Physics - FSC Part 1 Physics Chapter 4 Short Questions Preparation

Q1. How many most common methods can be used for the conversion of biomass into fuel? Write their names.

Ans 1: There are two methods for conversion of biomass into fuel:

- Direct Combustion Method
- Fermentation Method

Q2. Define work and its SI unit.

Ans 1:

Q3. Discuss the work done by a variable force ?

Ans 1: Consider a body of mass 'm' allowed to move from point 'A' to 'B' under the action of variable force

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Q4. 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.

Q5. Define power and instantaneous power?

Ans 1: **Power:**The power of doing work is known as power. It is represented by 'P' and is given by
Power = work/time
P = w/t
Instantaneous Power: The rate of doing work in the limit when 't' approaches to zero is known as instantaneous power.

Q6. A girl drops a cup from a certain height which breaks into pieces.What energy changes are involved?

Ans 1: When the cup was in the hands of girl, it had gravitational P.E when the cup is dropped, its P.E. Is converted into the K,E On striking the ground , this energy is converted into sound energy, heat, work done in breaking the cup into pieces and kinetic energy of pieces.

Q7. What are non-conventional energy sources? Describe briefly.

Ans 1: The energy sources which are not very common theses days are called non- conventional energy sources. Some of the

non-conventional energy sources are :

1. Energy from tides
2. Energy from waves
3. Energy from biomass
4. Energy from waste products
5. Solar Energy
6. Geothermal Energy

Q8. How can we gain energy from tides?

Ans 1: The tides raise the water in the sea roughly twice a day.If the water at the high tides is trapped in a basin by constructing a dam, then it is possible to use this as a source of energy. There dam is filled at high tide and water is released in a controlled way at low tide to drive the turbines and generate electricity.

Q9. Explain briefly how the energy is obtained from the fermentation of biomass.

Ans 1: Biofuel such as ethanol is a replacement of gasoline. It 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 a digester produces biogas which can be pipped out to use for cooking and heating

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Q10. How energy can be obtained from waste products?

Ans 1: Wate products like wood waste, crop residue, and municipal solid waste is burnt in a confined container. Heat produced in this way is directly utilized in the boiler to produce steam that can run turbine generator.