

## Physics - FSC Part 1 Physics Chapter 4 Short Questions Preparation

Q1. 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.

Q2. 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

Q3. 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.

Q4. What is 'Aquifer'?

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

Q5. Define and explain work ?

**Ans 1: Work:** The scalar product of force and displacement is known as work.

**Explanation:** Consider a force 'F' is acting on a body of mass 'm' and moves it from point 'A' to point 'B' through a displacement 'd'

Work = Force \* displacement

$W = F \cdot d \cos \theta$

Q6. What sort of energy is in the following?

1. A Moving Car
2. A Compressed Spring

**Ans 1:**

A Moving car has kinetic energy .

A Compressed Spring has elastic potential energy.

Q7. 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.

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Q8. 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.

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Q9. 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

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Q10. Describes four uses of solar cells.

**Ans 1:** Solar cells are used.

1. To power satellites
  2. In remote ground based weather stations
  3. In rain forest communication systems
  4. In solar calculators
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