

Unique Paper Code : **32183301**  
Name of Paper : **Remote Sensing, Geographic Information System & Modelling (SEC)**  
Name of Course : **B.Sc. (Hons) Environmental Sciences**  
Semester : **III**  
Duration: **3 hours** Maximum marks: **75**

*Attempt **any four** questions. All questions carry **equal** marks.*

1. With the help of labelled and schematic diagrams, explain the application of Remote Sensing and Geographic Information System (GIS) in natural resource management.
2. A company wants to survey a site for a mining-based project. Explain the steps it should take for preparing the land-use/land-covers map for sustainable development of the project.
3. Global warming and climate change have emerged as one of the most daunting, challenging threats to the survival of human communities and natural ecosystems. With the help of suitable examples, explain how Geographic Information System (GIS) can help predict the impacts of climate change and help the policy makers effectively manage climate change impacts.
4. With suitable examples, explain the different measures of central tendency and dispersion.
5. A researcher wants to test whether the application of fertilizer X would enhance crop productivity in his experimental site. Formulate a null and alternate hypothesis and suggest statistical techniques to test null and alternate hypotheses and address the research question.
6. What is the difference between raster and vector data, and explain the application of raster and vector data in database generation of Geographic Information System (GIS)?