

LAND SURVEY-I

DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY
- CIVIL ENGINEERING	- 4TH	- SJ. ROBY TIRKEY
SUBJECT	NO. OF DAYS / PER WEEK	SEMESTER FROM DATE 12/2/23 TO 23/5/24
LAND SURVEYING-I	CLASS ALLOTTED :- 05	NO. OF WEEKS :- 13
WEEK	CLASS DAY	THEORY
1st 13.02.2023 to 17.02.2023	1st 2nd	Introduction to surveying, linear → measurements: → Surveying :- Definition, Aims and Objectives. Principle of survey - plane surveying Geodetic surveying - Instrumental surveying.
	3rd	→ Precision and accuracy of measurement instruments used for measurement of distance, types of tapes and chains.
	4th	→ Errors and mistakes in chain linear measurement - classification, sources of errors and remedies.
2nd 20.2.2023 to 25.2.2023	1st	Corrections to measured lengths due to incorrect length, temperature variation, pull, sag, numerical problem applying corrections

Signature... Roxy T
20/2/2023

2nd → Numerical problem.

3rd → Numerical problem.

4th → Numerical problem.

Chaining and chain surveying:

5th → Equipment and accessories for chaining.

3rd week

27.2.2023 to

4.3.2023

1st → Ranging - Purpose, signaling, direct and indirect ranging, line ranger features and use, error due to incorrect ranging.

2nd → Method of chaining - Chaining on flat ground, chaining on sloping ground - stepping method, clinometer features and use, slope correction.

3rd → Setting perpendicular with chain and tape, chaining across different types of obstacles - Numerical problems on chaining across obstacles.

4th P Numerical problems

5th Numerical problems

4th week

6.3.2023 to 17.3.2023

1st → Numerical problems.

Signature... Quasiruby
6/3/23

2nd → Purpose of chain surveying, its principles
concept of field book. selection of
survey stations, base line, ties lines,
check lines.

3rd → Offsets - Necessity, perpendicular and
oblique offsets, Instruments for setting
offset - Cross staff, Optical square.

4th → Errors in chain surveying - compensating
and accumulative errors because \leftarrow
5th → remedies, precautions to be taken
during chain surveying.

5th week
20.3.2023
to
25.3.2023

Angular Measurement And Compass Surveying

1st → Measurement of angles with chain,
tape & compass.

2nd → Compass - Types, features, parts, merits &
demerits, testing & adjustment of compass.

3rd → Designation of angles - concept of meridians:
magnetic, true, arbitrary; concept of
bearings - whole circle bearing, Quadrantal
bearing, Reduced bearing, suitability of
4th → of application, Numerical problems on
conversion of bearings.

5th → Numerical problems.

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25/3/2023

6th week		
27.03.2023 to	1st →	Numerical problems
1.04.2023	2nd →	Numerical problems.
	3rd →	Use of compasses:- setting in field-centering, leveling, taking readings, concepts of fore bearing, back bearing, Numerical problems on computation of interior & exterior angles from bearings.
	4th →	Effects of earth's magnetism - dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination
7th week		
08.04.2023 to		Numerical problems
06.04.2023		Numerical problems
	1st →	Numerical problems.
	2nd →	Errors in angle measurement with their sources & remedies.
	3rd →	Principle of traversing - open & closed traverse, methods of traversing. local attraction - causes, detection, errors, corrections, numerical problems of application of correction due to local

Signature..... *[Signature]*
5/4/23

attraction

4th → Errors in compass surveying - source & remedies. Plotting of traverse check of closing error in closed & open traverse, Bowditch's correction, table.

Map Reading - Cadastral Maps & Nomenclature:

5th → Study of direction, scale, grid reference and grid square study of signs and symbols.

8th week
 8.04.2023
 to
 15.04.2023

Cadastral Map preparation methodology

1st → Unique identification number of parcel.

Positions of existing control points and its types

2nd → Adjacent boundaries and features. Topology creation and verification.

Plane Table Surveying:

3rd → Objectives, principles and use of plane table surveying.

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Praseetha
 10/04/23

4th → Instruments & accessories used in plane table surveying.

Methods of plane table surveying (1) Radiation (2) Intersection (3) Traversing (4) Resection.

5th → Statements of two point and three point problem.

Errors in plane table surveying and their corrections. Precaution in plane table surveying.

9th week
17.04.2023
FR
21.04.2023

Theodolite Surveying and Traversing:

1st Purpose and definition of theodolite surveying.

Transit theodolite - Description of features component part. fundamental axes of a theodolite. concept of vernier. reading a vernier. Temporary adjustment of theodolite.

2nd Concept of traversing: Measurement of horizontal and vertical angles.

Measurement of magnetic bearing deflection angle. direct angle, setting out angles, prolonging a straight line with theodolite. Errors in theodolite

Signature..... *Aravind*
18/04/23

Observation.

3rd) Methods of theodolite traversing with - inclined angle method, deflection angle method, bearing method, plotting the traverse by coordinate method checks for open and closed traverse.

4th) Traverse computation - consecutive coordinates, latitude and departure Gale's traverse table, Numerical problems on omitted measurement of lengths & bearing.

Closing error - adjustment of angular errors, adjustment of bearings, numerical problems.

5th → Numerical problems

10th week .

24.04.2023 .
to

1st → Numerical problems

29.04.2023

2nd → Numerical problems

3rd → Balancing of traverse - Bowditch's method, transit method, graphical method, axis method, calculation of area of closed traverse.

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Devanshi
24/4/23

levelling And contouring-

1st → Definition and purpose and types of levelling. concepts of level surface, horizontal surface, vertical surface, datum, R.L.B.M.

5th → Instruments used for levelling concepts of line of collimation axis of bubble tube, axis of telescope vertical axis

10th week

31.04.2023

to

6.05.2023

1st → levelling staff. Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI.

Field data entry - level book. low height of collimation method and Rise & fall method comparison. Numerical problems on reduction of levels applying both methods. Arithmetic checks.

2nd → Numerical problem

3rd → Numerical problem

4th → Numerical problem.

5th → Effects of curvature and refraction numerical problems on application of correction

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6/05/23

11th week

8.05.2023

to

13.05.2023

Numerical problems

1st →

Numerical problems

Numerical problems.

2nd → Reciprocal leveling - principles methods
 numerical problems precise leveling.

3rd →

Numerical problem

Numerical problem

Numerical problem.

4th →

Errors in levelling and precautions,
 permanent and temporary adjustments
 of different types of levels.

5th →

Definitions, concepts and characteristics
 of contours.

12th week

15.05.2023

to

20.05.2023

1st →

Methods of contouring, plotting contour
 maps, Interpretation of contour maps,
 toposhoots.

2nd →

Use of contour maps on civil engineering
 projects - drawing cross-sections from
 contour maps, locating proposal route
 of roads/railway/canal on a contour
 map, computation of volume of earthwork

Signature..... Suresh Kiran
 16/05/23

from contour map for simple structure.

and Map interpretation: Interpret human and economic activities (i.e. settlement, communication, land use etc.) Interpret physical landform (i.e. Relief, Drainage pattern etc.) Problem solving and Decision making.

Computation of Area & Volume:-

1st Determination of areas, computation of areas from plans.

5th Calculation of area by using ordinate rule, trapezoidal rule, Simpson's rule.

13th week.

22.05.2024
to
28.05.2024

1st Calculation of volumes by prismatic formula and trapezoidal formula, Prismoidal corrections, curvature correction for volumes.

and Revision

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23/5/24