

**SYNERGY POLYTECHNIC, BHUBANESWAR**  
**A/P- Bhimpur, Phulnakhara Dist-Khorda Odisha-752101**  
**Website: Synergypolytechnic.com**  
**DEPARTMENT OF MINING ENGINEERING**

**(LESSON PLAN 4<sup>th</sup> SEM 2023-24)**

<b>Discipline:</b> Mining Engg.	<b>4th Semester</b>	<b>Name of the teaching faculty:</b> H. Pradhan
<b>Subject:</b> Mine Survey-II	<b>No. of Days/Week class allotted: 4</b>	<b>Semester from Date:</b> 16.01.24 <b>To Date:</b> 25.04.24 <b>No. of weeks:</b> 15
<b>Week</b>	<b>Class Day</b>	<b>Topic Cover</b>
<b>1st</b>	<b>1st</b>	Define stadia & its principle.
	<b>2nd</b>	-do-
	<b>3rd</b>	Explain diaphragm, reticules, tacheometer, instruments constants
	<b>4th</b>	-do-
<b>2nd</b>	<b>1st</b>	-do-
	<b>2nd</b>	-do-
	<b>3rd</b>	Find out height & distance from stadia intercepts, tangential systems, movable hair method.
	<b>4th</b>	-do-
<b>3rd</b>	<b>1st</b>	-do-
	<b>2nd</b>	-do-
	<b>3rd</b>	State purpose & principle involved in triangulation & trilateration method.
	<b>4th</b>	-do-
<b>4th</b>	<b>1st</b>	Classify various methods of triangulation survey primary, secondary & tertiary colliery triangulation
	<b>2nd</b>	-do-
	<b>3rd</b>	Develop concept about reconnaissance survey. Describe methods of measuring angle, types of theodolite used in triangulation survey.
	<b>4th</b>	-do-
<b>5th</b>	<b>1st</b>	Describe the methods of base line measurement using E.D.M.
	<b>2nd</b>	-do-
	<b>3rd</b>	Define tape correction.
	<b>4th</b>	State construction of triangulation station of permanent nature.
<b>6th</b>	<b>1st</b>	State direct correlation by traversing & optical methods.
	<b>2nd</b>	-do-
	<b>3rd</b>	Describe orientation by wires in two shafts
	<b>4th</b>	-do-
<b>7th</b>	<b>1st</b>	Explain correlation by mines in vertical shafts
	<b>2nd</b>	-do-
	<b>3rd</b>	State co-planning/ alignment, weissbach triangle weis-quadrilateral methods, precise magnetic correlation
	<b>4th</b>	-do-

12/01/24

Ang 12/01/24

12/01/24

8th	1st	-do-
	2nd	State elements of curves
	3rd	Define designation of curves, simple, compound & reverse curves
	4th	-do-
9th	1st	Explain setting out of surface & underground curves by chords & offsets, chords and angle, tangent and offset, plate layers method.
	2nd	-do-
	3rd	-do-
	4th	-do-
10th	1st	Describe various setting out by chain & one theodolite, two theodolites.
	2nd	-do-
	3rd	Define super elevation, transition and vertical curves.
	4th	-do-
11th	1st	Explain tape triangulation, instrumental survey
	2nd	-do-
	3rd	Determine slope face
	4th	-do-
12th	1st	State preparation of slope planes, plotting the slope station, plotting of slope face to the mine plan
	2nd	-do-
	3rd	-do-
	4th	Find out area of extraction by Planimeter and calculation of triangle thereof
13th	1st	-do-
	2nd	-do-
	3rd	Explain the basic principles of global positioning system & total station.
	4th	-do-
14th	1st	-do-
	2nd	Introduction to DGPS.
	3rd	Explain the basic principle of global positioning systems & total station.
	4th	-do-
15th	1st	-do-
	2nd	Explain different methods of slope surveying, transfer of slope faces to mine Plan.
	3rd	-do-
	4th	-do-

Sign. of faculty

HOD  
Mining Engg.

Principal  
Synergy polytechnic  
Bhubaneswar