

## 23BS1451 - Engineering Geology lab

<b>Course Code</b>	<b>23CE3351</b>	<b>Year</b>	II	<b>Semester</b>	II
<b>Course Category</b>	Professional Core	<b>Branch</b>	CIVIL	<b>Course Type</b>	Practical
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	GEOLGY
<b>Continuous Internal Evaluation</b>	30	<b>Semester End Evaluation</b>	70	<b>Total Marks</b>	100

### Course Objectives:

1	To identify the Megascopic types of Ore minerals & Rock forming minerals.
2	To identify the Megascopic types of Igneous, Sedimentary, Metamorphic rocks.
3	To identify the topography of the site & material selection

### Course Outcomes:

<b>CO1</b>	Identify Megascopic minerals & their properties.
<b>CO2</b>	Identify Megascopic rocks & their properties.
<b>CO3</b>	Identify the site parameters such as contour, slope & aspect for topography.
<b>CO4</b>	Know the occurrence of materials using the strike & dip problems

### Course Articulation Matrix:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2
<b>CO1</b>	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<b>CO2</b>	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<b>CO3</b>	1	1	1	-	-	-	-	-	-	1	1	-	1	1
<b>CO4</b>	1	-	-	-	-	-	-	-	-	-	-	-	-	-

### LIST OF EXPERIMENTS

<b>1</b>	<p>Physical properties of minerals: Megascopic identification of</p> <p>a. Rock forming minerals – Quartz group, Feldspar group, Garnet group, Mica group &amp; Talc, Chlorite, Olivine, Kyanite, Asbestos, Tourmelene, Calcite, Gypsum, etc....</p> <p>b. Ore forming minerals – Magnetite, Hematite, Pyrite, Pyralusite, Graphite, Chromite, etc....</p>
<b>2</b>	<p>Megascopic description and identification of rocks.</p> <p>a. Igneous rocks – Types of Granite, Pegmatite, Gabbro, Dolerite, Syenite, Granite Poryphery, Basalt, etc.</p> <p>b. Sedimentary rocks – Sand stone, Ferruginous sand stone, Lime stone, Shale, Laterite, Conglamorate, etc.</p> <p>c. Metamorphic rocks – Biotite – Granite Gneiss, Slate, Muscovite &amp; Biotiteschist, Marble, Khondalite, etc.</p>

<b>3</b>	Interpretation and drawing of sections for geological maps showing tilted beds, faults, unconformities etc.
<b>4</b>	Simple Structural Geology problems.
<b>5</b>	Bore hole data.
<b>6</b>	Strength of the rock using laboratory tests.
<b>7</b>	Field work – To identify Minerals, Rocks, Geomorphology & Structural Geology.

### Learning Resources

<b>Text Books</b>	Foundations of Engineering Geology' by Tony Waltham, Spon Press, 3 <sup>rd</sup> edition, 2009.
<b>Reference Books</b>	Applied Engineering Geology Practicals' by M T Mauthesha Reddy, New Age International Publishers, 2 <sup>nd</sup> Edition
<b>e-Sources</b>	<ul style="list-style-type: none"> <li>• <a href="https://nptel.ac.in/courses/105/101/">https://nptel.ac.in/courses/105/101/</a></li> <li>• <a href="http://jntuk-coerd.in/">http://jntuk-coerd.in/</a></li> </ul>