GOVERNMENT POLYTECHNIC JAJPUR
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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 alloted: 4	Semester from Date: 15/09/22 To Date: 22/12/22 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.
	4th	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.
	4th	Explain obstruction while chaining.
3rd	1st	Describe chaining along a sloping ground.
	2nd	Describe use of optical square
	3rd	Describe use of line range and checking optical square for correctness.
	4th	Describe offsets and their measurements.
4th	1st	Give reference sketches of stations.
	2nd	Give procedure of chain surveying.
	3rd	CLASS TEST-I
	4th	Explain field booking
5th	1st	plotting of chain survey.
	2nd	Describe prismatic compass, its adjustments and use.
	3rd	Explain true meridians.
	4th	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
	4th	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.
	4th	Explain adjustment of closing error in compass traversing.
8th	1st	Describe surveyor compass(miner's dial),its adjustment and use
	2nd	INTERNAL-I
	3rd	Compare prismatic compass with surveyor compass.

	4th	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.
	4th	Explain methods of determining areas.
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
	4th	Find out areas from offset to a base line using Simpson's rule
11th	1st	Compute area by Planimeter and from graph paper.
	2nd	Define benchmark M.S.L. Dumpy level.
	3rd	Adjust dumpy level, modern levels (Auto Level & etc.), and precise staff.
	4th	Describe methods of leveling- Rise & fall method, height of instrument.
12th	1st	CLASS -II
	2nd	Errors in ordinary leveling.
	3rd	Explain reciprocal leveling, subsidence leveling, setting out gradient,
	4th	trigonometric leveling, geometrical leveling, and physical leveling.
13th	1st	Classify reserves.
	2nd	Evaluate reserves by exploratory .
	3rd	Calculate primary ore reserve by material balance method
	4th	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.
		INTERNAL-II
	4th	REVISION/DOUBT CLEARING CLASS
15th	1st	REVISION/DOUBT CLEARING CLASS
	2nd	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS
	4th	

Signature of Faculty