Physics - FSC Part 1 Physics Chapter 4 Short Questions Preparation

Q1. What is solar constant ? What is its value?

Ans 1: Solar energy at incidence outside the Earth's atmosphere is about 1.4kw m^{-2} which is referred as solar constant.

Q2. Define conservative field.Give its example.

Ans 1: Conservative Field: The field in which work done along a closed path is zero is called conservative field.For example, Earth's Gravitational field

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Q3. How energy is obtained from direct combustion and fermentation.

Ans 1: Direct Combustion: It is applied to get energy from waste product commonly known as solid waste and confined it into chamber and ignite it.The heat produced is then used in a boiler to run the turbine of generator

Fermentation: Biofuel such as ethanol is a replacement of gasoline which is obtained by fermentation of biomass using. Enzymes and by decomposition through bacterial action in the absence of air . The rotting of biomass in a closed tank called digester produces biogas which can be piped out to use for cooking and heating.

Q4. Discuss the work done in gravitational Field?

Ans 1:

Q5. A person holds a bag of groceries while standing still. A car is stationary with its engine running.How are the two situations similar from the point of view of work ?

Ans 1: In both the above two cases, since there is no displacement, therefore the work done will be zero. Hence in this respect, the two situation are similar.

Q6. Differentiate between conservative and non- conservative force.

Ans 1: Conservative Force: The force by which work done along a closed path is zero is called conservative force. For Example, gravitational force, electric force and magnetic force.

Non-Conservative Force: The force by which work done along a closed path is not zero is called non-conservative force. For example,frictional force, air resistance and normal force.

Q7. How electrical energy can be obtained from sunlight by indirect conversion method?

Ans 1: By using semiconductor devices, the solar cell also called photo voltaic cell: sunlight can be directly converted into

electricity. These solar cells are made of silicon wafers. Electron in the silicon gain energy from sunlight to create voltage.Voltage can be increased by increasing the number of solar cells.

Q8. What are the essential conditions for conservative field?

Ans 1: For a field to be conservative, energy should be conserved and work should be independent of the path followed.As in case of work done along a path in the gravitational field of earth.

Q9. Write some methods to obtain solar energy.

Ans 1: Solar energy can be used directly to heat water using large solar reflectors (mirrors) and thermal absorbers.
Semi-conductor devices called solar cells are used to convert sunlight into electricity. Solar cells are thin wafers made from silicon,
For cloudy days or nights, electric energy can be saved in Nickel cadmium batteries by connecting them to solar panels.

Q10. What sort of energy is in the following?

1. A Moving Car
2. A Compressed Spring

Ans 1:
A Moving car has kinetics energy .
A Compressed Spring has elastic potential energy.
