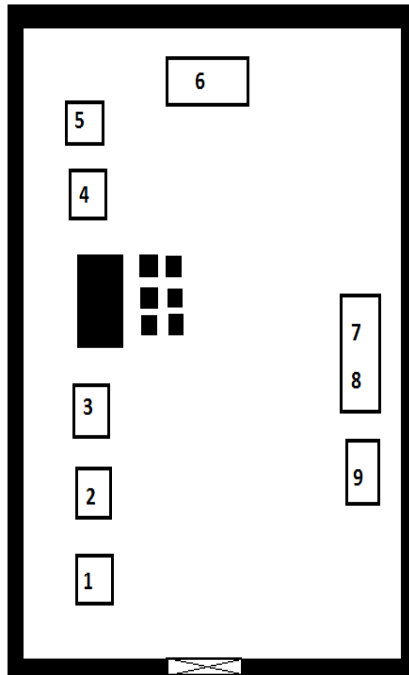


## JOB: 1

### LAYOUT OF SOM LAB:



1. 10 ton Bucton universal testing machine
2. 50 ton Denison universal machine
3. Shimadzu 500KN tension testing machine
4. Avery torsion testing machine
5. Charpy impact testing machine
6. 100 ton Bucton universal testing machine
7. Shimadzu Rockwell hardness testing machine
8. Brine hardness testing machine
9. Shimadzu fatigue textng machine

## 1) 10 ton Bucton universal testing machine

### Test performed:

- Tension test
- Compression test
- Bend test
- Shear test
  - Direct shear
  - Direct punching shear
- Torsion Test



### Scale:

- Main scale
- Vernier scale

**Maximum Capacity:** 10 TON

**Least Count:** 0.001 TON

**Operation:** Electric +Manual

## 2) 50 ton Denison universal machine:

### Test performed:

(1) Tension test

(2) Compression test

(3) Bending test

### **Scale:**

The machine has four different types of scales for testing various sizes of steel specimen.

### **Least Count:**

- 0.005 Tons
- 0.010 Tons
- 0.025 Tons
- 0.050 Tons

### **Maximum Capacity:**

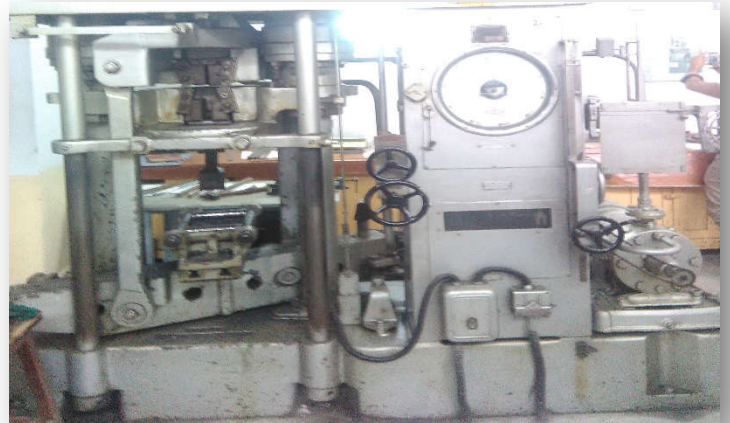
- 5 Tons
- 10 Tons
- 25 Tons
- 50 Tons

**Operation:** Electric hydraulic system

### **(3) Shimadzu 500KN universal testing machine:**

#### **Test performed:**

- (1) Tension test
- (2) Compression test
- (3) Bending test



## Scale:

The machine has six different types of scales for testing various sizes of steel specimen. Result output can be taken on computer.

## Maximum Capacity:

- 10 KN
- 25 KN
- 50 KN
- 100 KN
- 250KN
- 500 KN



## Least Count:

- 0.010 KN
- 0.025 KN
- 0.050KN
- 0.100KN
- 0.250 KN
- 0.500 KN

**Operation:** Electric

## 3) Avery torsion testing machine:

### Test performed:

- Torsion test

**Scale:**

- 0-1500 lb-in
- 0-3000 lb-in
- 0-7500 lb-in
- 0-15000 lb-in

**Maximum Capacity:** 15,000 lb-in

**Rotational speed:**

- 0-3<sup>1</sup>/<sub>3</sub> degree per minute
- 0-10 degree per minute
- 0-30 degree per minute
- 0- 90 degree per minute

**Parts:**

- fixed head
- twisting head
- **Operation : Electric**



**5) Charpy impact testing machine:**

**Scale range:** 0-170°

**Operation:** Manual

**Tests:**

- Impact load testing
- Tension
- Bending



## 6. 100 ton bucton universal testing machine:

### Test performed:

- Tension test
- Compression test
- Bending test

### Scale:

The machine has two type of scales for testing various sizes of steel specimen.

- Main scale
- Vernier scale

### Maximum Capacity:

- scale 1 : 20,000 lbs
- scale 2 : 200,000 lbs

**Operation:** Electric



## 7. Shimadzu Rockwell hardness testing machine

### Test performed:

- Hardness test

### Scale:

- Scale for low carbon steel (B-red color)
- Scale for high carbon steel (B-black color)

### Penetrators:

- For low carbon steel : steel ball indentors 1/16 in DIA
- For high carbon steel : Diamond cone indentors (apex angle : 120°)

**Operation:** Manual



### (9) Brinell hardness testing machine:

**Manufacturer:** Brinella Poland

**Operation:** Manual

**Tests:** Hardness test



**(9) Shimadzu fatigue testing machine:**

**Manufacturer:** Shimadzu

**Operation:** Electric

**Test:** Fatigue test



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