23CE12P1 ENGINEERING MECHANICS & BUILDING PRACTICES LAB

(Civil Engineering & allied branches)

Course Category	Professional Core	**Credits**	1.5
Course Type	Practical	**Lecture – Tutorial –Practical**	0-0-3
Prerequisite	-	**Sessional Evaluation**	30
		Semester End Exam. Evaluation	70
		Total Marks	100

Course Objectives	Verify the Law of Parallelogram of Forces and Lami's theorem.	
	Determine the coefficients of friction of Static and Rolling friction and Centre of gravity of different plane Lamina.	
	Understand the layout of a building, concepts of Non-Destructive Testing and different Alternative Materials.	
Course Outcomes	CO1	Evaluate the coefficient of friction between two different surfaces and between the inclined plane and the roller.
	CO2	Verify Law of Parallelogram of forces and Law of Moment using force polygon and bell crank lever.
	CO3	Determine the Centre of gravity different configurations and study of safety practices in construction industry.
	CO4	Understand the Quality Testing and Assessment Procedures and principles of Non- Destructive Testing.

Course Content

Students have to perform any 12 of the following Experiments:

1. To study various types of tools used in construction.
2. Forces in Pin Jointed Trusses
3. Experimental Proof of Lami's Theorem
4. Verification of Law of Parallelogram of Forces.
5. Determination of Center of Gravity of different shaped Plane Lamina.
6. Determination of coefficient of Static and Rolling Friction.
7. Verification of Law of Moment using Rotation Disc Apparatus and Bell Crank Lever.
8. Layout plan of a building
9. Study of Alternative Materials like M-sand, Fly ash, Sea Sand etc.
10. Conducting Green audit of a building or Industry or Organization
11. Field-Visit to understand the Quality Testing and Assessment Procedures- report.
12. Safety Practices in Construction industry.
13. Demonstration and principles of Non-Destructive Testing - using Rebound Hammer & USPV
14. Study of Plumbing, Wiring, Carpentry, Welding etc. in buildings.

CO-PO Mapping: 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO1 0**	**PO1 1**	**PO1 2**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	2	2	1	-	2	1	2	-	1	1	-	-	-	1	-
CO2	2	2	1	-	2	-	2	1	1	1	-	-	-	1	-
CO3	2	1	1	-	-	2	2	2	-	2	-	-	-	2	1
CO4	2	-	2	-	2	2	2	2	-	2	-	-	-	2	1