Devi Ahilya Vishwavidhyalaya, Indore, India **Institute of Engineering & Technology**					**II Year B.Tech.** **(Civil Engineering)**
Course Code & Name	**Instructions Hours per Semester and Credits**				
4RVPC6 **Lab of Engineering Geology**	**Classroom Instruction (CI)**		**Lab Instruction (LI)**	**Term Work (TW) and Self Learning (SL)**	**Total no. of Hours Per semester**	**Total Credits (Total Hours/ 30)**
	L	**T**	**P**	**TW+SL**		
	0	**0**	**40**	**20**	**60**	**2**

Course Learning Objectives:

1. To understand about Soil formation, soil profile, geological classification of soil and concept of plate tectonics.
2. To know about physical properties for identification of common rock forming minerals
3. To know about Classification and detailed studies of geological structures
4. To understand the Engineering properties of rocks for suitability for structures
5. To understand about Hydrology

Prerequisites:

Course Outcomes:

CO. No.	CO	PO
CO1	Apply the basic concepts of geological processes and their importance in civil Engineering	PO-1, PO-2
CO2	Identify rocks and minerals on the basis of their characteristics	PO-1, PO-2
CO3	Examine engineering and construction problems associated with earth processes.	PO-1, PO-2, PO-4
CO4	Develop geophysical investigations.	PO-3
CO5	Apply geological principles for selecting sites for dams, reservoirs and tunnels	PO-1, PO-2, PO-4,

BOOKS RECOMMENDED:

1. Subinoy Gangopadhyay, Engineering geology: Oxford university press.
2. Mukerjee P.K.A, Textbook of Geology, World Press Pvt. Ltd., Calcutta.
3. Legget R.F., Geology and Engineering, Mcgraw Hill.
4. Krgnine D.P. and Judd W.R., Principles of Engineering Geology, Mchgraw Hill

CO-PO-PSO Relationship

CO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO 1	PSO 2	PSO 3
4RVPC1.CO1	2	3										2	3	3
4RVPC1.CO2	2	3										3	3	3
4RVPC1.CO3	2	3		3								2	3	3
4RVPC1.CO4			3									2	3	3
4RVPC1.CO5	3	3	3									2	2	3

List of Practical Assignment:

1. **Mohs scale of Hardness:** Study of Mohs scale used for determining hardness of minerals by scratch test.
2. **Mineral Identification:** Study physical properties like color, streak, hardness, cleavage and identify common rock-forming minerals.
3. **Igneous Rock Identification:** Identify igneous rocks based on texture, structure and mineral composition.
4. **Sedimentary Rock Identification:** Study sedimentary rocks on the basis of grain size, bedding and cementing material.
5. **Metamorphic Rock Identification:** Identify metamorphic rocks using foliation, texture and degree of metamorphism.
6. **Ore / Economic Minerals:** Study important ore minerals and their engineering and economic significance.
7. **Geological Structures (Models):** Study models of folds, faults, joints and unconformities.
8. **Field Visit / Field Report:** Identify rocks and structures in field and prepare a brief geological report