

CCGIS Semester - 1 Examination

December-2024

Introduction to Remote Sensing (RS) and Image Processing (LEVEL 1)

Time: 2:30 Hours

Marks: 70

Instructions:

1. Figures to the right indicate marks.

Section A Give Short Answer of the following Questions (3 Marks Each) [15]

1. What is remote sensing, and how does it differ from traditional survey methods?
2. How does remote sensing help in wildlife management and monitoring?
3. Application of remote sensing in environment management
4. What is image classification, and how is it used in remote sensing?
5. What is the significance of land cover and land use change detection in environmental management

Section B Give Medium Answer of the following Questions (5 Marks Each) [25]

6. (a) What are the different types of remote sensing sensors used for data collection?

OR

- (b) How do satellite missions like LANDSAT and SENTINEL contribute to environmental monitoring?
7. (a) Describe the use of remote sensing in urban planning

OR

- (b) write briefly about qualitative and quantitative mapping techniques
8. (a) How does the use of colours and patterns affect map readability and interpretation?

OR

- (b) What is image enhancement, and how does it improve the interpretation of remote sensing images?
9. (a) What are digital image processing steps, and how classification improves interpretation?

OR

- (b) Illustrate the major image processing software along with their merits and demerits.
10. (a) Explain land use classification and differences between hard and soft techniques.

OR

- (b) Describe the role of map symbols and colours in representing geographical features.

Section C Answer the following Questions (10 Marks Each, Attempt Any 3) [30]

11. Discuss the basic principles of electromagnetic radiation (EMR) and its interaction with different surfaces. How do these interactions help in identifying spectral signatures used in remote sensing?
12. Explain the role of remote sensing in environmental management and vegetation monitoring. How does remote sensing aid in assessing land cover changes and ecosystem health?
13. Describe the different types of map projections and their applications in cartography. What are the advantages and limitations of each projection type in representing Earth's surface?
14. Explain the concept of image classification in remote sensing. What are the different types of classification methods?
15. Discuss the importance of land cover and land use change detection in monitoring environmental and ecological changes.
