

Question num 2:-

(A) Importance of Renewable energy with respect of environment:

Defining and explaining Renewable energy:

The sources of energy that don't replenish over a short period of time and could be used again and again.

Examples:

- (A) Solar Energy
- (B) Bio-energy
- (C) Wind Energy.
- (D) Hydro - Energy.

Importance for Environment :-

(A) Reduces Green House Gas emissions:-

Unlike the non-renewable sources such as fossils (oil, coal, etc) emit large amount of GHGs, that are harmful for the environment. However, in renewable sources, there is no combustion that means no emissions are generated that could be harmful.

(B) Explaining Solar Energy:-

A renewable source of energy, generated due to excitement of ~~photons~~ electrons in a photo-voltaic cell in a solar panel.

Formation of Solar energy:-

In solar panels, there are series of photo-voltaic cells, made up of silicon. A silicon cell uses two different ~~two~~ layers of silicon: N-type and P-type which are connected thus forming P-N junction. When photons released from sun strike to the P-N silicon cells, electrons and holes are formed. Electron (excited) fill the hole of the nearby atom and simultaneously, the hole of one atom get fills by the electron of a nearby. Thereby current is generated.

Advantages of Solar energy:-

- (A) Promotes the energy security of a nation.
- (B) Reduces green house gas emission.

(B)

Rocks:

Any organic and inorganic materials that are formed inside the earth or on to the crust.

e.g.: Limestone, Granite.

Types of Rocks:

Based on formation, there are three types:

(A) Igneous Rocks:

Rocks that are formed inside the earth surface due to the solidification of magma. e.g.

Granite is a igneous rock

(B) Sedimentary Rocks:

Weathering of igneous or metamorphic may lead to the sedimentation.

When these small fragments pile up, they get compact, thereby forming a different type of rock formed by the fragments of weathered rocks.

(e.g.)

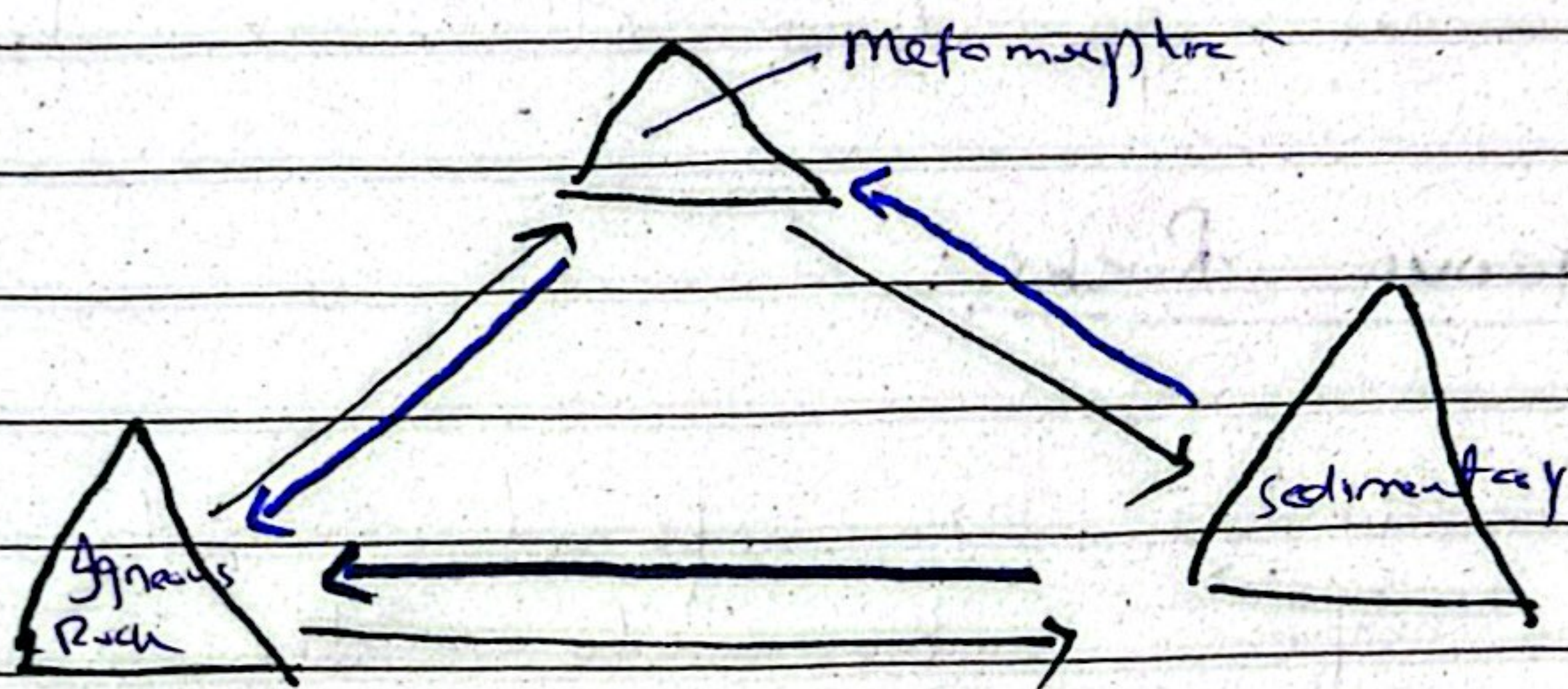
Coal: Organic materials get after getting compact may transformed into coal.

(c) Metamorphic Rock:

A type of rock that is formed due to change in temperature and pressure of igneous or sedimentary rock.

Example: Limestone changes into Lignite

The Rock Cycle:



According to the rock cycle,

(1) Rocks melt into magma due to extreme heat, forming igneous rocks.

(2) (Weathering & Erosion):

Rocks break down into smaller particles and cement to form sedimentary rocks.

(3) Heat & Pressure:

Existing rocks undergo changes to become metamorphic rocks.

(C)
.....

(D)

Brief a brief of water soluble vitamins.

Defination:

Water soluble vitamins consists of vit B and vit. C. They derived its name because they are soluble in water and don't store into the body.

Vit B complex:

types: Vit B₁, Vit B₂, Vit B₃, Vit B₆, Vit B₁₂.

Sources:

fish & meats, whole grain & vegetables, poultry.

Function:

- Crucial for nerve functioning and energy production.
- Vital for DNA synthesis
- Important for the health, skin & nail.

Deficiencies:

Beri-Beri, Pellagra, Fatigue.

Vit- C:

Chemical name: Ascorbic acid.

Sources: Citrus fruits (oranges),
vegetables.

Function:

- Function as anti-oxidation
- thereby an anti-aging
- Collagen synthesis a protein vital for skin and blood vessels
- Immune support.

Def:

- Fatigue & weakness
- Skin issues (dry skin)
- Anemia in severe cases



Q-no-1:

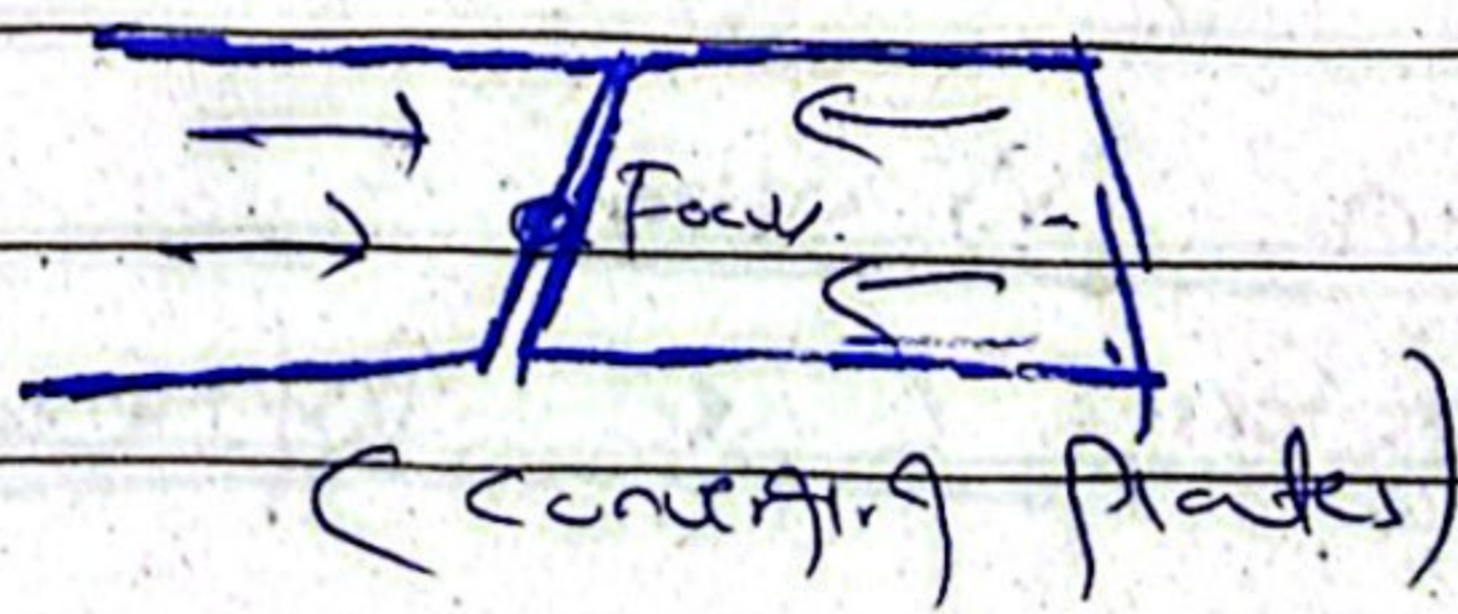
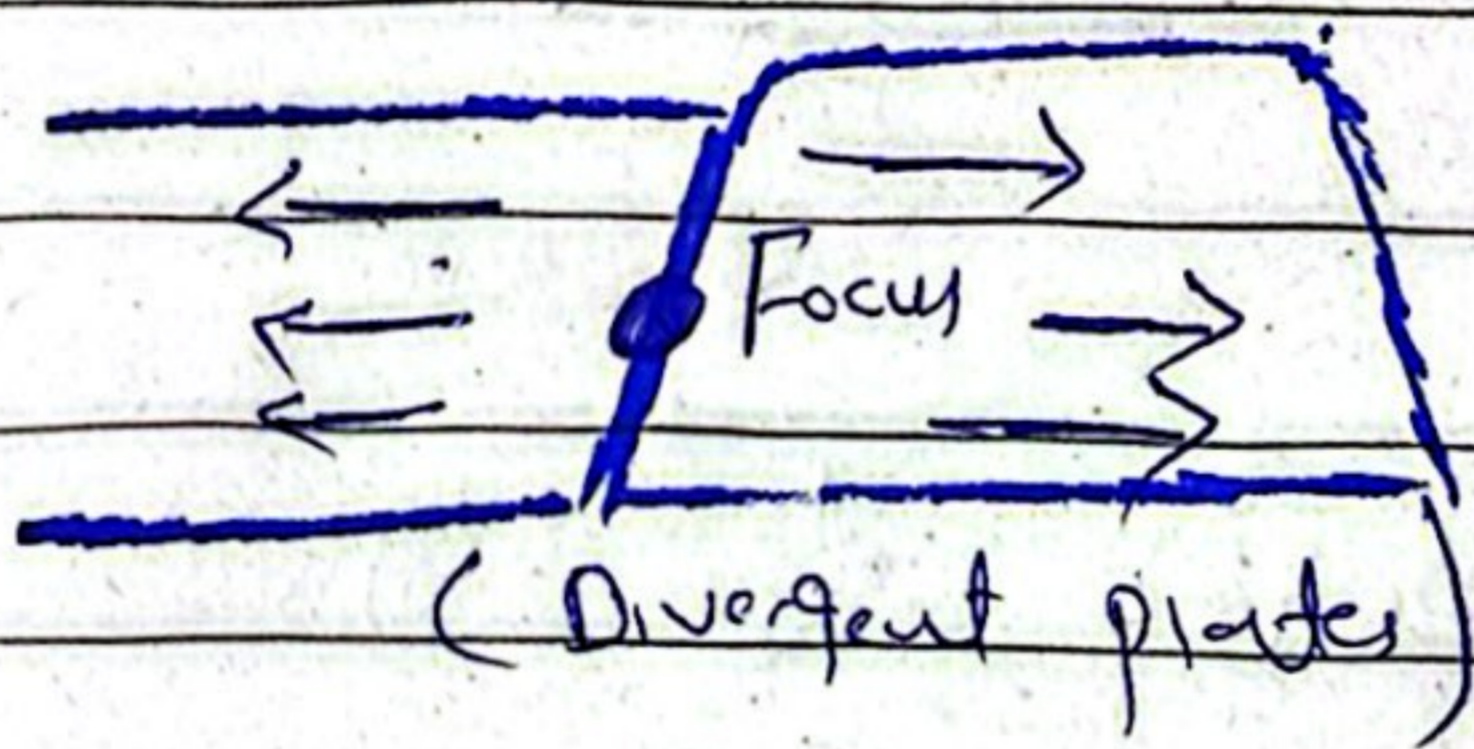
(D)

Phenomenon of Earthquake

Defination:

A series of shocks that occurs due to disturbances in tectonic plates in the lithosphere.

Explaining the Phenomenon through Plate Tectonics Theory:



According to the plate tectonics theory, our earth's crust is divided into plates, that moves towards each other, away from each other or slide past each other. When plates moves ~~towards~~ ^{away from} towards each other, strain is exerted among the line. When the stress exceeds

the deformation shape, it ruptures along the line, thereby pressure is released which produces series of waves that produce shocks. Three type of waves (S)(P) and Love waves are created that disrupts the earth surface.

←————→
(C)

Explaining the weather Variables:

(1) Temperature:

(i) Definition:

Degree of hotness or coldness of the weather.

(ii) Impact on Weather

(ii) What factors could influence temperature

(a) Altitude:

The higher the altitude of a region the lower the temperature.

(b) Latitude:

Moving upward towards the poles, the rays of sunlight get slanted, therefore, the cooler the area. Equators are warmer due to direct sunlight.

(c) Oceanic Current and Prevailing winds

Warm currents and cold winds may influence the temperature of an area.

(*)

(2) Explaining the variable Pressure

Atmospheric Pressure:

The pressure exerted by the air on the earth's surface.

Its influence on Weather:

Local winds:

The local atmospheric pressure of an area. The more will be the winds coming from the surrounding areas.

Cyclones:

Cyclones are generated due to low atmospheric pressure.

(3) Humidity:

Definition:

Amount of water vapour present in the air, called humidity.

Its Influence on Weather:

High humidity is an indicator for frequent rain. When vapour condenses to liquid water, it is followed by precipitation.

(B)

Five food preservation Methods with examples.

① Freezing:

Freezing slows down the growth of micro-organisms thereby preserving food for longer time.

Examples:

freezing meats, vegetables

② Canning:

It involves heating food and killing all micro-organisms. Thereafter, the food is packed into cans/bottles in an air tight environment.

e.g. Canned vegetables

Drying:

Removes moisture from food, inhibiting the growth of bacteria, molds and yeasts.

(e.g.) Dry fruits

Salting:

Involves adding salt to draw out moisture & inhibit microbe growth.

(e.g.) Salted fish

Pasteurization:

Heat treating milk for ~~15 minutes~~ at 7 a set time to kill all bacteria.

(e.g.) Pasteurized milk

(A)

Food Adulteration:

• Deliberate addition of food additives to food to increase the quantity or enhance its appearance.

- Example: → Color to the food
→ Addition of water in milk
- Purpose: Intentionally added.

Food Contamination

- Presence of harmful substances (microorganism / chemicals) in a food
- Examples:
 - physical contaminants e.g. hair, glass
 - pesticide residues
- Purpose: Unintentional, due to poor hygiene conditions

Controlling Measure:

- (1) Strict Enforcement of Food Laws
- (2) Consumer Awareness
- (3) Penalizing