1. **Energy sources**

***Objective Questions:***

1. A good fuel should possess: [d]

**a.** High ignition temperature **b.** Moderate ignition temperature

**c.** High calorific value **d.** Both B & C

1. Which of the following coal possess the highest calorific value. [c]

**a.** Peat **b.** Lignite

**c.** Anthracite **d.** Bituminous

1. Main constituent of natural gas is [b]

**a.** Carbon monoxide **b.** Methane

**c.** Hydrogen **d.** Ethane

1. Cracking is [b]

**a.** Somewhat similar to polymerization

**b.** Conversion of long-chain hydrocarbons to shorter ones

**c.** The production of unsaturated molecules from saturated ones

**d.** Distillation of crude oil to obtain kerosene

1. In proximate analysis the % of moisture is [a]

**a.** Undesirable **b.** Desirable

**c.** Least desirable **d.** None

1. In refining of petroleum which of the following chemical is used for removal of harmful material. [c]

**a.** MbO **b.** FeO

**c.** CuO **d.** AgO

1. Which of the following chemical is used to reduce knocking [c]
   1. TEL **b.** DEL **c.** Both **d.** TET
2. Chemical name of the cetane [b]

**a.** n-tetradecane **b.** n-hexadecane

**c.** n-heptadecane **d.** n-pentadecane

1. Main constituent of LPG gas is [c]

**a.** Methane **b.** Ethane **c.** Butane **d.** Pentane

1. LPG has special odour due to the presence of [b]

**a.** Organic nitrides **b.** Organic sulphides **c.** Organic carbides **d.** Organic chlorides

1. In proximate analysis the % of Fixed carbon is [b]

**a.** Undesirable **b.** Desirable

**c.** Least desirable **d.** None

1. In ultimate analysis the % of Carbon is [b]

**a.** Undesirable **b.** Desirable

**c.** Least desirable **d.** None

1. Which of the following crude oil fraction is used for laying of roads. [d]

**a.** Petroleum ether **b.** lubricant oil

**c.** Naphtha **d.** Heavier oil

1. In refining of crude oil which process is used for removal of water? [a]

**a.** Cottrell process **b.** Distillation process

**c.** Oxidation process **d.** Reduction process

1. Chemical name of Iso Octane is? [a]

**a.** 2, 2, 4- Tri methyl Pentane **b.** 2, 2, - di methyl Hexane

**c.** 2, 2, 4, 4- Tetra methyl Butane **d.** 2- methyl Heptane

***Fill in the blanks:***

1. The calorific value of coke is generally **\_Higher\_\_** than coal.
2. The compound with octane number 100 is **\_Iso Octane is 100% & 0% of n-Heptane .**
3. A good fuel should possess **\_\_Moderate \_** ignition temperature.
4. **\_High\_\_**Calorific value includes latent heat of steam.
5. A good fuel should possess **\_\_Low\_\_** moisture content.
6. Oxygen content **Decreases\_** the calorific value.
7. Ultimate analysis of a fuel is determination of % **C, H, N, S & O .**
8. Dulong’s formula of HCV is **\_ HCV = 1/100[8080C + 34500(H-O/8) + 22400S] .**
9. **\_\_CO + H2\_** is the composition of water gas.
10. **\_\_Tetra Ethyl Lead\_\_** is the full form of TEL.
11. Composition of power petrol **82-85 % of Carbon & 11-15% of Hydrogen\_\_**
12. The compound with Cetane number 80 % is **80% of Cetane & 20% of α-Methyl Naphthalene .**
13. **\_Di Ethyl Telluride**  is the full form of DET.
14. **\_\_Peat\_\_** is the lowest ranking of coal.
15. **\_Anthracite\_**is the highest ranking of coal.