

Question no: 2

Q) Difference between a star and planet:

Star:-

1) A star is a burning object that emits light.

↳ A star has a lifecycle. It forms from nebulae i.e. dust and gas and ends as a blackhole.

↳ It revolves in a galactic circle such as sun.

↳ No living body can survive on it because of high temperature, lack of oxygen and absence of other conditions necessary for human survival.

↳ It does not rotate on its axis.

Planet:-

↳ A planet is a solid, terrestrial body that does not emit light.

↳ Unlike star, earth ^{and other planets} has been in ^{their} shape since their formation. They do not get confined to a blackhole.

↳ A planet revolves around a star. e.g. ~~sun~~ earth revolves around the sun.

↳ Not all planets but some planets have the capability to provide survival conditions for

human beings.

↳ Planets rotate on their axis, either clockwise or anticlockwise.

Life cycle of a star:

Every star has a life cycle.

↳ It starts from a ~~point~~ explosion of a ball and dust and gas scatters around. The star starts forming from the nebulae → i.e. dust and gas. The dust and gas is pulled together through gravitational forces.

↳ In its early phases it is a burning ball orange in colour. In this phase chemical reactions are at its peak through fusion of hydrogen and helium and generates more heat.

↳ But with the passage of time these atoms start receding. In last stages of its life a star changes its colour into blue, and then finally it transforms into blackhole due to its own gravity.

c) Global Warming:

Global warming is the heating up of earth surface than its usual temperature due to trapping of heat on the surface of earth.

The atmosphere of the earth has capability to reflect the heat back that it absorbs. But when the ozone layer of earth becomes too trapped with gases, the atmosphere lose its capability to ~~se~~ filter out all the harmful rays.

Mechanism of Green House Effect:-

Earth absorbs the rays coming from the sun. These rays have many harmful rays such as UV (ultraviolet) which is not good for earth. Due to pollution of atmosphere these rays are not reflected back. On the surface of earth the harmful gases emitting from vehicles, farms, ~~heat~~ and industries also get trapped & it causes green house effect.

Major Greenhouse gases:-

Methane :- Agriculture is the highest contributor of methane. The soots of animals used on farms lands releases enormous amount of methane gas.

Ozone O_3 :- The fuel and gases released from vehicles chemically react with other particulate matters and form O_3 which is harmful for earth.

CO₂:

CO₂ is released from coal power plants, cars, factories etc. Plants have the capability to absorb CO₂ but, which deforestation on its peak, the concentration of CO₂ is increasing to dangerous levels.

2) Tsunami:

Tsunamis are huge waves that form on ocean and advance towards coastal areas. The Tsunamis of Japan are prominent examples.

↳ Tsunamis occur due to strong earthquake on the ocean floor. It disturbs the balance of the flow of ocean & hence causes Tsunami.

↳ These Tsunamis when reach to coastal areas destroys and submerges everything i.e. houses, parks, buildings.

Question no:3

Renewable and non-Renewable Energy Resources

Renewable energy resources:-

Renewable energy is natural resource for energy. These resources can be reused without the concern of its depletion. Renewable energy resources include electricity generated from wind through wind turbines, from water (hydropower) through dams from sun (solar energy) through solar panels. Factories, industries are using these resources for energy instead of burning coal that emits CO_2 . Pakistan is one of the leading countries in the world when it comes to using solar panels.

Wind energy as a sustainable source for future:-

Wind energy is a sustainable source of energy. Especially in coastal areas of Pakistan, where there are more chances of wind, such as Karachi, energy can be generated through wind turbines.

In Europe many villages use wind turbines as a source for energy.

d) Dengue fever:-

Dengue fever is a severe fever caused by the dengue virus. It is transmitted into human body by a mosquito when it bites.

on human skin

Symptoms:

- High fever
- Trembling of whole body
- Severe headache
- Nausea
- Vomiting
- Nose bleed
- Rashes on hands.
- Body ache
- Reduction in platelets (WBCs)

Preventive measures:

- Water should not be stored in one place for a long time.
- Buckets should be covered
- Mosquito repellent lotion should be applied on whole body.

SECTION: II

Question no: 7

d) $x + y = 75$ years
son's age = x
father's age = $x - 10 = 4(x)$

Question no: 8

a) ROAD = U & D G
LAKE = O C N N

b) Women is the man's daughter.

c) $\therefore 4, 12, 6, 18, 9, 27, \underline{81}$

Because the numbers are multiplied with 3

$$4 \times 3 = 12, 6 \times 3 = 18, 9 \times 3 = 27$$

ii) $1, 2, 6, 24, 120, \underline{720}$

All the numbers are multiplied by subsequent numbers in sequence.

$$\underline{1} \times \underline{2} = 2, 2 \times \underline{3} = 6, 6 \times \underline{4} = 24, 24 \times \underline{5} = 120, 120 \times \underline{6} = 720$$
