

Tribhuvan University  
**Institute of Science and Technology**  
2071



Bachelor Level/ Fourth Year/Eight Semester/Science  
**Computer Science and Information Technology-(CSc.459)**  
**(Geographic Information System)**

Full Marks: 60  
Pass Marks: 24  
Time: 3 hours.

*Candidates are required to give their answers on their own words as for practicable.*  
The figures in the margin indicate full marks.

**Attempt any SIX questions.**

**6x10=60**

1. Define GIS. Describe the role of GIS in a mountainous country like Nepal. Support your answer with a reference of an application. [2+8]
2. What are various coordinate systems used in GIS applications? Describe them in brief. [2+8]
3. What are raster and vector data? Differentiate between their properties with advantages and disadvantages.
4. What are the various sources of GIS data? Describe methods of data capture. [2+8]
5. What do you mean by spatial analysis? How do you perform the raster overlay operations using relational operators? Explain with examples. [2+8]
6. What is GPS? How does it work? What are various types of errors related to GPS data? [2+4+4]
7. Explain how does a clearinghouse work? What problems do you face during the spatial data sharing? [5+5]
8. Write short notes on (any two): [5+5]
  - a. DTM
  - b. Remote sensing data
  - c. Open GIS
  - d. Layer