Discipline	Semester-3rd	Name of teaching staff
MINING Sub-Mine Survey-I	No. of classes allotted per week :- 04	From date :- To date :- No. of weeks - 15

WEEK	CLASSES	THEORY & PRACTICAL TOPICS
1st	1st	→ Give survey conventional signs, abbreviation used
	2nd	Give standards of → Lining → Inking → Coloring.
	3rd	Describe selection of scales used.
	4th	Explain principles of chain surveying.
2nd	1st	→ Describe instruments used → checking their correctness
	2nd	→ Explain chaining of line → Ranging of line
	3rd	calculate errors in chaining.

WEEK	CLASSES	TOPICS
~~4th~~	4th	Explain obstruction while chaining
3rd	1st	Describe chaining along a sloping ground.
	2nd	→ Describe use of optical square → Line range.
	3rd	checking optical square for correctness.
	4th	Describe → offsets → Arrangements
4th	1st	Give reference sketches of stations
	2nd	procedure of chain surveying.
	3rd	→ Explain ~~book~~ field booking → ploting of chain survey.

WEEK	CLASSES	TOPICS
	4th	preference & procedure of field book & plotting of chain survey.
5th	1st	Describe prismatic compass
	2nd	prismatic compass adjustment and use
	3rd	Explain true mesidian magnetic mesidian
	4th	Explain Grid mesidian arbitrary mesidian
6th	1st	Explain W.C.B and Q.B
	2nd	Conversion from one to another
	3rd	Fore and back bearing. their conversion
	4th	Compute angles from bearing and bearing angles

WEEK	CLASSES	TOPICS
7th	1st	Define local attraction
	2nd	Necessary correction to the bearing
	3rd	explain closed & open compass surveying and its plotting.
	4th	field booking in compass & chain traverses
8th	1st	Adjustment of closing error in compass traversing
	2nd	Surveyors compass description.
	3rd	its adjustment and uses
	4th	comparision of prismatic & surveyor compass.
9th	1st	Fundamentals of plane table surveying
	2nd	explain two points problems.

WEEK	CLASSES	TOPICS
	3rd	Explain three points problems and its solutions.
	4th	Advantages & disadvantages of plane table surveying.
10th	1st	Computation of areas
	2nd	methods of determining areas
	3rd	Find out areas from offset to a base line using → Mid ordinate rule
	4th	Find out areas from offset to a base ling using → Average ordinate rule → Trapezoidal rule → Simpson's rule
11th	1st	Compute area by planimeter and from graph paper.

WEEK	CLASSES	TOPICS
	2nd	levelling, define benchmark M.S.L
	3rd	Adjust dumpy level - modern levels - precise staff
	4th	- Rise & fall method - height of instrument
12th	1st	Errors in ordinary levelling
	2nd	- Reciprocal levelling - Subsidence levelling - setting out gradient
	3rd	- Trigonometric levelling - geometrical levelling
	4th	- physical levelling - classification of reservoir

WEEK	CLASSES	TOPICS
13th	1st	Evaluate reserves
		by exploratory.
	2nd	Calculate primary ore reserve.
	3rd	Material balance method & decline curve method.
	4th	Calculation of ore reserves.
14th	1st	Theodolite principles
	2nd	Temporary & permanent adjustment
	3rd	different types of principles of operation
	4th	describing different parts and workings.

WEEK	CLASSES	TOPICS
15th	1st	Measure horizontal & vertical angles.
	2nd	Setting of the instrument.
	3rd	Explaining traversing
	4th	Practical classes for working with theodolite.