



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

NAME OF THE STAFF : Dr. Vyshali
SUBJECT CODE/TITLE : 18CV36/ Engineering Geology
SEMESTER/YEAR : III/2
ACADEMIC YEAR : 2019-2020

Sl. No	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date	Delivered Date
MODULE 1							
1	Introduction: Application of earth science in civil engineering practices	L+D	BB	1	1	29-7-19	29-7-19
2	Understanding the earth, internal structure and composition.	L+D	BB	1	2	30-7-19	30-7-19
3	Mineralogy- Mineral properties, composition and uses	L+D	BB	1	3	1-8-19	1-8-19
4	Tutorial	L+D	BB	0	3	2-8-19	2-8-19
5	Use in the manufacture of construction materials-Quartz Group(Glass)	L+D	BB, Lab Visit	1	4	5-8-19	5-8-19
6	Feldspar Group(Ceramic Wares and Flooring tiles); Kaolin (Paper, paint and textile)	L+D	BB, Lab Visit	1	5	6-8-19	6-8-19
7	Asbestos (AC sheets); Carbonate Group (Cement); Gypsum(POP, gypsum sheets,	L+D	BB, Lab Visit	1	6	8-8-19	8-8-19

	cement)						
8	Mica group (Electrical industries); Ore minerals-Iron ores (Steel)	L+D	BB, Lab Visit	1	7	10-8-19	10-8-19
9	Chromite (Alloy); Bauxite (aluminum); Chalcopyrite (copper)	L+D	BB, Lab Visit	1	8	13-8-19	13-8-19
10	Tutorial	L+D	BB	0	8	16-8-19	16-8-19
MODULE 2							
11	Petrology: Formation, Classification, Engineering Properties	L+D	BB	1	9	17-8-19	17-8-19
12	Igneous Rocks- Granite, Dolerite, Gabbro, Basalt, Pumice, Granite Porphyry	L+D	BB, Lab Visit	1	10	19-8-19	19-8-19 20-8-19
13	Sedimentary Rocks- Sandstone, Limestone, Shale, Laterite, Conglomerate.	L+D	BB, Lab Visit	1	11	20-8-19	22-8-19
14	Metamorphic Rocks- Gneiss, Slate, Muscovite & Biotite schist, Marble, Quartzite.	L+D	BB, Lab Visit	1	12	22-8-19	23-8-19
15	Tutorial	L+D	BB	0	12	23-8-19	26-8-19
16	Rock weathering: types and their effects on Civil Engineering Projects	L+D	BB	1	13	26-8-19	27-8-19
17	Landforms, Drainage pattern and types,	L+D	BB,	1	14	27-8-19	29-8-19
18	Soil formation and soil profile, The apprehension of	L+D	BB	1	15	29-8-19	30-8-19

	Index properties of rocks: Porosity, Density, Permeability, and Durability.						
19	Tutorial	L+D	BB	0	15	30-8-19	6-9-19
20	Tutorial	L+D	BB	0	15	6-9-19	9-9-19
21	Selection of rocks as materials for construction, as a foundation, Decorative, Flooring, and Roofing, Concrete Aggregate, Road Metal, and Railway Ballast with examples.	L+D	BB	1	16	9-9-19	12-9-19
MODULE 3							
22	Structural Geology & Rock Mechanics: Structural aspects of rocks like Outcrop, Dip and strike	L+D	BB	1	17	12-9-19	13-9-19 14-9-19
23	Tutorial	L+D	BB	0	17	13-9-19	16-9-19
24	Tutorial	L+D	BB	0	17	14-9-19	16-9-19
25	Folds, Faults	L+D	BB, Models	1	18	16-9-19	17-9-19
26	Joints, Unconformities	L+D	BB, Models	1	19	16-9-19	19-9-19
27	Structures influence on Engineering, Projects/structures like dam, Tunnels	L+D	BB, Models	1	20	17-9-19	20-9-19
28	Slope treatment; ground improvement, recognition of the structures in field and their types/classification	L+D	BB	1	21	19-9-19	23-9-19
29	Tutorial	L+D	BB	0	21	20-9-19	24-9-19

30	Rock Quality Determination (RQD) & Rock Structure Rating (RSR).	L+ D	BB	1	22	23-9-19	26-9-19
31	Geological site characterization: Dam foundations, Tunnels: Basic terminology and application	L+ D	BB	1	23	24-9-19	27-9-19
32	Coastlines and their engineering considerations	L+ D	BB	1	24	26-9-19	30-9-19
33	Tutorial	L+D	BB	0	24	27-9-19	1-10-19
MODULE 4							
34	Hydrogeology: Hydrological cycle, Vertical distribution of groundwater,	L+ D	BB	1	25	30-9-19	3-10-19
35	Artesian groundwater in soil and rock, Water Bearing Formations, Aquifer and its types – Aquitard, Aquifuge, and Aquiclude	L+D	BB+LCD	1	26	1-10-19	4-10-19
36	Porosity, Specific yield and retention, Permeability, Transmissibility and Storage Coefficient	L+D	BB	1	27	3-10-19	4-10-19 10-10-19
37	Tutorial	L+D	BB	0	27	4-10-19	11-10-19
38	Determination of Quality - SAR, RSC and TH of Groundwater.	L+ D	BB	1	28	5-10-19	12-10-19
39	Groundwater Exploration- Electrical Resistivity	L+ D	BB	1	29	4-10-19	17-10-19
40	Seismic methods	L+D	BB	1	30	10-10-19	18-10-19

41	Tutorial	L+D	BB	0	30	11-10-19	21-10-19
42	Artificial Recharge of Groundwater	L+D	BB	1	31	12-10-19	22-10-19
43	Rain water harvesting and methods, Seawater intrusion in coastal areas and remedies	L+D	BB+LCD	1	32	17-10-19	24-10-19
44	Tutorial	L+D	BB	0	32	18-10-19	25-10-19
MODULE 5							
45	Seismology And Geodesy: Earthquakes- Causes and Effects, Seismic waves	L+D	BB+LCD	1	33	21-10-19	26-10-19
46	Engineering problems related to Earthquakes, Earthquake intensity, Richter scale, Seismograph, Seismic zones- World and India	L+ D	BB	1	34	22-10-19	28-10-19
47	Tsunami- causes and effects, Volcanic Eruptions.	L+ D	BB	1	35	24-10-19	31-10-19
48	Tutorial	L+ D	BB	0	35	25-10-19	4-11-19
49	Landslides (Mass movements) causes, types and remedial measures –stability assessment for soil and rock slopes.	L+ D	BB+LCD	1	36	26-10-19	5-11-19
50	Study of Topographic maps and Contour maps, Remote Sensing – Concept, Application and its Limitations; Location Based Services And Its	L+ D	BB	1	37	28-10-19	7-11-19

	Applications						
51	Geographic Information System (GIS) and Global Positioning System (GPS) – Concept and their use resource mapping	L+D	BB+LCD	1	38	31-10-19	8-11-19
52	Aerial Photography, LANDSAT Imagery – Definition and its use	L+D	BB+LCD	1	39	4-11-19	8-11-19 11-11-19
53	Impact of Mining, Quarrying and Reservoirs on Environment, Natural Disasters and their mitigation	L+D	BB+LCD	1	40	5-11-19	11-11-19
REVISION							
54	Revision	L+D	BB	0	40	7-11-19	12-11-19
55	Tutorial	L+D	BB	0	40	8-11-19	14-11-19
56	Revision	L+D	BB	0	40	9-11-19	18-11-19
57	Revision	L+D	BB	0	40	11-11-19	19-11-19
58	Revision	L+D	BB	0	40	12-11-19	28-11-19
59	Revision	L+D	BB	0	40	14-11-19	29-11-19
60	Revision	L+D	BB	0	40	18-11-19	30-11-19
61	Revision	L+D	BB	0	40	19-11-19	-
62	Revision	L+D	BB	0	40	28-11-19	-
63	Tutorial	L+D	BB	0	40	29-11-19	-
64	Revision	L+D	BB	0	40	30-11-19	-

Total No. of Lecture Hours = 40

Total No. of Tutorial Hours = 15

Total No. of Revision Hours = 9

V. S. Shah
Course In charge

W. K. Kelle
Head - Dept

K. Rama
Principal