5. (a) What is the significance of GPS surveys in GIS data import and mapping? (8)

   (b) Analyze the role of remote sensing in agriculture. (7)

6. Evaluate the use of remote sensing in forest resource management. (15)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4241 **G**

Unique Paper Code : 32183301

Name of the Paper : Remote Sensing Geographic Information System & Modeling

Name of the Course : **B.Sc. (H) Environmental Sciences-SEC**

Semester : III

Duration : 2 Hours Maximum Marks : 50

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **any Four** questions.
3. **All** questions carry equal marks.

1. (a) Write the definition of the following (Any five): (2×5=10)

   (i) Electromagnetic spectrum

(ii) Spectral signature

(iii) Vector data in GIS

(iv) Non-parametric tests in statistics

(v) Land use/land cover mapping

(vi) Satellites and sensors in remote sensing

(b) Fill in the blanks: (1x5=5)

(i) In remote sensing, _____ refers to the response pattern of a specific surface material.

(ii) GIS utilizes _____ data to represent objects such as rivers or roads.

(iii) The _____ test is used to determine if two sets of data are significantly different from each other.

(iv) _____ photography is an important tool for image interpretation in remote sensing.

(v) In statistical analysis, _____ measures the degree to which data are spread out or concentrated.

2. Write short notes on the following: (5×3=15)

(i) Interaction of electromagnetic radiation with Earth's surface

(ii) Applications of GIS in water resource management

(iii) Parametric tests in statistical analysis

3. Write down the difference between the following: (5×3=15)

(i) Raster and vector data in GIS

(ii) Satellites and aerial photography in remote sensing

(iii) Normal distribution and Poisson distribution

4. Discuss the importance of GIS in land use planning. (15)