

VNR VIGNANA JYOTHI INSTITUTE OF ENGINEERING & TECHNOLOGY
Bachupally, Nizampet (S.O.), Hyderabad – 500 090

DEPARTMENT OF CIVIL ENGINEERING

STRENGTH OF MATERIALS / MATERIAL TESTING / MECHANICS OF SOLIDS LAB

Room No : D 002 Floor Area : 231.08 Sq.m. Branches : Civil. Mechanical, Automobile Engg.

Lab I/c : Dr. B D V Chandra Mohan Rao, Prof. Staff : R Durga Prasad, Asst. Prof. Instructor : M Siva Prasad, DCE

| S. No. | Name of the Experiment | Name of the Equipment | Make | Date of Purchase | Cost (Rs.) |
|--------|---|---|---|--|--|
| 1 | Uni-axial Tension Test on a specimen of ductile material | <ul style="list-style-type: none"> • Universal Testing Machine (20 T) • Computerized UTM (100 T) | <ul style="list-style-type: none"> • M/s. HEICO Ltd. • M/s. Fine Spavy Associates & Engineers Pvt Ltd. | <ul style="list-style-type: none"> • 08/03/1997 • 20/11/2011 | <ul style="list-style-type: none"> 1,69,295/- 8,77,661/- |
| 2 | Torsion Test on a specimen of ductile material | Torsion Testing Machine (FIT 20) | Fine Spavy Associates & Engineers Pvt Ltd. | 22/03/1997 | 79,420/- |
| 3 | Compression Test on Wood (Parallel & Perpendicular to grains) and / or Concrete | Compression Testing Machine (200 T) | Techno Instruments | 12/03/1997 | 1,03,825/- |
| 4 | Direct Shear Test | Compression Testing Machine and Shear Attachments | Techno Instruments | 10/03/1997 | 19,240/- |
| 5 | Hardness Test (Brinell and Rockwell) | Hardness Testing Machine KB 3000 (1 No.) - Brinell KAS (1 No.) - Rockwell RAB 250 (2 No's) - Brinell cum Rockwell | <ul style="list-style-type: none"> • Krystal Elmec • Krystal Elmec • Saroj Engineering Udyog Pvt. Ltd. | <ul style="list-style-type: none"> • 28/01/1997 • 28/01/1997 • 25/01/2016 | <ul style="list-style-type: none"> 26,987/- 12,693/- 45,360/- |

| | | | | | |
|----|--|--|---|--|----------------------|
| 6 | Compression and Tensile Tests on Close Coiled Helical Spring | Spring Testing Machine (2 No's) | <ul style="list-style-type: none"> • M/s. HEICO Ltd. • Shanta Engineering | <ul style="list-style-type: none"> • 08/03/1997 • 25/01/2016 | 36,388/- 73,710/- |
| 7 | Impact test – IZOD and CHARPY Impact tests | Impact Testing Machine (FIT 300 N) | Fine Testing Machines | 30/10/1997 | 41,153/- |
| 8 | Bending Test on Cantilever beam of Steel or Timber | Supports and Beams with Dial Gauges (0.01mm – 10 mm) | VNR VJIET | 30/01/1997 | 19,760/- |
| 9 | Bending Test on Simply Supported beam | Supports and Beams with Dial Gauges (0.01mm – 10 mm) | VNR VJIET | 30/01/1997 | --- |
| 10 | Bending test on Continuous beam with point load on one span | Supports and Beams with Dial Gauges (0.01mm – 10 mm) | VNR VJIET | 30/01/1997 | --- |
| 11 | Simple Screw Jack - Mechanical Advantage, Efficiency | Simple Screw Jack | Efficient Engineers | 06/11/2015 | 6,183/- |
| 12 | Compound Screw Jack - Mechanical Advantage, Efficiency | Compound Screw Jack | Sigma Scientific Glass Company | 27/05/2016 | 5,600/- |
| 13 | Fly Wheel – Moment of Inertia | Fly Wheel | Sigma Scientific Glass Company | 27/05/2016 | 10,750/- |

| Equipment Name, Capacity & Make | Photo |
|---|--|
| <ul style="list-style-type: none"> ❖ Computerised UTM (100 T) ❖ M/s. Fine Spavy Associates & Engineers Pvt Ltd. |  |
| <ul style="list-style-type: none"> ❖ Universal Testing Machine (20 T) ❖ M/s. HEICO Ltd. |  |

- ❖ Torsion Testing Machine (FIT 20)
- ❖ Fine Spavy Associates & Engineers Pvt. Ltd.



- ❖ Compression Testing Machine (200 T)
- ❖ Shear Attachments
- ❖ Techno Instruments



- ❖ Hardness Testing Machine
- ❖ KB 3000 (1 No.) – Brinell,
- ❖ KAS (1 No.) – Rockwell.
- ❖ RAB 250 (2 No's) Brinell cum Rockwell, Saroj Engineering Udyog Pvt. Ltd.



- ❖ Impact Testing Machine (FIT 300)
- ❖ Fine Spavy Associates & Engineers Pvt. Ltd.



- ❖ Spring Testing Machine (2 No's)
- ❖ M/s HEICO Ltd.
- ❖ Shanta Engineering



Simply Supported Beam Test Set Up

- a. Dial Gauges
- b. Vernier Calipers
- c. Scale
- d. Hanger
- e. Weights



Continuous Beam Test set up

- a. Dial Gauges
- b. Vernier Calipers
- c. Scale
- d. Hanger
- e. Weights



Cantilever Beam Test Set-up

- a. Dial Gauges
- b. Vernier Calipers
- c. Scale
- d. Hanger
- e. Weights



Simple Screw Jack, Efficient Engineers

- a. Weights
- b. Rod for turning the screw assembly



Compound Screw Jack,
Sigma Scientific

- a. Weights
- b. Rod for turning the screw assembly



Fly Wheel
Sigma Scientific

- a. Weight
- b. Thread
- c. Stop Watch
- d. Counter



Strain Gauge set-up
Sharp Technologies

- a. Weights

