

Qn No. 1

Chapter Name:7. Oorjaparipalanom

Qn.

From the following statements given below, find out the statements related to Nuclear Fusion

- The activity of dividing heavy nuclei
- The activity of joining light nuclei
- It is the reason for the energy production in stars
- The principle behind atom bomb.

Hint.

2, 3

Marks :(2)

[Hide Answer](#)

Qn No. 2

Chapter Name:7. Oorjaparipalanom

Qn.

If we completely convert 1 gm of matter in to energy, we get 9×10^{13} J energy.

- Which equation of Einstein help us to find this?
- By what name are the power stations that utilize the matter-energy conversion known?

Hint.

a) $E = mc^2$

b) Nuclear power stations

Marks :(5)

[Hide Answer](#)

Qn No. 3

Chapter Name:7. Oorjaparipalanom

Qn.

Fossil fuels are precious and it is to be conserve for the future.

- What is mean by fossil fuels?
- Prepare posters to convince the need of utilising fossil fuels in a rational way.

Hint.

a. Fossil fuels are formed by the transformation of plants and animals that went under the earth's crust millions of years ago. The transformation took place in the absence of air under high pressure and high temperature.

b.poster

Marks :(2)

Hide Answer

Qn No. 4

Chapter Name:7. Oorjaparipalanom

Qn.

LPG is an important fuel for house hold utilisation.

- a) Write the full form of LPG
- b) Which is the main constituent in LPG?
- c)Why Ethyl mercaptane is added to this fuel?

Hint.

Hint.

- a) Liquified Petroleum Gas
- b) Main constituent – Butane
- c) Ethyl Mercaptane is added know the foul smell, if there is any leakage.

Marks :(3)

Hide Answer

Qn No. 5

Chapter Name:7. Oorjaparipalanom

Qn.

Hydrogen is a fuel having high calorific value.

- a)Write the situation,in which hydrogen is used as a fuel?
- b) Why hydrogen is not used as a house hold fuel?

Hint.

a). Rocket

b).Hydrogen is highly inflammable and explosivs.

Marks :(2)

Hide Answer

Qn No. 6

Chapter Name:7. Oorjaparipalanom

Qn.

In large cities, now CNG is used in vehicles instead of petrol and diesel

- a)what is mean by CNG?

b) Write two advantages of using CNG

Hint.

a. Compressed natural gas is made from natural gas that comes with petroleum

b.

- Less atmospheric pollution
- Fuel efficiency is more
- Low cost
- easy to transport

(any two)

Marks :(2)

Hide Answer

Qn No. 7

Chapter Name:7. Oorjaparipalanom

Qn.

Find out the statements related to LNG from the following.

- Ethyl mercaptane is added
- Main constituent in this is Methane
- Main constituent in this is Butane
- It is used as a fuel in Industries and Power stations

Hint.

Hint.

- Main constituent in this is Methane
- It is used as a fuel in Industries and Power stations

Marks :(2)

Hide Answer

Qn No. 8

Chapter Name:7. Oorjaparipalanom

Qn.

- How fossil fuels are formed in nature?
- Write two examples of fossil fuels?

Hint.

Hint.

a) The plants and animals which were under the soil by millions of years, transformed into fossil fuels with high temperature and pressure.

b) Coal, Petroleum, Natural Gas

Marks : (3)

Hide Answer

Qn No. 9

Chapter Name: 7. Oorjaparipalanom

Qn.

a) What is the purpose of pollution test in vehicles?

Hint.

Hint.

a) To know whether there is more polluting materials in the smoke.

Marks : (1)

Hide Answer

Qn No. 10

Chapter Name: 7. Oorjaparipalanom

Qn.

For the complete combustion air (oxygen) is needed.

a) what is mean by partial combustion?

b) Write the disadvantages of partial combustion?

c) Write the name of two products during combustion

Hint.

a. If oxygen is not sufficient, large quantities of carbon monoxide, soot and a little of carbon dioxide will be formed. This type of burning is partial combustion.

b) Fuel loss, Time loss, low heat, pollution (any two)

c) Carbon dioxide, carbon monoxide, steam (any two)

Marks : (2)

Hide Answer

Qn No. 11

Chapter Name: 7. Oorjaparipalanom

Qn.

Which among the following are the two forms of coal ?

(Coal tar, anthracite, lignite, paraffin)

Hint.

Hint.

anthracite, lignite,- 1 score

Marks :(1)

Hide Answer

Qn No. 12

Chapter Name:7. Oorjaparipalanom

Qn.

Substances related to coal are given below. Tabulate them in to two

(i)Forms of coal and (ii) Products of coal after distillation ?

(1) Coal tar(2) Coke (3) Peat (4) Lignite (5) Ammonia (6) Anthracite (7) Coal gas (8) Bituminous coal

Hint.

Hint.

Forms of coal – Peat, Lignite, Bituminous coal, Anthracite

Products after distillation – Ammonia, Coal gas, Coal tar, Coke

Marks :(2)

Hide Answer

Qn No. 13

Chapter Name:7. Oorjaparipalanom

Qn.

Fill suitably

-----is the gas used in Hydrogen fuel cell with hydrogen

(Nitrogen, CO, Oxygen, CO₂)

Hint.

Oxygen

Marks :(1)

Hide Answer

Qn No. 14

Chapter Name:7. Oorjaparipalanom

Qn.

Write any three qualities of a good fuel?

Hint.

Hints.

- More availability
- less economic
- Less atmospheric pollution at the time of combustion
- high calorific value

Marks :(2)

Hide Answer

Qn No. 15

Chapter Name:7. Oorjaparipalanom

Qn.

- 1) Write two examples for biomass?
- 2) What are the 2 problems of biomass as a fuel?

Hint.

Hint.

- 1) fire wood, cow dung cake, coconut shell, -- (any two)
- (2) smoke, smell, poisonous gases

Marks :(2)

Hide Answer

Qn No. 16

Chapter Name:7. Oorjaparipalanom

Qn.

Converting biomass in to biogas is beneficial for agriculture and reducing environmental pollution- Explain

Hint.

Hint.

- Fuel which has high calorific value
- Manure for agriculture
- Reduce environmental pollution
- (appropriate Explanation)

Marks :(2)

Hide Answer

Qn No. 17

Chapter Name:7. Oorjaparipalanom

Qn.

a. In which name the energy sources which causes the environmental pollution including global warming is called ?

b. Write two examples for these type of energy sources?

Hint.

a. Brown Energy

b. Nuclear Energy, Thermal energy.

Marks :(2)

Hide Answer

Qn No. 18

Chapter Name:7. Oorjaparipalanom

Qn.

There will be foul smell when the bio wastes are heaped together.

- a) Which gases causes this foul smell?
- b) How biogas is formed from bio wastes?

Hint.

Hint.

- a) Hydrogen sulphide, Methane
- b). Reaction of bacteria in the absence of oxygen.

Marks :(2)

Hide Answer

Qn No. 19

Chapter Name:7. Oorjaparipalanom

Qn.

Write the situations in which the following materials are used related to fuels.

1. Ethyl mercaptain
2. Enriched Uranium.

Hint.

Hint.

1. It has smell, so the leakage of LPG can be found.
2. Used as fuel in Nuclear reactor.

Marks :(2)

Hide Answer

Qn No. 20

Chapter Name:7. Oorjaparipalanom

Qn.

- (1) What is the energy change in solar panel?

(2) Why do we call Solar panel as an electronic device?

(3) Explain photo voltaic effect?

Hint.

Hint.

(1) Light energy converted to Electrical energy

(2) The main part of a solar panel is the P-N junction diode made up with silicon. So it is an electronic device.

(3) In a P-N junction diode, when sunlight falls on N – region, the electron flow occurs on P region. The phenomenon in which electricity formed when sunlight falls is known as Photo Voltaic effect.

Marks :(4)

Hide Answer

Qn No. 21

Chapter Name:7. Oorjaparipalanom

Qn.

Write the name of the two appliances which use heat energy directly from solar energy?

Hint.

Hint.

Solar cooker, solar water heater

Marks :(1)

Hide Answer

Qn No. 22

Chapter Name:7. Oorjaparipalanom

Qn.

Find out the odd one and write the reason?

(1) Diesel, LPG, Coal gas, Petrol

(2) Solar energy, wind energy, nuclear energy.

Hint.

Hint.

(1) Coal gas , others are taken from Petroleum.

(2) Nuclear energy, others are green energy.

Marks :(2)

Hide Answer

Qn No. 23

Chapter Name:7. Oorjaparipalanom

Qn.

For the solution of energy crisis, we have to utilise maximum green energy when building a house.

- Suggest two methods to utilise green energy while constructing a house.

Hint.

Hint.

1. The energy sources must be eco-friendly and non polluting.
2. Utilise maximum light from the sun during day time

Marks :(2)

Hide Answer

Qn No. 24

Chapter Name:7. Oorjaparipalanom

Qn.

- (a) What is known as energy crisis?
- (b) Write 4 situations which leads to energy crisis?
- (c) Suggest two methods to solve energy crisis.

Hint.

Hint.

- (a) The increase in the demand of energy ----- 1/2 score
Lack of availability----- 1/2 score
- (b) Increase in population----- 1/2 score
Industrialisation ----- 1/2 score
unreasonable usage of energy ----- 1/2 score
maximum usage of non renewable sources of energy. -- 1/2 score
- (c)Utilise maximum solar energy ----- 1/2
Use energy in a reasonable and scientific way. ----- 1/2

Marks :(4)

Hide Answer

Qn No. 25

Chapter Name:7. Oorjaparipalanom

Qn.

Nuclear fusion and nuclear fusion are two ways of producing energy from the nucleus of an atom.

Write two advantages of nuclear fusion over nuclear fusion

Hint.

Hint.

There will be no radioactive products.

Hydrogen is the fuel for fusion and it is lavish.

Marks :(1)

Hide Answer

Qn No. 26

Chapter Name:7. Oorjaparipalanom

Qn.

From the following sources, Find out the Sources of Green energy?

- (1) Atomic reactors
- (2) Solar cells
- (3) Thermal powerstations
- (4) Tidal power station
- (5) Hydro electric power station
- (6) Windmill farms (2) Score

Hint.

Hint.

2, 4, 5, 6

Marks :(2)

Hide Answer

Qn No. 27

Chapter Name:7. Oorjaparipalanom

Qn.

Analyse the following statements related to solar water heater and answer the questions

* Hot water is taken from the upper side of the solar water heater tank.

*When heated the density of the water is changed.

- (1) Explain the working of a solar water heater, based on the above statements. (3)

Hint.

Hint.

Density of water decreases when temperature increases. ----1/2

Cold water of high density will be in the bottom side of tank ----- 1/2

Cold water is heated through the bottom pipes ----- 1/2

when density decreases, it reaches top. ----- 1/2

The hot water is taken from the tap at the top ----- 1/2

Scientific explanation ----- 1/2

Marks :(3)

Hide Answer

Qn No. 28

Chapter Name:7. Oorjaparipalanom

Qn.

What are the advantageous of storing bio-wastes in a bio gas plant instead of throwing it.?

Hint.

Hint.

1. Decrease environment pollution
2. We get fuels with high calorific value.
3. The waste from the plant can be used as manure.

Marks :(2)

Hide Answer

Qn No. 29

Chapter Name:7. Oorjaparipalanom

Qn.

Write the difference between a solar voltaic power plant and solar thermal power plant..

Hint.

Hint.

In solar voltaic plant, electrical energy is produced from solar energy using solar panel.

In solar thermal power plant, steam is produced using the solar energy and with that mechanical energy is converted to electrical energy.

Marks :(2)

Hide Answer

Qn No. 30

Chapter Name:7. Oorjaparipalanom

Qn.

Find the relation and fill in the blanks

a.kerosene : Petroleum

Ammonia : -----

b.LPG : Butane

CNG: -----

Hint.

a. coal

b.methane

Marks :(2)

Hide Answer

Qn No. 31

Chapter Name:7. Oorjaparipalanom

Qn.

Find the odd one and write the reason?

(Coal tar, Coal gas, Nitrogen, Ammonia)

Hint.Hint.

Nitrogen - others are taken from coal

Marks :(2)

Hide Answer