
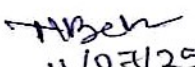


SYNERGY POLYTECHNIC, BHUBANESWAR
(DEPARTMENT OF MINING ENGINEERING)
(LESSON PLAN 3RD SEM, 2025-26)

Discipline: Mining Engr.	Semester: 3rd	Name of the Teaching Faculty: Pratyusha Ku Sethy
Subject: Mine Survey-I (Th.2)	No of days/per week class allotted: 3	Semester from Date: 14.7.25 to Date: 11.11.25 No of weeks:
Week	Class/ Day	Theory/ Practical Topics
1st	1 st	Explain the concepts of chain survey
	2 nd	Survey conventional signs, abbreviations, Standards of lining, inking and coloring, selection of scales,
	3 rd	-do-
2nd	1 st	Explain principle of chain surveying, instruments and correctness, Ranging and chaining of a line
	2 nd	-do-
	3 rd	Errors in chaining, Obstruction while chaining, Chaining along a sloping ground, Use of optical square and line range and correctness.
3rd	1 st	-do-
	2 nd	Explain Offsets and their measurements, Reference sketches of stations.
	3 rd	Procedure of chain surveying, Field booking and plotting of chain survey.
4th	1 st	Describe Prismatic compass, its adjustments and use.
	2 nd	Explain True meridians, magnetic meridian, grid line meridian and arbitrary meridian, W.C.B. and Q.B. and conversion
	3 rd	Explain Fore and back bearing and their conversion, Bearing angles, Local alteration, Local alteration and correction to the bearing, Closed and open compass surveying and its plotting,
5th	1 st	-do-
	2 nd	Explain Surveyor compass(miner's dial), its adjustment and use, Prismatic compass with surveyor compass
	3 rd	Identify the fundamentals of plane table survey
6th	1 st	Fundamentals of Plane Table Survey, Two point problems.
	2 nd	Three point problems and its solution by tracing paper method, Advantages and disadvantages of plane table.
	3 rd	-do-
	4 th	Methods of determining areas, Areas from offset to a base line using Mid ordinate rule
7th	1 st	-do-
	2 nd	Average ordinate rule, Trapezoidal rule, Simpson's rule, Compute area by Planimeter and from graph paper
	3 rd	-do-


 Sign of Faculty


 11/07/25
 Head of Dept.


 11/07/25
 Principal

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(LESSON PLAN 3RD SEM, 2025-26)

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Week	Class/ Day	Theory/ Practical Topics
8 th	1 st	Explain Benchmark M.S.L. Dumpy level, Adjust dumpy level, modern levels (Auto Level & etc.), and precise staff
	2 nd	-do-
	3 rd	Explain Methods of leveling- Rise & fall method, height of instrument.
9 th	1 st	-do-
	2 nd	Explain Errors in ordinary levelling, Reciprocal leveling, subsidence leveling.
	3 rd	-do-
10 th	1 st	Explain setting out gradient, trigonometric leveling, geometrical leveling and physical leveling
	2 nd	-do-
	3 rd	Describe different methods of calculating ore reserves and application of theodolites in surveying
11 th	1 st	-do-
	2 nd	-do-
	3 rd	Explain Reserves, Reserves by exploratory, Primary ore reserve by material balance method and decline curve method.
12 th	1 st	-do-
	2 nd	-do-
	3 rd	-do-
13 th	1 st	Classes taken on Calculation of Ore Reserves.
	2 nd	-do-
	3 rd	Describe Temporary and permanent adjustment of Theodolite
14 th	1 st	Principles of operation and different parts, Horizontal and Vertical angles, Setting of the instrument, Traversing with Theodolite
	2 nd	-do-
	3 rd	-do-

Pratyusha Ku. Sethy
14/07/25
Sign of Faculty

T. B. Ch
11/07/25
Head of Dept.

Pratyusha Ku. Sethy
11/07/25
Principal