K.S. SCHOOL OF ENGINEERING AND MANAGEMENT
BANGALORE - 560109
DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

NAME OF THE STAFF : Dr Arekal Vijay

SUBJECT CODE/TITLE : 15CV53/ Applied Geotechnical Engineering

SEMESTER/YEAR : V / III

ACADEMIC YEAR : 2019-2020

Sl. No.	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date	Delivery Date
MODULE 1							
1	Soil Exploration: Introduction, Objectives and Importance,	L+D	BB+LCD	1	1	29.7.19	29.7.19
2	Stages and Methods of exploration- Test pits,	L+D	BB+LCD	1	2	30.7.19	29.7.19
3	Borings	L+D	BB+LCD	1	3	1.8.19	30.7.19
4	Tutorial	L+D	BB+LCD	0	3	2.8.19	30.7.19
5	Stabilization of boreholes,	L+D	BB+LCD	1	4	5.8.19	1.8.19
6	Sampling techniques, Undisturbed, disturbed and representative samples,	L+D	BB+LCD	1	5	6.8.19	1.8.19
7	Geophysical exploration and Bore hole log	L+D	BB+LCD	1	6	8.8.19	2.8.19
8	Drainage and Dewatering methods	L+D	BB+LCD	1	7	10.8.19	5.8.19

9	Estimation of depth of GWT (Hvorslev's method).	L	BB	1	8	13.8.19	6-8.19
10	Tutorial	L	BB	0	8	16.8.19	6.8.19
11	Numerical problem on samplers	L	BB	1	9	17.8.19	8.8.19
12	Numerical problem on Hvorslev's method	L	BB	1	10	19.8.19	10.8.19
MODULE 2							
13	**Stress in Soils:** Introduction, Boussinesq's and Westergaard's theory	L+D	BB+LCD	1	11	20.8.19	13.8.19
14	Concentrated load, circular and rectangular load, equivalent point load method,	L+D	BB+LCD	1	12	22.8.19	16.8.19
15	Tutorial	L+D	BB+LCD	0	12	23.8.19	16.8.19
16	pressure distribution diagrams and contact pressure,	L+D	BB+LCD	1	13	26.8.19	17.8.19
17	Newmark's chart	L+D	BB+LCD	1	14	27.8.19	17.8.19
18	Numerical problems on stresses in soils	L+D	BB+LCD	1	15	29.8.19	19.8.19
19	Tutorial	L+D	BB+LCD	0	15	30.8.19	19.8.19
20	Tutorial	L+D	BB+LCD	0	15	6.9.19	19.8.19
21	Foundation Settlement - Approximate method for stress distribution on a horizontal plane,	L+D	BB+LCD	1	16	9.9.19	23.8.19
22	Types of settlements and importance,	L+D	BB+LCD	1	17	12.9.19	23.8.19
23	Tutorial	L+D	BB+LCD	0	17	13.9.19	23.8.19
24	Computation of	L	BB	1	18	16.9.19	26.8.19

	immediate and consolidation settlement						
25	Computation of immediate and consolidation settlement	L	BB	1	19	17.9.19	26.8.19
26	Computation of immediate and consolidation settlement	L	BB	1	20	19.9.19	29.8.19
27	Tutorial	L+ D	BB+LCD	0	20	20.9.19	30.8.19
MODULE 3							
28	**Lateral Earth Pressure:** Active, Passive and earth pressure at rest,	L+ D	BB+LCD	1	21	23.9.19	6.9.19
29	Rankine's theory for cohesionless and cohesive soils,	L+ D	BB+LCD	1	22	24.9.19	6.9.19
30	Coulomb's theory,	L+D	BB+LCD	1	23	26.9.19	9.9.19
31	Tutorial	L+D	BB+LCD	0	23	27.9.19	9.9.19
32	Rebhann's graphical construction.	L	BB	1	24	30.9.19	16.9.19
33	Culmann's graphical construction.	L	BB	1	25	1.10.19	23.9.19
34	**Stability of Slopes :** Assumptions, infinite and finite slopes, factor of safety,	L+D	BB+LCD	1	26	3.10.19	24.9.19
35	Tutorial	L+D	BB+LCD	0	26	4.10.19	24.9.19
36	Taylor's stability charts,	L+ D	BB+LCD	1	27	5.10.19	24.9.19
37	Swedish slip circle method for C and C-ϕ (Method of slices) soils,	L+D	BB+LCD	1	28	10.10.19	24.9.19
38	Tutorial	L+D	BB+LCD	0	28	11.10.19	24.9.19

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39	Fellineous method for critical slip circle.	L+D	BB+LCD	1	29	12.10.19	26.9.19
40	Numerical problems on slope stability	L	BB	1	30	17.10.19	27.9.19
41	Tutorial	L	BB	0	30	18.10.19	27.9.19

MODULE 4

42	**Bearing Capacity of Shallow Foundation:** Types of foundations,	L+D	BB+LCD	1	31	21.10.19	30.9.19
43	Determination of bearing capacity by Terzaghi's method	L+ D	BB+LCD	1	32	22.10.19	30.9.19
44	Determination of bearing capacity by BIS method (IS: 6403)	L+D	BB+LCD	1	33	24.10.19	10.10.19
45	Effect of water table and eccentricity,	L+D	BB+LCD	1	34	25.10.19	11.10.19
46	Field methods - plate load test and SPT	L+D	BB+LCD	1	35	26.10.19	11.10.19
47	Proportioning of shallow foundations- isolated footings	L+ D	BB+LCD	1	36	28.10.19	17.10.19
48	Proportioning of shallow foundations- combined footings (only two columns)	L	BB	1	37	31.10.19	17.10.19
49	Numerical problems on proportioning of shallow footings	L	BB	1	38	4.11.19	21.10.19
50	Numerical problems on proportioning of	L	BB	1	39	5.11.19	21.10.19

	shallow footings						
51	Numerical problems on proportioning of shallow footings	L	BB	1	40	7.11.19	22.10.19
MODULE 5							
52	**Pile Foundations:** Types and classification of piles,	L	BB	1	41	8.11.19	25.10.19
53	Single loaded pile capacity in cohesionless and cohesive soils by static formula,	L+D	BB+LCD	1	42	9.11.19	31.10.19
54	Efficiency of file group,	L+ D	BB+LCD	1	43	11.11.19	4.11.19
55	Group capacity of piles in cohesionless and cohesive soils,	L+ D	BB+LCD	1	44	12.11.19	7.11.19
56	Negative skin friction, pile load tests,	L+ D	BB+LCD	1	45	14.11.19	8.11.19
57	Settlement of piles,	L+D	BB+LCD	1	46	18.11.19	11.11.19
58	Under reamed piles (only introductory concepts – no derivation)	L+ D	BB+LCD	2	47	19.11.19	18.11.19
59	Numerical problems on bearing capacity of piles	L+D	BB+LCD	2	48	28.11.19	15.11.19
60	Numerical problems on settlement of piles	L	BB	1	49	29.11.19	28.11.19
61	Numerical problems on settlement of piles	L	BB	1	50	30.11.19	29.11.19

Total No. of Lecture Hours = 50

Total No. of Tutorial Hours = 11

Total No. of Revision Hours = 0

Course In charge　　　　　　　　Head – Dept　　　　　　　　Principal