) (i) Explain in detail about the components of Remote sensing. (8)  
(ii) Discuss the merits and demerits of data collection between conventional and remote sensing methods. (5)
12. (a) Elaborate the spectral reflectance characteristics for soils, water and vegetation.

Or

- (b) Explain the main atmospheric regions and its characteristics.
13. (a) Discuss the types of remote sensing imaging platforms with examples.

Or

- (b) Discriminate the sun-synchronous and geo-synchronous satellites with examples.
14. (a) Explain the operation of along track scanning and across track scanning.

Or

- (b) Describe the orbital and sensor characteristics of live Indian earth observation satellites.
15. (a) Describe the procedure for visual interpretation of satellite image and explain the interpretation key characteristics.

Or

- (b) Discuss the step by step procedure adopted in supervised and unsupervised classification of remote sensed data.

PART C — (1 × 15 = 15 marks)

16. (a) Elaborate the role of remote sensing in flood management.

Or

- (b) Explain the application of remote sensing in vegetation stress monitoring and forest conservation.