S SHREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Sree Sainath Nagar, A. Rangampet-517 102

Department of Civil Engineering

Lesson Plan cum Diary 2015-2016

Name of the Subject: Engineering geology **Name of the faculty Member:**
Class & Semester: II B.Tech I Semester **Section:**

S. No.	Topic	No. of periods required	Date(s) covered	No. of periods used	Book(s) followed	Remarks
Unit-I: GENERAL GEOLOGY						
1.	Importance of Geology from Civil Engineering Point of View	1			T1	1. Weathering agents 2.Response of granite to weathering
2.	Case Histories of Failure of Some Civil Engineering Constructions due to Geological Drawbacks	1			T1	
3.	Importance of Physical Geology, Petrology and Structural Geology	1			T1	
4.	Tutorial 1					
5.	Weathering, Effects of Weathering of Rocks	1			T1	
6.	Importance of Weathering with Reference with Reference to Dams, Reservoirs and Tunnels	1			R1	
7.	Common Types of Soils, their Origin and Occurrence in India.and Formative	2			R1	
8.	Tutorial 2					
Total of periods required:		8	Total of periods used:			
Unit-II : MINERALOGY AND PETROLOGY						
9.	Definition of Mineral, Importance of Study of Minerals, Different Methods of Study of Minerals	1			T1	1. Silicate structures 2. Mode of formation of minerals 3. Suitability of rocks for constructi on Engineering properties of rocks
10.	Advantages of Study of Minerals by Physical Properties, Role of Study of Physical Properties of Minerals in the Identification of Minerals	1			T1	
11.	Study of Physical Properties of Feldspar , Quartz , Flint , Jasper, Olivine , Augite , Hornblende	1			T1	
12.	Tutorial 3					

13.	Study of Physical Properties of Muscovite, Biotite Asbestos, Chlorite ,Kyanite , Garnet, Talc, Calcite.	1			T1	
14.	Study of Common Economics Minerals: Pyrite, Hematite , Magnetite, Chlorite , Galena, Pyrolusite , Graphite, Magnesite, and Bauxite	2			T1	
15.	Tutorial 4					
16.	Origin, Geological Classification of Rocks into Igneous, Sedimentary and Metamorphic Rocks	1			T2	
17.	Common Structures and Textures of Igneous. Sedimentary and Metamorphic Rocks	1			T1	
18.	Megascopic Study of Granite, Dolerite, Basalt, Pegmatite, Conglomerte, Sandstone,	1			T1	
19.	Tutorial 5					
20.	Megascopic Study of Shale, Limestone, Laterite, Gneiss, Schist, Quartzite, Marble, Slate	1			T1	
	Total of periods required:	8		Total of periods used:		
Unit-III: STRUCTURAL GEOLOGY AND GEOPHYSICAL STUDIES						
21.	Outcrop, Strike and Dip, Classification and Recognition of Folds	1			T1	1. Effects of Folds, Faults,Joint and their Civil Engineering Importance 2.Logs ofBoreholes
22.	Classification and Recognition of Faults	1			T1	
23.	Classification and Recognition of Un–Conformities	1			T1	
24.	Tutorial 6					
25.	Classification and Recognition of Joints	1			T1	
26.	Foliation and Lineation , Plate Tectonics	1			T1	
27.	Importance of Geophysical Studies, Principles of Geophysical Studies	1			T1	
28.	Tutorial 7					
29.	Gravity Methods, Magnetic Methods	1			T1	
30.	Electrical Resistivity Methods , Seismic Refraction Methods	1			T1	
31.	Radiometric Methods and Geothermal Methods	1			T1	

32.	Tutorial 8					
33.	Special Importance of Electrical,Resistivity Methods and Seismic Refraction Methods and formative	2			T1	
Total of periods required:		7	Total of periods used:			

Unit-IV: GROUNDWATER, EARTHQUAKE AND LANDSLIDES						
34	Hydrological Cycle, Water Table, Common Types of Groundwater,	1			T2	1. Different rocks as Aquifers 2. Basics of Ground water exploration
35	Tutorial 9				T1	
36	Cone of Depression, Geological Controls of Ground Water Movement	1			T2	
37	Hydrological Properties of Rocks: Porosity, Permeability, Storativity, Specific Yield and Specific Retention	1			T1	
38	Groundwater Exploration	1			T1	
39	Tutorial 10				T1	
40	Springs	1			T1	
41	Earthquakes, their causes and effects, Shield Areas and Seismic Belts	1			T1	
42	Seismic Waves, Richter Scale, Precautions to be taken for Building Construction in Seismic Areas	1			T1	
43	Tutorial 11					
44	Landslides, their causes and effects; Measures to be taken to prevent their occurrence and Formative Test	2			T1	
Total of periods required:		9	Total of periods used:			
Unit-V GEOLOGY OF DAMS, RESERVOIRS AND TUNNELS						
45	Types of Dams and bearing of Geology of Site	1			T1	1. Suitablity of different rocks 2. Stages of investigations in the selection of a dam site 3. Different Tunneling methods
46	Tutorial 12				T1	
47	Geological Considerations in the Selection of a Dam Site.	1			T1	
48	Analysis of Dam Failures of the past and Factor's Contributing to the Success of a reservoir	1			T1	
49	Geological Factors Influencing Water Lightness and Life of Reservoirs.	1			T1	
50	Tutorial 13				T1	

51	Purposes of Tunneling, Effects of Tunneling on the Ground	1				
52	Role of Geological Considerations and tunneling over break and lining in tunnels	1				
Total of periods required:		6	Total of periods used:			
Grand total periods required		**45**				

TEXT BOOKS

1. N. Chennakesavulu, Engineering Geology, 2nd Edition, Mc–Millan India Ltd., 2014.
2. Parbin Singh, A Text Book of Engineering and General Geology, 8th Edition, S.K. Kataria and Sons, 2012.

REFERENCE BOOKS

1. D. Venkata Reddy, Engineering Geology, 1st Edition, Vikas Publications, 2014.
2. K.V.G.K. Gokhale, Principles of Engineering Geology, 1stEdition, B.S. Publications, 2013.
3. F.G. Bell, Fundamental of Engineering Geology, 2ndEdition, B.S. Publications, 2007.
4. S.K. Garg, Physical and Engineering Geology, 4th Edition, Khanna Publishers, 2013.

Signature of the faculty Member **Signature of the HOD**