

Lesson Plan

Course - Surveying Lab(Pr-1)
Semester- 5th
Program- Civil Engineering
Institute - Govt. Polytechnic, Sonpur
Session - 2026-2027
Total Load-60(4/week)

Sl. No.	Week No.	Class No.	Topic to be Covered
1	Week-1	Class-1	Measurement of distance between two survey stations using chain – Ranging and chaining
2	Week-1	Class-2	Measurement of distance using chain – Recording observations
3	Week-1	Class-3	Measurement of distance using tape between intervisible stations
4	Week-1	Class-4	Measurement of distance using ranging rods and comparison of results
5	Week-2	Class-5	Determination of area of open field by chain and cross staff survey – Field layout
6	Week-2	Class-6	Chain and cross staff survey – Field observations
7	Week-2	Class-7	Booking of field measurements
8	Week-2	Class-8	Calculation of area of open field
9	Week-3	Class-9	Measurement of Fore Bearing and Back Bearing using Prismatic Compass – Instrument setup
10	Week-3	Class-10	Measurement of Fore Bearing of survey lines
11	Week-3	Class-11	Measurement of Back Bearing of survey lines
12	Week-3	Class-12	Open traverse using Prismatic Compass – Recording observations
13	Week-4	Class-13	Differential Levelling – Setting up Dumpy Level/Auto Level
14	Week-4	Class-14	Differential Levelling – Field observations

15	Week-4	Class-1 5	Reduced Levels by Height of Instrument Method
16	Week-4	Class-1 6	Reduced Levels by Rise and Fall Method
17	Week-5	Class-1 7	Survey Project using Level – Profile Levelling (Part-I)
18	Week-5	Class-1 8	Survey Project using Level – Profile Levelling (Part-II)
19	Week-5	Class-1 9	Survey Project – Cross-sectioning at specified intervals
20	Week-5	Class-2 0	Computation of profile and cross-sectional data
21	Week-6	Class-2 1	Survey Project – Profile Levelling (Continuation)
22	Week-6	Class-2 2	Survey Project – Cross-section observations
23	Week-6	Class-2 3	Plotting of profile and cross-sections
24	Week-6	Class-2 4	Completion of profile levelling project
25	Week-7	Class-2 5	Digital Theodolite as Tacheometer – Instrument setup
26	Week-7	Class-2 6	Measurement of horizontal distance by Tacheometry
27	Week-7	Class-2 7	Determination of Reduced Levels by Tacheometry
28	Week-7	Class-2 8	Calculation and interpretation of results
29	Week-8	Class-2 9	Setting out Circular Curve by Rankine's Method – Calculation of deflection angles
30	Week-8	Class-3 0	Setting out Circular Curve – Field procedure
31	Week-8	Class-3 1	Setting out Circular Curve – Pegging and verification

32	Week-8	Class-3 2	Observation and completion of circular curve
33	Week-9	Class-3 3	Measurement of area of irregular figure using Digital Planimeter – Instrument setup
34	Week-9	Class-3 4	Measurement of irregular area using Digital Planimeter
35	Week-9	Class-3 5	Calculation of area
36	Week-9	Class-3 6	Verification and interpretation of results
37	Week-1 0	Class-3 7	Total Station – Instrument setup and centering
38	Week-1 0	Class-3 8	Measurement of horizontal distance using Total Station
39	Week-1 0	Class-3 9	Measurement of vertical angle using Total Station
40	Week-1 0	Class-4 0	Recording and verification of Total Station observations
41	Week-1 1	Class-4 1	Total Station Survey Project – Closed Traverse (Part-I)
42	Week-1 1	Class-4 2	Total Station Survey Project – Closed Traverse (Part-II)
43	Week-1 1	Class-4 3	Total Station Survey Project – Field observations
44	Week-1 1	Class-4 4	Traverse computation
45	Week-1 2	Class-4 5	Total Station Survey Project – Plotting of closed traverse
46	Week-1 2	Class-4 6	Adjustment and verification of traverse
47	Week-1 2	Class-4 7	Completion of closed traverse project
48	Week-1 2	Class-4 8	Preparation of traverse results

49	Week-1 3	Class-4 9	DGPS – Instrument setup
50	Week-1 3	Class-5 0	Determination of coordinates using DGPS
51	Week-1 3	Class-5 1	Observation and recording of DGPS data
52	Week-1 3	Class-5 2	Interpretation of coordinate data
53	Week-1 4	Class-5 3	Preparation of Map using GIS Software – Data input
54	Week-1 4	Class-5 4	GIS Software – Georeferencing and editing
55	Week-1 4	Class-5 5	GIS Software – Map preparation
56	Week-1 4	Class-5 6	GIS Software – Final map generation
57	Week-1 5	Class-5 7	Survey Project – Compilation of field data
58	Week-1 5	Class-5 8	Survey Project – Plotting and verification
59	Week-1 5	Class-5 9	Survey Project – Preparation of final project report
60	Week-1 5	Class-6 0	Survey Project – Submission of completed survey report

Signature of Faculty
Civil Engg,GP Sonpur

Signature of HOD
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