Uka Tarsadia University (Diwaliba Polytechnic)
Diploma in Environmental Engineering
Assignment (Surveying)

Unit 1 Introduction and Scale

1. Define: Plan, Map
2. Enlist classification of surveying.
3. Mention the uses of surveying
4. List out the purposes of surveying.
5. Distinguish between plane surveying and geodetic surveying.
6. Enlist types of scales.
7. Write short note on principle of surveying.

Unit 2 Chain Survey

1. Define the following terms:
   a. Main Survey Station
   b. Base Line
   c. Tie Line
   d. Check Line
   e. Tie stations
   f. Offset
2. List out the types of offsets and explain them in detail
3. List out the different instruments used in chaining and explain them in detail
4. List out the various methods of making linear measurements
5. What is ranging? List out the different methods of ranging and explain them in detail
6. Explain different methods for chaining on sloping ground.
7. State the types of obstacles in chaining.Explain any one method of overcoming the obstacle.
8. State the points to be considered while selecting survey station for chain survey.
9. Explain errors in chaining in detail.

Unit 3 Compass

Survey

1. Define the following terms:
    a. Fore Bearing
    b. Back Bearing
    c. Whole circle Bearing
    d. Quadrantal Bearing
    e. Reduced Bearing
    f. True Bearing
    g. Magnetic Bearing
    h. True Meridian
    i. Magnetic Meridian
    j. Arbitrary Meridian
    k. Magnetic Declination
    l. Isogonic lines
    m. Agonic Lines
    n. Dip of magnetic needle
2. Difference between prismatic compass and surveyor compass
3. Explain errors in compass survey in detail.
4. List out the precautions to be taken during the compass survey.
5. Difference between open traverse and close traverse.
6. Explain the temporary adjustment of prismatic compass.

Unit 4

Levelling

1. Explain the following terms:
    a. Bench Mark
    b. Line of sight
    c. Fore Sight
    d. Back Sight
    e. Intermediate Sight
    f. Axis of telescope
    g. Change point
    h. Reduced Level
    i. Change point
    j. Vertical axis
    k. Level Line
    l. Contour interval
    m. Horizontal equivalent
    n. Contour line
2. Differentiate between self reading staff and target staff
3. Difference between internal focussing telescope and external focussing telescope

4. Give a list of levelling staff and explain any one in detail.
5. Enlist type of bench mark. Explain any one.
6. Explain various uses of contour.
7. Write short note on contour characteristics.
8. Explain temporary adjustment of dumpy level.
9. Differentiate between Rise and Fall method and HI method.
10. List different methods of levelling. Explain them in detail.

Unit 5 Plane Table Survey

1. List the instruments used in plane tabling and give their uses.
2. Write advantages and disadvantages of plane table survey.
3. Explain the principle of plane tabling
4. Give the limitations of plane table survey.
5. Enlist methods of plane tabling. Explain any one in detail.
6. Write short note on Accessories of plane tabling.
7. List out the points to be kept in mind in plane tabling.
8. Explain the errors in plane table survey.
9. Write short note on the resection method of plane table surveying.
10. Explain radiation method in plane table surveying with neat sketch.

Unit 6 Introduction to Global Positioning System (GPS)

1. Write short note: Global Positioning system.
2. Explain various segments of GPS with sketch.
3. Give various applications of GPS.
4. Give advantages of GPS.
5. Write short note: GPS receivers
6. Explain various types of GPS maps.
7. Explain various GPS measuring techniques.