

TRIBHUWAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
Sample Question

Exam	Regular		
Level	BE	Full Marks	60
Programme	BGE	Pass Marks	24
Year/Part	III/II	Time	3 hrs

Subject : *Ranging Technique (ENGE 354)*

Candidates are required to give their answers in their own words as far as practicable.

*Attempt **All** questions.*

The figure in the margin indicate Full Marks.

Assume Suitable data if necessary.

1. Define Ranging technique. Explain in brief about various types of Ranging techniques. [1+5]
2. Classify various types of Remote sensing techniques according to various characteristics and state where LiDAR lies on the category. [6]
3. Derive and explain ground resolution equation and explain some of the implications derived from the ground resolution equation. [6]
4. Derive relation for bounds on pulse repetition frequency. [6]
5. Explain the role of incidence angle and wavelength in radar image interpretation. [6]
6. Explain Distributed target and derive the radar equation for distributed targets. [6]
7. Explain how lidar mapping helps for urban plan and forest personnel. [4]
8. What are RANSAC algorithm and surface growing? Differentiate between Lidar and Laser? Explain the various platform for Lidar survey? [2+2+4]
9. Explain the properties of Laser beam? How Laser is emitted form Lidar instrument? [2+4]
10. What are Lidar supported file format? List out the advantages of Mobile terrestrial laser scanning system? What is point cloud segmentation? [1+4+1]