

GOVERNMENT POLYTECHNIC JAIPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website: <https://www.gpjajpur.org> E-mail: principalgpjajpur@yahoo.co.in Contact: 9437155107**DEPARTMENT OF MINING ENGINEERING****LESSON PLAN**

Discipline: MINING	Semester: 3rd	Name of the Teaching faculty: SOUMYA RANJAN SAMAL
Subject: MINE SURVEY - I	No of Days/Week class allotted: 3	Semester from Date: 12/09/2025 To Date: 15/11/2025 No of weeks: 15
Week	Class Day	Topics
1st	1st	Give survey conventional signs, abbreviation used.
	2nd	Give standards of lining, inking and coloring.
	3rd	Describe selection of scales used. Explain principle of chain surveying.
2nd	1st	Describe instruments used and checking their correctness.
	2nd	Explain ranging and chaining of a line.
	3rd	Calculate errors in chaining. Explain obstruction while chaining.
3rd	1st	Describe chaining along a sloping ground. Describe use of optical square
	2nd	Describe use of line range and checking optical square for correctness.
	3rd	Describe offsets and their measurements.
4th	1st	Give reference sketches of stations.
	2nd	Give procedure of chain surveying.
	3rd	Describe prismatic compass, its adjustments and use. Explain field booking
5th	1st	plotting of chain survey.
	2nd	Explain true meridians.
	3rd	Explain magnetic meridian, grid line meridian and arbitrary meridian
6th	1st	Explain W.C.B. and Q.B. and conversion from one to other
	2nd	Find out fore and back bearing and their conversion.
	3rd	Compute angles from bearing and bearing angles. Define local alteration
7th	1st	Determine local alteration and necessary correction to the bearing.
	2nd	Explain closed and open compass surveying and its plotting.
	3rd	Give procedure of field booking in compass and chain traverses. Explain adjustment of closing error in compass traversing.
8th	1st	Describe surveyor compass(miner's dial), its adjustment and use
	2nd	Compare prismatic compass with surveyor compass.
	3rd	Fundamentals of Plane Table Survey.
9th	1st	Explain two point problems.
	2nd	Explain three point problems and its solution by tracing paper method.
	3rd	Describe advantages of plane table.
10th	1st	Find out areas from offset to a base line using Mid ordinate rule
	2nd	Find out areas from offset to a base line using Average ordinate rule
	3rd	Find out areas from offset to a base line using Trapezoidal rule /Simpson's rule

11th	1st	Compute area by Planimeter and from graph paper/Define benchmark M.S.L. Dumpy level.
	2nd	Adjust dumpy level, modern levels (Auto Level & etc.), and precise staff.
	3rd	Describe methods of leveling- Rise & fall method, height of instrument.
12th	1st	Errors in ordinary leveling.
	2nd	Explain reciprocal leveling, subsidence leveling, setting out gradient,
	3rd	trigonometric leveling, geometrical leveling, and physical leveling.
13th	1st	Classify reserves./Evaluate reserves by exploratory .
	2nd	Calculate primary ore reserve by material balance method
	3rd	Calculate primary ore reserve by decline curve method.
14th	1st	Describe temporary and permanent adjustment of Theodolite.
	2nd	Describe the principles of operation & describe different parts.
	3rd	Describe setting of the instrument & Traversing with Theodolite.
15th	1st	REVISION/DOUBT CLEARING CLASS
	2nd	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS


 Signature of Faculty