**Benha University Shoubra Faculty of Engineering**

**Energy & Sustainable Energy Engineering**

**Fuel & Advanced Combustion Sheet No. (1)**

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1. What do you understand by higher calorific value and lower calorific value of a fuel?
2. What are the advantages of liquid fuel and gases fuel over solid fuel?
3. Write short notes on:
4. Degree API of liquid fuel.
5. Self ignition temperature of fuel.
6. Pour point.
7. Flash point.
8. Distillation.
9. Cetane number and Octane number.
10. A 28o API of fuel oil. Calculate its density in kg/lit?
11. The percentage composition by weight of a simple of coal is given as below.

C = 65.5% H2 = 6.65% O2 = 17.5% S = 1.8%

Using Dulong formula calculate the calorific value of coal.

1. The percentage composition by weight of a simple of coal is given as below.

C = 70% H2 = 6 % O2 = 22% S = 2%

Using Dulong formula calculate the calorific value of coal.

1. The ultimate analysis of a simple of coal is gives in percentage by weight.

C = 66% H2 = 6% O2 = 19% S = 9%

Using Dulong formula calculate the calorific value of coal.

Note:-

 Dulong's Formula to find:--

* The high calorific value:

 

* The low calorific value:

 