

Tribhuvan University  
**Institute of science and Technology**  
2073  
✧

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

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

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

**Attempts any six questions.**

[10x6=60]

1. Define GIS as an Information System. How a country like Nepal can benefit from GIS? Describe its application in Agriculture. [2+4+4]
2. What is distortion? Describe various types of Map Projection along with free hand drawing. [2+8]
3. What are raster and vector data? Differentiate between their properties with advantages and disadvantages. [2+8]
4. What are various sources of GIS data? Describe methods of data capture. [2+8]
5. What is a spatial overlay operator? Explain neighborhood functions that are being implemented in GIS software for analysis. [4+6]
6. Define Geo Database. Explain characteristics of a good database design. [2+10]
7. Explain how does a clearing house works? What problems do you face during the spatial data sharing? [5+5]
8. Write short note on **(any two)** [5+5]
  - (a) Functional Component of GIS
  - (b) UTM
  - (c) Map Elements
  - (d) Open GIS