

SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN:: BHIMAVARAM
(AUTONOMOUS)
DEPARTMENT OF MECHANICAL ENGINEERING

MECHANICS OF SOLIDS LAB

Laboratory In-charge : Dr. B.N.Malleswara Rao

Laboratory Technician : Mr. S.V.N Raju

K.V.S.S.S.Varma

OBJECTIVE:

The purpose of the laboratory is to provide students with an opportunity to apply loads to various materials under different equilibrium conditions. The student will perform tests on materials in tension, compression, torsion and bending. These conditions and/or constraints are designed to reinforce classroom theory by having the student perform required tests, analyze subsequent data, and present the results in a professionally prepared report.



Lab Equipment:

S.No	Equipment	Specification	Cost (Rs)
1	Universal Testing Machine	60 Ton	474,700
2	Spring Testing Machine	2500 N	15,820
3	Torsion Testing Machine	60 Nm	116,480
4	Impact Testing Machine	300 J	91,000
5	Brinell and Rock well Hardness Tester	250 Kgf	46,800
6	Deflection of Beams Experimental setup	-	6,000
7	Mechanical Extensometer	-	27,480

List of Experiments:

S.NO	NAME OF THE EXPERIMENT
01	Study the stress – strain characteristics of mild steel bars by UTM
02	Compression test on wood/ concrete Cubes.
03	Determine the ultimate shear strength of steel rod in double shear.
04	Find impact resistance of the given material by conducting Charpy test on impact testing machine.
05	Find impact resistance of the given material by conducting Izod test on impact testing machine.
06	Determine the modulus of rigidity of the spring
07	Determine the hardness of the given material by Rockwell hardness tester.
08	To find the hardness of the given material by Brinell's Hardness Tester
09	Find young's modulus of the given material (steel or wood) by conducting bending test on cantilever beam.
10	Find young's modulus of the given material (steel or wood) by conducting bending test on simply supported beam.
11	Find modulus of rigidity by conducting torsion test on solid circular shaft.