VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

Semester: 7th

LESSON PLAN

Subject: Geotechnical engineering-II

Session: 2015-16

Theory/ ~~Sessional~~

Branch/ Course: Civil Engineering/ B.Tech. **Name of the Faculty Member: Debabrata Giri**

Period	Module/ Number	Topic to be covered	Remarks/ Sign. of Faculty Member
1	**Module-I**	Stress distribution in soil, Boussinesq equations	
2		Pressure distribution on horizontal and vertical planes	
3		Stresses due to point load, line load	
4		Strip load, uniformly loaded circular	
5		Rectangular areas,Use of Newmark's Chart	
6		Problems Solving	
7		Westergaard's solution. Approximate methods (point load method, two-to-one load distribution method).	
8		Problems Solving	
9		Stress isobar and pressure bulb concept	
10		Contact pressure distribution due to loaded areas. Concept of active zone.	
11		Doubt clearing class	
12	**Module-II**	Earth pressure at rest, active and passive earth pressure theory	
13		Coloumb's wedge theory	
14		Rebhann's Graphical methods	
15		Culmann's graphical methods,	
16		Stability conditions for Retaining Walls. Stability of Earth Slopes	
17		Stability of infinite slopes	
18		Stability Analysis of Finite slopes	
19		Swedish Method of Slices, Friction Circle Method,	
20		Bishop's method	
21		Use of Taylor Stability Number, Fellnious Method for Locating Centre of Critical Slip Circle.	
22		Problems Discussion	
23		Doubt clearing class	
24		Assignment Problems Discussion	
25	**Module-III**	Subsoil exploration: Methods, direct (test pits, trenches)	
26		Semi-direct (borings), indirect (sounding, penetration tests, and geophysical methods).	
27		Planning of exploration programme, spacing and depth of	

		boring,	
28		Soil sampling, types of samples, standard penetration test	
29		Static and dynamic cone penetration test, in-situ vane shear test	
30		Seismic refraction method,	
31		Electrical resistivity methods,	
32		Problems Discussion	
33		Doubt clearing class	
34	**Module-IV**	Introduction: Shallow foundation: Various bearing capacity terminology	
35		Rankine's bearing capacity Equation	
36		Terzaghi's bearing capacity Equation,	
37		Problems Discussion	
38		Effect of GWT on bearing capacity	
39		Brinch Hansen's method,Vesic's method for determining bearing capacity	
40		Settleement analysis and problem discussion	
41		Deep foundation: Classification of pile	
42		Pile driving methods, pile capacity (static and dynamic analysis)	
43		Group pile efficiency	
44		Pile-group analysis, load test on piles. settlement of foundations	
45		Problem Discussion	

Signature of Faculty Member:
Date: ***Counter Signature of H.O.D.***