

**Department of
Metallurgical and Materials
Engineering**

**Fuels Furnaces
and Refractories Lab
Equipment Details**

LIST OF EXPERIMENTS

1. To find the Flash and Fire points of fuel oil by “PENSKY MARTINS” open and closed cup apparatus.

2. To find the flash and points of fuel oil by ABEL's Flash point apparatus

3. To find the viscosity of lubricant oil by using

a. Red-wood-I Viscometer

b. Red-wood-II Viscometer

c. Saybolt Viscometer

4. To find the calorific value of solid and liquid fuels by using “Bomb Calorimeter”

5. To find the calorific value of gaseous fuels by using “Junker's Gas Calorimeter”

- 6. To study proximate analysis of Coal**
- 7. To study ultimate analysis of Coal**
- 8. To study various types of Refractories and find their densities, Hardness.**
- 9. To study Calibration of thermocouple.**
- 10. Measurement of temperature using radiation pyrometer.**
- 11. Measurement of temperature using optical pyrometer**



Redwood Viscometer-1

Redwood Viscometer-II



**Saybolt Universal
Viscometer**





**Pensky martin's
Falsh and Fire
point Apparatus**

Abel's flash point Apparatus

Junker's gas Calorimeters



Bomb Calorimeters



Tube Furnace



Muffle Furnace

