**Assignment # 4**

**Deadline- 15 August 2024**

1. Describe the different types of image resolutions. Describe IFOV, Swaths and Nadir with illustrations.
2. Differentiate between photogrammetry and LiDAR technology. How DEM/DTM can be generated in photogrammetric process?
3. Explain common image processing functions with illustrations. Differentiate between supervised and unsupervised classification.
4. What are image enhancement techniques? Describe the importance of spatial filtering in image enhancement.
5. Differentiate between photograph and image. Calculate the scale factor for an Arial photo taken at 2500-meter height by a camera with a focal length of 88 mm.
6. What information is contained in a histogram of image data? What is a focal cell in neighborhood operation? Describe with example.
7. Describe relief displacement with illustrations. The relief displacement for a tower is 2.5 mm, and the radial distance from the center of the photo to the top of the tower is 55 mm. If the flying height is 1250m above the base of the tower, find the height of the tower.
8. What are airborne radars? How does it differ from space-borne radars?
9. How is hyperspectral image different from multispectral image? Explain with illustrations.