Question # 02

all questions are very good attempted. good presentation as we;;. keep practicing for improvement.

Part # a

What is Avalanche? Describe its four types with the focus on most dangerous one.:

Avalanche

An avalanche is a sudden and often fast movement of snow or ice down the mountain side because of gravity.

An avalanche can be proved fatal or could cause minor to major property loss or damage the infrastructure. An avalanche of Siachin glaciers caused 140 casualities of army young men in 2013.

Types of Avalanche :-

On the basis of snow nature that formed the avalanche, it

can be divided into four types.

i) Wet snow Avalanche
ii) Loose snow Avalanche
iii) Slab Avalanche
iv) Powdered snow Avalanche

1 **Wet Snow Avalanche :-**

It is the most dangerous type of Avalanche. It is formed slowly but can gather speed at any time. It is usually initiated from the snow that has started melting or is wet due to rain.

The wet snow moves slowly and make cohesive layers from the snow around it and starts moving down the slope very slowly. It is its slow speed and cohesive nature that makes it grow to much bigger size and grow in size to larger extent. It moves slowly but can pick speed at any time.

Loose snow Avalanche :

It is the least dangerous type and can prove no damage to

تاریخ:

property. This avalanche is created in the fresh snow. It starts from a point and move down the slope and takes less cohesive snow with it. It moves down the slope in the form of 'V' shape.

Slab snow Avalanche :-

Slab snow avalanche is a type of avalanche in which a part of cohesive snow ~~broke~~ breaks away from the other part and moves down the slope. A slab of snow ~~broke~~ breaks down and move in the form of unit down the slope.

Powdered snow Avalanche :-

Powdered snow avalanche is a mix of both loose snow and slab snow avalanche. Sometimes, a slab of snow can not bear the weight of loose snow and break, then it moves along with loose snow. Like this, an avalanche contains both loose snow and sl

PART # 2C

World largest earthquake was assigned 9.5 by US geological survey on 22 May 1960 ..... ?

Earthquake

'Earthquake is the sudden release of energy in the form of seismic waves that vibrates the crust of Earth usually because of movement of tectonic plates.'

Earth crust is made up of tectonic plates. These plates are entangled with each other. Earthquake happens when these tectonic plates rub each other; move away from each other; or slid beneath each other.

World Largest Earthquake :-

US Geological survey assigned 9.5 to the earthquake of chile Valdivia of 22 may 1960 thus making it the

world's largest earthquake. The number assigned is the number of Richter scale that is used to describe the severity of earthquake.

Richter scale is a logarithmic scale, and it means that the damage caused is ten times greater than the previous number. On Richter Scale, 3 to 4.9 range is considered minor or light range; 5 to 6.9 range is moderate range; 7 to 7.9 range is major earthquake range; and 8 above is the great Earthquake range

Scale Range	Earthquake type
0 - 2.9	barely noticeable
3 - 4.9	minor earthquake
5 - 6.9	medium Earthquake
7 - 7.9	major earthquake
8 above	great earthquake

The earthquake of 9.5 falls under the great earthquake range and it is uncommon for an earthquake to occur in the continental region. It

was one of its types and caused major damage to locality.

Distinguishing between shallow and deep focus earthquake :-

On the basis of the depth of the focus, earthquakes can be distinguished among three types;

i. Shallow focus earthquake
ii. Intermediate focus earthquake
iii. Deep focus earthquake.

Shallow focus earthquake is the one in which the focus of earthquake is less than 60 km in earth.

Intermediate focus earthquakes are the one whose focus is more than 60 km but lower than 300 km.

Deep focus earthquakes are the one whose origin is below 300 km.

Generally, all earthquakes whose origin is below 300 km are placed under shallow earthquakes and all those whose origin is well below 300 km are termed as deep focus earthquake.

4.5/5

PART # 2d

Differentiate b/w renewable and non-renewable energy resources. Briefly explain geothermal & hydroelectric energy.

Answer

Renewable Energy Resources	Non-renewable Energy Resources
→ Renewable energy sources are those sources that once depleted can not be replenished easily.	→ Non-renewable energy sources are those sources which once depleted can not be replenished easily
→ Renewable energy resources are replenishable on human timescale	→ Non-renewable resources are not replenishable on human time scale

Renewable Energy Resources	Non-renewable Energy Resources
→ Usually renewable energy resources are green.	→ Non-renewable energy resources are not green and they are been held responsible for climate change.
→ commonly known renewable energy resources are Hydroelectric power, solar, geothermal power resources	→ Commonly known non-renewable energy resources are coal, gas, petroleum

Geothermal Energy :-

Geothermal energy is a type of renewable energy that is produced by utilizing heat of the magma of earth.

Producing geothermal energy :

Heat energy of magma converts the water available to hot water and steam. This steam is used to run the turbine that produces electricity.

Sometimes, water is not available near the point where heat of magma is entrapped. In this condition, drilling can be done to transfer water at the point. It is then converted to steam and transfered to turn the turbine to produce electricity.

Heat Energy of Earth

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Kinetic energy of steam

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Kinetic energy of Turbine

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Electrical Energy

∴ Energy conversion in production of Geothermal Energy

Hydro-electric Energy :-

Hydro-electric energy is the type of renewable energy in which potential energy of water is used to run the turbine and produce electrical energy.

Production of Hydro-electric energy:

Hydro-electric energy is

the utilization of potential energy of water at height. When water falls, its potential energy is converted to kinetic energy. This kinetic energy is used to run the turbine which ultimately produces electrical energy.

Flow diagram of Energy Transition :-

Potential Energy of Water

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Kinetic Energy of water

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Kinetic energy of Turbine

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Electrical Energy

4.5/5