



TRADE MARK

LION™

Teacher's Lesson Note

Geotechnical Engineering
3rd sem & Civil Engg.
Sumita Mohanta
2024-2025

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
6/10/17	1		Geo technical engineering	introduction	Soil and soil engineering & scope of soil mechanics	Detailed study about soil and soil engineering and scope of soil mechanics	
14/10/17	2		Geo technical engineering	introduction	origin and formation of soil	introduction about origin and formation of soil	
14/10/17	3		Geo technical engineering	preliminary definitions and Relationship	Soil as a Three phase system	Detailed study about soil as a three phase system	

LESSON NOTE

Date	Page	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	11a	11b
29.9.24	4	Geo-technical engineering	Preliminary Design Relations and Relationship	Water content, Density, specific gravity, voids ratio,	Introduction about water content, Density, specific gravity, voids ratio.		
30.9.24	5	Geo-technical engineering	Preliminary Design Relations and Relationship	porosity, percent, voids ratio, degree of saturation	Detailed study about porosity, percentage of voids, air content, degree of saturation		
30.9.24	6	Geo-technical engineering	Preliminary Design Relations and Relationship	Density, Bulk Density, saturated dry density	Introduction about Density index, Bulk Density, saturated dry density		

Evaluative Questions	Expanded Learning Activities	Project	Synopsis	Reference
9	10	11	12	13

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TEACHERS

1	2	3	4	5	6	7	8
Date	Page	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used	
12.8.24	7	Geo technical engineering	preliminary definitions and Relationship	Interrelationship of various soil parameters	Detailed study about interrelationship of various soil parameters.		
12.8.24	8	Geo technical engineering	preliminary definitions and Relationship	Relation between $e, s, w, G, \gamma, \gamma_b, \gamma, s, e, \gamma_w, e, s, \eta$	Introduction about $e, s, w, G, \gamma, \gamma_b, \gamma, s, e, \gamma_w$ and e, s, η		
21.8.24	9	Geo technical engineering	index properties of soil	water content then specific Gravity	Detailed study about water content then specific Gravity		

LESSON NOTE

9	10	11	12	13	14
Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
			 7.8.24		
			 12.08.24		
			 21.08.24		



TEACHERS

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
21-8-20	10		Geo-technical engineering	index properties of soil	particle size distribution	introduction about particle size distribution sieve analysis, wet mechanical analysis, particle size distribution curve and its uses.	
11			Geo-technical engineering	index properties of soil	consistency of soils	Detailed study about consistency of soils. Atterberg limits, plasticity index, consistency index, liquid index.	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			Sanku 22-8-20		
			Sanku 30-8-20		
			Sanku 12/09/21		

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	T.M. to be used
1	2	3	4	5	6	7	8
09.09.24	12		Geo technical engineering	index properties of soil	class TEST		
05.09.24	13		Geo technical engineering	classification of soil	General	introduction about General	
05.09.24	14		Geo technical engineering	classification of soil	General	introduction about general	
05.09.24	15	11		classification of soil	I. S. classification	Detailed study about I.S. classification	

TEACHERS

Date	Period	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	T.M to be used
1	2	3	4	5	6	7
20/09/24	16	Geo technical engg. meaning	Classification of soil	I.S classification	Detailed study about I.S. Classification.	
20/09/24	17	"	Classification of soil	plasticity chart	introduction about plasticity chart	
22/09/24	18	"	Classification of soil	plasticity chart	introduction about plasticity chart	

LESSON NOTE

Evaluative Questions	Expected learning outcomes	Process used in the assigned	Engagement of the Teacher	Engagement of the students	Remarks
9	10	11	12	13	14
			Sub 8/9/24		
			Sub 10/9/24		
			Sub 22/9/24		1/3/24

TEACHERS

Date	Topic	Topic (Concept)	Sub-Topic (Main Concept)	Learning Activities to be taken up
12.9.21 19	Geotechnical Engineering	permeability and see page	concept of permeability	introduction about concept of permeability
13.9.21 20	"	permeability and see page	Darcy's Law	Details of study about Darcy's Law
14.9.21 21	"	permeability and see page	co-efficient of permeability	introduction about co-efficient of permeability

LESSON NOTE

Evaluative Questions	Expected learning outcome	Practical work to be assigned	Signature of the Teacher	Signature of the Head-teacher	Remarks
			<i>Sanku</i> 13.9.21		
			<i>Sanku</i> 17.9.21		
			<i>Sanku</i> 20.9.21		

TEACHERS

Date	Roll No	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TL No. to be used
1	2	3	4	5	6	7	8
21.9.21	22		Geo technical engineering	permeability & seepage	Factors affecting permeability	Detailed study about factors affecting permeability and	
22.9.21	23		11	permeability & seepage	constant head permeability and falling head permeability Test.	introduction about constant head permeability and falling head permeability Test	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			Sundh 26.9.21		
			Sundh 26.9.21		

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up
1	2	3	4	5	6	7
27.09.24	24		geotechnical Engineering	permeability and seepage	seepage pressure then effective stress,	Detailed study about seepage pressure then effective stress,
28.09.24	25			permeability and seepage	phenomenon of quick sand	introduction about phenomenon of quick sand.
1.10.24	26			compaction and consolidation	compaction	Detailed study about compaction

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			<i>Sundar</i> 27.9.24		
				<i>Sundar</i> 28.9.24	<i>Sh</i>
				<i>Sundar</i> 1.10.24	

TEACHERS

Date	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	7	8
21/10/21	34	Geo-technical engineering	Shear strength	concept of Shear strength Mohre coulomb failure theory	Detailed study about concept of shear strength Mohre-coulomb failure theory	
22/10/21	35	"	Shear strength	cohesion angle of interenal friction	introduction about cohesion angle of internal friction	
26/10/21	36	"	Shear strength	strength envelope for different type of soil	Detailed study about strength envelope for different type of soil	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			<i>Sudh</i> 21/10/21		
			<i>Sudh</i> 22/10/21		
			<i>Sudh</i> 26/10/21		

SESSION NOTE

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	to be taken up	FLM to be used
1	2	3	4	5	6	7	8
28-10-24	37		Geo technical Engineering	Shear strength	measure ment of shear strength	Detailed study about measure ment of shear strength	
29-10-24	38		11	Shear strength	Direct shear test triaxial shear test	introduction about Direct Shear test triaxial shear test	
30-10-24	39		11	Shear strength	unconfined compression test and vane shear test	Detailed study about unconfined compression test and vane shear test.	

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			Sudh 28/10/24		
			Sudh 29/10/24		
			Sudh 30/10/24		

TEACHERS

LESSON NOTE

Date	Page	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	FLM to be used
1	2	3	4	5	6	7	8
2-11-24	40		Geo. technical Engi. neering	Earth pressure on Retaining structure	Active earth pressure	introduction about Active earth pressure.	
2-11-24	41		"	Earth pressure on Retaining structure	passive earth pressure	Detailed study about passive earth pressure	
2-11-24	42		"	Earth pressure on Retaining structure	Earth pressure at rest	introduction about Earth pressure at rest	

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			<i>Suresh</i> 2/11/24		
			<i>Suresh</i> 4/11/24		
			<i>Suresh</i> 5/11/24		

TEACHER

Sl. No.	Topic	Topic	Lab Work and Demonstration	Learning Activities to be taken up	Use to be made
93	Earth pressure on retaining structure	Earth pressure on retaining structure	Use of Rankine's formula for the following cases	Detailed study about use of Rankine's formula for the following cases	
94	Earth pressure on retaining structure	Earth pressure on retaining structure	cohesion less soil only	introduction about cohesion less soil only	
95	Earth pressure on retaining structure	Earth pressure on retaining structure	Backfill with no surcharge	Detailed study about Backfill with no surcharge	

LESSON NOTE

Evaluative Questions	Expected learning outcomes	Practicals to be assigned	Signature of the Teacher	Date of the observation	Remarks
			<i>S. S.</i> 7/11/24		
			<i>S. S.</i> 8/11/24		
			<i>S. S.</i> 9/11/24		

TEACHERS

Date	Sl. No.	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
14.11.24	96		Geo-technical Engineering	Earth Pressure on Retaining Structure	Back Fill with uni form surcharge	Detailed study about Back Fill With uni form surcharge	
14.11.24	97		"	Founda tion Engi neering	Function of founda tions.	introduction abo ut function of foundation	
16.11.24	98		"	Foundati on Engi neering	Shallow Founda tion	Detailed study about shallow founda tion	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			S. S. S 14/11/24		
			S. S. S 14/11/24		
			S. S. S 16/11/24	S. S. S 16/11/24	

TEACHERS

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
11.11.24	49		Geo technical engineering	Foundation Engineering	Deep Foundation	Detailed study about Deep foundation	
11.11.24	50		11	Foundation Engineering	different type of shallow and deep foundation with sketches	introduction about different type of shallow and deep foundation with sketches	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			S. S. S. 19/11/24		
			S. S. S. 21/11/24		

TEACHERS

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
30.11.24	54		Geo-Technical Engineering	Foundation Engineering	Bearing capacity of soils using Terzaghi's formulae and IS code formulae for strip	Detailed study about bearing capacity of soils using Terzaghi's formulae and IS code formulae for strip	
02.12.24	55		11	Foundation Engineering	Terzaghi's formulae and IS code formulae for strip	introduction about Terzaghi's formulae and IS code formulae for strip	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14
			Suresh 30/11/24		
				Suresh 2/12/24	

TEACHERS

Date	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	Time to take up
31/12/24	Geo-Technical Engineering	Foundation Engineering	Circular and square Footings	Detailed study about circular and square footings	
31/12/24	11	Foundation Engineering	Circular and square Footings	introduction about circular and square footings	
31/12/24	11	Foundation Engineering	Effect of water table on bearing capacity of soil	Detailed study about effect of water table on bearing capacity of soil	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
			S. Sub 31/12/24		
			S. Sub 31/12/24		
			S. Sub 7/1/24		

TEACHERS

Date	Sl. No.	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	7	8
11/2/24	59	Geo-technical engineering	Foundation Engineering	plate load test and standard penetration test	Detailed study about plate load test and standard penetration test	
11/2/24	60	11	Foundation Engineering	standard penetration test	introduction about standard penetration test	

LESSON NOTE

Evaluative Questions	Expected learning outcomes	Period work to be assigned	Signature of the Teacher	Signature of the Headmaster	Checked
9	10	11	12	13	14
			Sc. 2 11/12/24		
			Sc. 2 11/12/24		