Physics - FSC Part 1 Physics Chapter 4 Short Questions Preparation

Q1. 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.

Q2. 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.

Q3. What is Salter's duck?

Ans 1: Salter's duck is a device which can be used to utilize the water waves energy and to generate electricity .It consists of two parts

1. Duck float
2. Balance float

The wave energy makes duck float move relative to the balance float. The relative motion of the duck float is then used to run electricity generators.

Q4. 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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Q5. What is 'Aquifer'?`

Ans 1: Aquifer is a layer of rock holding water that allows water to percolate through it with pressure.

Q6. What is a machine ? Discuss the input and output and efficiency of a mechanical machine ?

Ans 1: **Machine:**A machine is a thing or device with the help of which we can do more work than we can do by hands.
Input of Mechanical machine: The amount of work dine on a machine by a given effort force is known as input of machine.
Input = effort *effort arm
Input = P*d
Output of Mechanical Machine: The amount of work done by a machine on the load (weight) is known as output of the machine
output = load * load arm
output = w*d

Efficiency: The ratio of output and input of a machine is known as efficiency
Efficiency: Output / input
n = w*d/ p*d

Q7. Discuss the work-energy principal ?

Ans 1: Consider a body of mass 'm' placed on the ground. Now if some force 'F' is applied on the body, then the body will start motion with initial velocity V_1 in the direction of applied force. If we neglect the force of friction then the body will continue its motion

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Q8. 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.

Q9. What is conservation field ? Give example . (OR) Loop?

Ans 1: **Conservation Field:** A field is said to be conservation field if the work down in it along a closed path is equal to zero.
Example:

1. Gravitational field
2. Electrostatic Field
3. Magnetic field

Loop: A closed path is that path in which a body reaches to its starting point again after passing through several points.

Q10. Define conservative and non-conservative fields?

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

Non-Conservative fields: The field in which work done along a closed path is not zero is called non-conservative field. For Example, field of frictional force.