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Q1.

Nuclear fuels (like uranium)

Q2.

The amount of heat produced by burning 1 gram of a fuel completely is known as its calorific value.

Q3.

Calorific value of LPG is 50kJ/gm means that if 1 gram of LPG is burnt completely, then it will produce 50kJ of heat energy.

Q4.

LPG, due to its higher calorific value.

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Q5.

Ignition temperature of fuel can be defined as the minimum temperature to which a fuel must be heated so that it may catch fire and start burning.

Q6.

If ignition temp of a fuel is 80°C, this means that minimum 80°C is required for the ignition of the fuel.

Q7.

calorific.

Q8.

A source of energy is one which can provide adequate amount of energy in a convenient form over a long period of time.

Two main categories of the source of energy are:

- i. Renewable source of energy
- ii. Non- renewable source of energy

Q9.

A good source of energy is one:

- (i) which would do a large amount of work per unit mass,
- (ii) which is cheap and easily available,
- (iii) which is easy to store and transport,
- (iv) which is safe to handle and use.

Q10.

A non-renewable source of energy is defined as the source of energy which has accumulated in nature over a very, very long time and cannot be quickly replaced when exhausted.

Ex. Coal, petroleum etc.

Q11.

A renewable source of energy is the one which is being produced continuously in nature and is inexhaustible.

Ex. wind energy, ocean thermal energy etc.

Q12.

Renewable source of energy can be used again and again endlessly, whereas non-renewable source of energy cannot be renewed once used.

Ex. Renewable sources of energy are wind energy, ocean energy.

Non-renewable sources of energy are coal, fossil fuel.

Q13.

Fossil fuels are known as non-renewable sources of energy because fossil fuels once used cannot be renewed or regained.

Q14.

Air and water, because both air and water can be used again and

again endlessly, they never get exhausted.

Q15.

Petroleum and coal are non-renewable sources of energy because they cannot be used again once exhausted.

Q16.

(a) Renewable source of energy - wind, tides, wood

Non- Renewable source of energy - coal, petroleum, natural gas

(b) The above classification is based on the fact that renewable sources are inexhaustible, whereas non-renewable sources are exhaustible.

Q17.

Coal is a non-renewable source of energy because it has accumulated in the earth over a very, very long time, and if all the coal gets exhausted, it cannot be produced quickly in nature.

Wood is considered as a renewable source of energy because if trees are cut to obtain wood, then more trees will grow in due course of time.

Q18.

(a) The material which is burnt to produce heat energy is known as a fuel.

Ex. Wood, coal, LPG, kerosene, diesel etc.

(b) Characteristics of ideal fuel:

(i) It should have high calorific value.

(ii) It should burn without giving out any smoke or harmful gases.

(iii) It should have proper ignition temperature.

(iv) It should be cheap and easily available.

(c) Fuel A:

i. Lower calorific value of 55 kJ/g (Disadvantage)

ii. Moderate ignition temperature of 80°C (Advantage)

iii. No harmful gases produced (Advantage)

Fuel B:

i. High calorific value of 80 kJ/g (Advantage)

ii. Very low ignition temperature of 10°C (Disadvantage)

iii. Harmful gases like CO and SO₂ produced (Disadvantage)

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Q30.

Fuel B is the most ideal fuel because.

(i) it leaves no residue on burning.

(ii) it has high calorific value of 48 kJ/g.

(iii) it does not burn explosively.

Q31.

Fuel Y is a better fuel because

(i) it has a moderate ignition temperature of 75°C.

(ii) it produces no harmful gases like CO on burning.

Q32.

(i) cooking gas - D

(ii) alcohol - E

(iii) wood - B

(iv) hydrogen - C

(v) kerosene - A

Q33.

Hydrogen gas > Methane > Petrol > Kerosene > Biogas > Wood

Q34.

Dung cakes < Coal < Alcohol < Diesel < LPG

Q35.

Hydrogen gas.

***** END *****