

# Geography 1. Lithosphere – I Endogenetic Processes

## Exercise

### 1 A. Question

Choose the correct answer:

The is the rigid outer layer of the Earth.

- A. Core
- B. Mantle
- C. Crust
- D. Inner core

### Answer

The crust is the outer layer of the earth. It is on the crust where we live and plants are being planted. It ranges from 5km to 30km. The oceanic floor is much lower than the continental floor. The crust is classified into two continental crust and oceanic crust.

### 1 B. Question

Choose the correct answer:

\_\_\_\_\_ layer is made up of liquid iron

- A. Inner core
- B. Outer core
- C. Mantle
- D. Crust

### Answer

The core is the innermost and hottest layer of the Earth. It is composed of a mixture of nickel and iron. And then the innermost layer is the solid and outermost layer of the core is liquid. The presence of iron is higher in the core.

### 1 C. Question

Choose the correct answer:

Magma is found in the \_\_\_\_\_

- A. Crust
- B. Mantle
- C. Core
- D. None of the above

**Answer**

Mantle is the inner layer of the earth. Mantle is the next layer after the crust. Mantle is thick up to 2900km. The major element found inside the mantle is Silica (Si) and Magnesium (Mg). The upper layer of mantle will be solid whereas the lower layers will rock in molten form. The molten rock in the mantle is formed as magma.

**1 D. Question**

Choose the correct answer:

Diastrophism is connected to

- A. Volcanism
- B. Earthquake
- C. Tectonics
- D. Fold/fault

**Answer**

Diastrophic refers to deformation of the earth's crust, more especially to folding and faulting. It can also be considered as a part of geotectonics. The word diastrophic refers to the Greek word which means twisting.

**1 E. Question**

Choose the correct answer:

The movement of tectonic plates is induced by \_\_\_\_\_ energy.

- A. Hydel
- B. Thermal
- C. Wave
- D. Tidal

**Answer**

The movement of the tectonic plates occurs when there is thermal energy in the mantle. The plates float independently without influence on the mantle. Tectonic plates are of two types: minor plates and major plates. Mountain ranges are being occurred when there is a collision between these plates.

### **1 F. Question**

Choose the correct answer:

In the ancient period, Gondwana land moved towards \_\_\_\_ direction.

- A. North
- B. South
- C. East
- D. West

### **Answer**

Indian plate broke away from the Gondwana land around 140 million years ago. It slowly moved to the north and collided with Asia.

### **1 G. Question**

Choose the correct answer:

Many million years ago, India was a part of the supercontinent \_\_\_\_

- A. Gondwana
- B. Laurasia
- C. Panthalassa
- D. Pangea

### **Answer**

Indian plate broke away from the Gondwana land around 140 million years ago. It slowly moved to the north and collided with Asia.

### **1 H. Question**

Choose the correct answer:

The movement of plates that creates stress and tension in the rocks causing them to stretch and cracks result in \_\_\_\_\_.

- A. Fold
- B. Fault
- C. Mountain

D. Earthquake

**Answer**

The movement of plates also creates stress and tension in the rocks, causing them to stretch and cracks. This will result in faulting.

**1 I. Question**

Choose the correct answer:

\_\_\_\_\_refers to a bowl-shaped depression found at the top of the volcano.

A. Carter

B. Vent

C. Chamber

D. Volcanic Cone

**Answer**

The volcano has the following major components. They are

- Chamber: A large pool liquid rock found beneath the crust
- Vents: It is an opening of the volcanic mountain, where the air and smoke are being out.
- Volcanic cone: it is the shape of the cone where magma is ejected from the vent.
- Carter: it is the bowl-shaped depression found at the top of the volcano

**1 J. Question**

Choose the correct answer:

The point of origin of an Earthquake is called the \_\_\_\_\_

A. epicentre

B. focus

C. seismic wave

D. magnitude

**Answer**

The focus is the point where the Earthquake originates. It is also known as Hypocenter and it generates a series of elastic waves.

**2. Question**

Match the following

1.	Endogenetic process	Seismograph
2.	Mantle	Subduction Zone
3.	Convergent boundaries	Volcanic Eruption
4.	Earthquake	Pacific Ocean
5.	Composite volcano	SIMA

**Answer**

1.	Endogenetic process	Volcanic eruption
2.	Mantle	SIMA
3.	Convergent boundaries	Subduction zone
4.	Earthquake	Seismograph
5.	Composite volcano	Pacific ocean

1. Endogenetic process: The forces that act from the Earth's interior towards the Earth's surface are called internal processes or Endogenetic processes. These forces build the landscape and create topographic relief. A volcanic eruption is a force that erupts from interior of the earth.

2. Mantle: Interior part beneath the crust is known as Mantle. It extends up to 2900 km thick. The major elements found in the mantle are Silica (Si) and Magnesium (Mg), hence it is popularly known as SIMA. In the upper part of the mantle the rock remains solid and inner part of the mantle the rock remains in liquid form.

3. Convergent boundaries: the boundaries of the plate move slowly and sink together. The sinking of plates through convergent boundaries are known as Subduction zone

4. Earthquake: Earthquake is the sudden vibration on the earth's crust which spreads in all directions as waves. A seismograph is a device used to measure the earthquake waves. It measures the seismic waves and the study related to seismic is known as seismology.

5. Composite volcano: It is also known as Stratovolcano. It is conical volcano built in layers of hardened lava. It is commonly found in the Pacific Ocean.

### 3 A. Question

Consider the given statements:

- i. Mt. Fuji is a dormant volcano
- ii. Mt. Kilimanjaro is a dormant volcano
- iii. Mt. Tanzania is a dormant volcano

Which of the statement(s) is are true

- a. i is true
- b. ii is true
- c. iii is true
- d. i, ii, iii are true

### Answer

Dormant volcano

The volcanoes which don't show any type of volcanic activity over a long period of time and it is known as a dormant volcano. Sometimes there can be a sudden explosion which is dangerous to the life that is near that mountain. Mt. Fuji in Japan is the example mountain for the dormant volcano.

Both Mt. Kilimanjaro and Mt. Tanzania is an extinct or dead volcano. They are said to be extinct because of the stopped eruption of the volcano.

### 3 B. Question

Consider the given statements:

Statement: Magma gushes out when it finds vents.

Reason: Interior of the Earth contains compressed hot magma

Which of the statement(s) is are true

- a. Statements & reason are true
- b. Statements are true, the reason is false
- c. Statement is false reason is true
- d. Statement & reason are false

### Answer

Magma is filled under the earth's surface and it comes out of the fractures and vents. This is because the gas that comes out from the magma. This gas creates pressure on the rock inside and this leads to coming out of magma from the interior of the earth.

### 3 C. Question

Consider the given statements:

Statement I: Mountain ranges are formed by the collision of tectonic plates

Statement II: The movement of tectonic plates is due to the thermal energy from the mantle

- a. Statement I is false II is true
- b. Statement I and II are false
- c. Statement I is true II is false
- d. Statement I and II are true

### Answer

The continuous movement of the tectonic plates leads to the changes in the earth's surface. The collision of these plates produces irregular surface and mountain ranges both on the land surface and the oceanic floor. This phenomenon is known as plate tectonics. The movement of the tectonic plates is due to the thermal energy from the mantle.

### 4 A. Question

Answer the following in one or two sentences:

Write a brief note on the various spheres of the Earth.

## **Answer**

The planet Earth constitutes of many spheres. The spheres can be abiotic or biotic. The biotic spheres exist in earth is biosphere and abiotic spheres are lithosphere, atmosphere and hydrosphere.

The biosphere is the layer in which life exists. The human, plants and trees exist in the biosphere. Lithosphere, hydrosphere and atmosphere are the subsets of the biosphere.

The lithosphere is the solid outermost layer of the earth. It is the solid surface where we live, plant trees and constructs buildings.

Hydrosphere is the liquid part of the earth. It includes an ocean, sea, lake, etc. Life also exists in the hydrosphere such as fish and other water bodies.

The atmosphere is the layer in which the air is being available. Air is the most essential thing in life. The air that we breathe and carbon dioxide that plants consume are available in an atmospheric layer.

## **4 B. Question**

Answer the following in one or two sentences:

Mention the layers of the interior of the Earth.

## **Answer**

There are two types of layers for the planet earth namely outer and inner. The interior of the Earth has three different layers namely the crust, the mantle and the core.

### **The Crust**

The crust is the outermost layer of the earth. It is the skin of the earth. It is the solid and rigid part of the earth. The plants and trees exist on the crust. It extends from 5km to 30km. The thickness of the crust is greater below the continents than the oceanic floor.

### **The Mantle**

Interior part beneath the crust is known as Mantle. It extends up to 2900 km thick. The major elements found in the mantle are Silica (Si) and Magnesium (Mg), hence it is popularly known as SIMA. In the upper part of the mantle the rock remains solid and inner part of the mantle the rock remains in liquid form.

### **The Core**

The core is the innermost layer of the earth which is just below the mantle. It is composed of minerals of Nickel (Ni) and Iron (Fe). Hence it is popularly known as NIFE. There are two types of core, namely solid outer core and Liquid inner core. Since there is a large amount of iron in the core, it is responsible for Earth's Gravitational Force.

#### **4 C. Question**

Answer the following in one or two sentences:

What is pedosphere?

#### **Answer**

Pedosphere is the part of lithosphere which is made up of soil and dust. It exists with the interface of all the spheres of the earth that is lithosphere, atmosphere, hydrosphere and biosphere. The biosphere is the layer in which life exists. The human, plants and trees exist in the biosphere. Lithosphere, hydrosphere and atmosphere are the subsets of the biosphere. The lithosphere is the solid outermost layer of the earth. Hydrosphere is the liquid part of the earth. It includes an ocean, sea, lake, etc. Life also exists in the hydrosphere such as fish and other water bodies. The atmosphere is the layer in which the air is being available. Air is the most essential thing in life. The air that we breathe and carbon dioxide that plants consume are available in an atmospheric layer.

#### **4 D. Question**

Answer the following in one or two sentences:

Define Plate tectonics.

#### **Answer**

The lithosphere is divided into number of huge slabs known as tectonic plates or lithosphere plates. This plate takes the movement independently over the mantle. The plates are classified into minor plates and major plates. When these plates float, they converge with other plates and therefore mountains and irregular surfaces are being created. This phenomenon takes place both in the continental floor and oceanic floor. This phenomena of movement of plate is known as 'plate tectonics'.

#### **4 E. Question**

Answer the following in one or two sentences:

Write a note on Fold and fault?

#### **Answer**

The folding happens because of the lateral compression on plates. This causes the movement of plates upwards and downwards. This is called folding and when mountains are formed due to this process they are called as Fold Mountains. Himalaya and Alps are one such fold mountains and they are lofty mountains created by the process of folding.

The movement of plates also creates stress and tension in the rocks, causing them to stretch and cracks. This process is called faulting. The Great Rift Valley can be an example of the process of faulting.

#### **4 F. Question**

Answer the following in one or two sentences:

What is a Tsunami?

#### **Answer**

The word Tsunami is originated from the Japanese word which means the Harbour waves. The Tsunami is being created when there large seismic waves under the sea caused by an earthquake, submarine explosion and landslides. These waves can travel more than the speed of 500km per hr. The waves reach the height of 15meter which causes major disaster in coastal areas. On December 4, 2008, India has been faced a major disaster due to the tsunami. This was caused in the Indian Ocean due submerge of Australian plate and Eurasian Plate. The earthquake undersea measured at 9 Richter scale.

#### **4 G. Question**

Answer the following in one or two sentences:

What is a Volcano? Mention its major components.

#### **Answer**

A volcano is a place where gases, ashes and/or molten rock material i.e., lava escape to the ground. The layer below the solid crust is a mantle. It has a higher density than that of the crust. It is from this that the molten rock materials find their way to the surface. The material in the upper mantle portion is called magma. When the magma is out from the volcanic mountain then it is termed as Lava. It may also happen when the plates move apart.

The volcano has the following major components. They are

- Chamber: A large pool liquid rock found beneath the crust
- Vents: It is an opening of the volcanic mountain, where the air and smoke are being out.
- Volcanic cone: it is the shape of the cone where magma is ejected from the vent.
- Carter: it is the bowl-shaped depression found at the top of the volcano

#### **4 H. Question**

Answer the following in one or two sentences:

What is an Earthquake and how it occurs?

#### **Answer**

Earthquake is caused by the sudden vibration under the earth crust. The vibration spreads outward in all the direction as waves from the source of the disturbance. The point at which the earthquake starts is called focus

(hypocenter) which creates a series of waves. The epicentre is a point on earth surface which lies above the point of focus, the effect of the earthquake is mainly caused by the epicentre. An earthquake occurs due to release of energy along a fault. A fault is a sharp break in between the crustal rocks .rocks and fault to move in opposite direction.

It occurs from the focus, where the vibration starts and extends up to the Epicentre. It makes the shaking in above the crust and this makes the buildings also shake.

#### **4 I. Question**

Answer the following in one or two sentences:

What are seismic waves and mention its types?

#### **Answer**

Seismic waves are generally generated when there is an earthquake on the surface. Earthquake creates seismic waves. The seismic waves are the speed and force of the waves at which it depends on the medium at which it's travel. For seismic waves there are mainly three types of waves:

- a. primary or p- waves
  - b. secondary or s- waves
  - c. surface waves or L- waves
- Primary waves or P-waves

The primary waves are popularly known as P-waves. P- waves are the fastest waves of all earthquake and it's the to reach the epicentre and it travels through solid, liquid, gases and the average velocity of P- waves are 5.3km per second to 10.6 km per second.

- Secondary waves or S- waves

This travels only through the solids. These waves shake the ground in the perpendicular direction. The average velocity of S- waves is 1km per second to 8km per second.

- Surface waves or L- waves

Are similar to P- waves but they travel through ground surface. Compare to other waves L- waves are very slow and it's most destructive. The average velocity of these waves is 1km per second to 5 km per second.

#### **4 J. Question**

Answer the following in one or two sentences:

Write about the Pacific Ring of fire.

#### **Answer**

The Pacific Ring of Fire is the arc-like structure throughout the boundaries of Pacific Ocean where a number of volcanic active zones are found. Most earthquakes, volcanoes and tsunamis are observed in these regions. These are the areas where the Pacific plates specifically meet each other. This ring of fire is both seismically and volcanically active zone in the world. Tsunamis are frequently observed in Pacific Ring of Fire, particularly found in along the coast of Alaska, Japan, Philippines, and other islands of Southeast Asia, Indonesia, Malaysia, Myanmar, Sri Lanka, and India etc.

### **5 A. Question**

Give Reasons for the following:

SIAL floats over SIMA.

#### **Answer**

The majority of the earth's surface comprises of SIAL which is the combination of Silica and Aluminium. This SIAL is found in the crust layer of the earth. The lower layer of the earth's crust that is mantle comprises of SIMA. The SIMA is the abbreviation used to describe the minerals of Silicon and Magnesium.

The content of Silica in SIAL is more than that of SIMA. This makes the SIAL less dense than that of SIMA. It is the density of the minerals makes the floating and submerges of the elements.

### **5 B. Question**

Give Reasons for the following:

Igneous rocks are also called Primary Rocks or Mother rocks.

#### **Answer**

Igneous rock is derived from the Latin word called 'Ingis' which means Fire. Igneous rock is popularly known as primary rocks or mother rocks because all other rocks are directly or indirectly formed from Lava and Magma. Lava and Magma are the materials which are found under the earth surface. When this magma reaches the earth surfaces it is called lava. When this lava cools down and solidifications on the surface are called igneous rocks. The best examples of igneous rocks are Granite and Basalt. These igneous rocks are highly used for the construction works and laying of roads.

Igneous rocks are broadly classified on the basis of texture. The texture is highly depending upon the size and other physical condition of materials. The intermediate cooling condition of the lava defines the texture and shape of the rocks. Other most popular examples of igneous rocks are gabbros, pegmatite, volcanic breccias and tuff.

### **6 A. Question**

Distinguish between:

Core and crust.

**Answer**

Basis	Core	Crust
Meaning	It is the innermost layer of the earth. It lies beneath the mantle	It is the outermost layer of the earth.
Elements	The minerals found in the core are Nickel (Ni) and Iron (Fe). It is popularly known as NIFE.	The minerals found in the crust are Silica (Si) and Aluminium (Al). It is popularly known as SIAL.
Extends	It extends further below mantle which has thick 2900km.	It ranges between 5km to 30km.
Types	The core is classified into two types that are inner core and outer core.	The crust is classified into oceanic crust and continental crust

**6 B. Question**

Distinguish between:

Epicentre and Hypocentre

**Answer**

Basis	Epicentre	Hypocenter
Meaning	It is the surface area of the earth. It lies directly above the earth's surface.	It is the point where the earthquake starts. The starting point of the earthquake.
Position of occurrence	The occurrence of the epicentre is on the earth's crust.	Hypocenter occurs beneath the earth's surface.
Associated waves	The waves associated with the epicentre are body waves and surface waves.	Body waves are the only waves associated with the Hypocentre.
Dimension	Used as a reference to measure the 2-dimensional spread waves.	Used as a reference to measure the 3-dimensional speed waves.
Relation	The epicentre is related to the natural disaster that is an earthquake	Hypocenter is related to the natural disaster that is an earthquake

### 6 C. Question

Distinguish between:

Primary waves and Secondary waves.

**Answer**

Basis	Primary waves	Secondary waves
Meaning	It is the fastest waves and first wave which reaches the earth's surface.	This wave reaches after reaching the primary waves. This waves that shake the ground in perpendicular directions
Travel	The P-waves travels through Solids, liquids, gases	S-waves travel only through solids.
Speed	The speed of P waves is 5.3km per second to 10.6km per second	The speed of the S-waves are 1km per second to 8km per second
Direction of wave	These waves travel in a very fast manner in the radial direction	These waves scatter in all the direction from the focus of the earthquake.

**6 D. Question**

Distinguish between:

Shield volcano and volcanic Dome.

**Answer**

Basis	Shield volcano	Volcanic Dome
Meaning	These volcanoes are mostly made up of basalt, a type of lava that is very fluid when erupted.	This volcanic dome is a circular mound formed due to the slow ejection of viscous lava.
Rich in	The lava from shield volcano is rich in basalt.	The lava from the volcanic dome is rich in silica
Found in	Mauna Loa, Hawaii	Parícutin, Mexico

**7 A. Question**

Write in paragraph:

Describe the structure of the Earth.

**Answer**

The structure of the inner and outer part of the earth is totally different. The interior structure of the earth is divided into three major layers: the crust, the mantle and the core. Each layer is rich in different elements and minerals.

- The Crust

It is the outermost layer of the earth. It is fragile in nature. The thickness of the crust varies under the oceanic and continental areas. Oceanic crust is thinner as compared to the continental crust. The thickness of the crust varies from 5km to 30km in which, the mean thickness of oceanic crust is 5 km whereas that of the continental is around 30 km. The continental crust is

thicker in the areas of major mountain areas. It is as much as 70 km thick in the Himalayan region. The rocks found in oceanic crust are rich in basalt.

- The mantle

It is the layer which lies above the crust. The mantle extends up to the thickness of 2900km. Mantle is the main source for the volcanic eruption because of the rocks present in the molten form. The major elements found in the mantle are Silica (Si) and Magnesium (Mg), hence it is popularly known as SIMA. In the upper part of the mantle the rock remains solid and inner part of the mantle the rock remains in liquid form. The crust and the uppermost part of the mantle are called lithosphere. Its thickness ranges from 10-200 km.

- The core

The core is the innermost and hottest layer in the earth. It lies just beneath the mantle. It is composed of minerals of Nickel (Ni) and Iron (Fe). Hence it is popularly known as NIFE. There are two types of core, namely solid outer core and Liquid inner core. Since there is a large amount of iron in the core, it is responsible for Earth's Gravitational Force.

## **7 B. Question**

Write in paragraph:

Write a note on the internal and external processes of Earth.

### **Answer**

The forces acts form the interior of the earth to the earth's surface is known as an internal or endogenetic process. These forces are responsible for creating the landscape and topographic relief. Internal process ejects heat from the interior of the earth to the surface. Internal radioactivity is the principal source of power for this process. The plate tectonics, earthquakes, volcanoes are examples of the internal process.

The forced act on the earth's surface due to the natural agents such as water, glacier, wind, waves etc. is called an external processor exogenetic process. This process tears the landscape down into relatively low elevated plains.

## **7 C. Question**

Write in paragraph:

How are volcanoes classified based on the periodicity of their eruptions?

### **Answer**

A volcano is a place where gases, ashes and/or molten rock material i.e., lava escape to the ground. The layer below the solid crust is a mantle. It has a higher density than that of the crust. It is from this that the molten rock materials find their way to the surface. The material in the upper mantle portion is called magma. When the magma is out from the volcanic mountain then it is termed as Lava. It may also happen when the plates move apart.

Volcanoes are classified into three on the basis of periodicity.

i. Active volcano

ii. Dormant volcano

iii. Extent volcano

- Active volcano

These are volcanoes which continuously eject the lava, gaseous and fragmented minerals. These types of volcanoes are found in Mount St. Helens in the United States.

- Dormant volcano

The volcanoes which don't show any type of volcanic activity over a long period of time and it is known as a dormant volcano. Sometimes there can be a sudden explosion which is dangerous to the life that is near that mountain. Mt. Fuji in Japan is the and

- Extent volcano

These are volcanoes which have permanently stopped ejecting lava. In these types, volcanoes have permanently extinct. These are also known as a dead volcano.

Mt. Kilimanjaro and Tanzania is the extent volcano.

## **7 D. Question**

Write in paragraph:

Explain the effects of Volcanoes.

### **Answer**

There are two different effects that are emerged due to the volcanic eruption. They are

i. Constructive effects

ii. Destructive effects

- Constructive effects

The volcanic eruption increases the soil fertility which promotes agricultural activities. Geothermal energy is produced when the volcanic lava in produced. Many dormant and active volcanoes are attracted to the tourist spots. Building materials are being created by the volcanic materials.

- Destructive effects

Volcanic eruptions which cause earthquakes, fast flood, mudslide and rock fall. Lava which travels very far and they destroy many lives and bury them

into the lava. Breathing problems and skin irritation take place due to the ash and fog of the volcano. Volcanic eruptions also create changes in weather conditions and create problems in transportations around the volcanic regions.

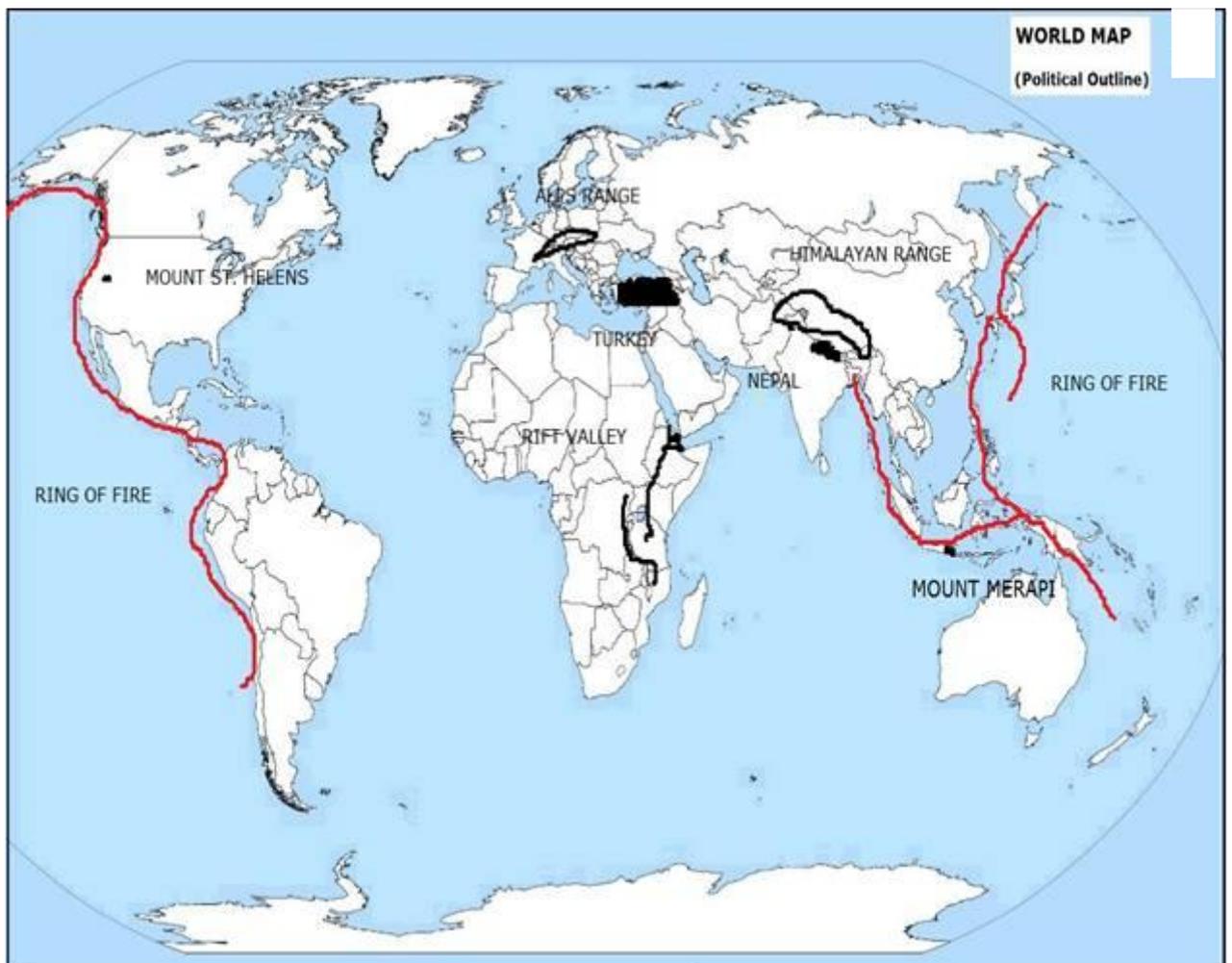
## 8. Question

Map Skill:

On the given outline map of the world, mark the following:

- Pacific Ring of fire
- Earthquake-prone zones (any two)
- Locate any two active volcanoes of the world.
- Himalayas and Alps ranges
- Rift valley of East Africa.

**Answer**



- NEPAL and TURKEY are the two earthquake zone in the world
- Mount St. Helens And Mount Merapi are the active volcanic zones.

## 9 A. Question

## Higher Order Thinking Questions (Hots)

Consider the various sources of information related to the Earth's Interior. Classify the above as DIRECT & INDIRECT sources of information. Give reasons

*Seismic activity	*Earth's magnetism
*Volcanoes	*Mined rocks
*Gravitational force	*Meteors

### Answer

DIRECT	INDIRECT
Seismic activity	Meteors
Volcanoes	Mined rocks
Gravitational force	Earth's magnetism

### Explanation

- Direct sources

The direct sources include molten magma behind the rocks. When the mining and drilling activities take place there will be chances for the volcanic eruption.

- Indirect sources

The meteoroid fall on the earth creates the waves in the earth. These measure the seismic activity on the earth surface.

A large amount of iron in the core is responsible for gravitational force. The earth's rotation in its own axis and the liquid outer core spins over the solid inner core and generates the Earth's magnetic field.

## **9 B. Question**

Higher Order Thinking Questions (Hots)

Scientists use GPS to measure the rate of Tectonic Plate movements. Discuss.

### **Answer**

The scientist usually uses GPS to measure the Tectonic Plate movements. Each plate on the earth rotates the 'pole' and each plate has different speed of GPS station. GPS station which records the exact distance between the satellite and ground station. By recording the time it takes for the GPS ground stations to move a given distance, therefore the scientist can measure the exact speed at which tectonic plate move.

## **10. Question**

Life Skills

Imagine that you feel tremors or shocks in your locality. What will be your role in saving lives from destruction? List out the Do's and Don'ts.

### **Answer**

The feeling of tremors and shocks may be due to the earthquake. Earthquake causes the tremors or shocks on the surface. When we indulge in saving lives there many much does and don'ts that are to be considered before indulging in the process.

Do's

- Drop to the ground

Make all the people cover themselves under the table or furniture. We must hold on until the shaking stops. If there is not that much cover, then cover your face and sit in the corner of the building.

- Stay from the glass, windows, outside doors and walls and anything that would fall.
- Stay in bed if nothing is possible and protect your head with a pillow. Try to move to the safest place.
- Do not use elevators. Be aware that electricity may be interrupted and fire alarm may turn off.
- Move to the free land if possible. Try to move to the nearest ground where there are no buildings or electrical posts.

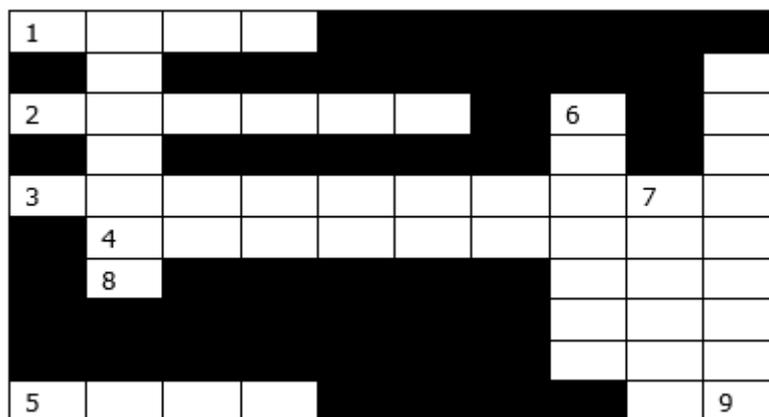
- Avoid stopping the vehicle under the building and do not stay in the car if you are under the building, trees, utility wires etc.
- Proceed cautiously once the earthquake has stopped. Avoid roads and bridges which have been damaged by the earthquake.

### Don'ts

- Do not run here and there while there is shaking on the ground. To be in the safer side and away from the danger zone, stay inside if you're inside and stay outside if you're outside.
- Do not stand in a doorway: Earthquake collapses the building then doors and windows collapse. If we stand beside the door, it will be a dangerous place while earthquake.
- Stay away from the electrical wiring. This electrical wiring creates the circuit collapse in the affected area.
- Don't be panic and be in chaos, calm and composed. Panicking makes further problems among the people.
- Don't be in low-level areas and under any shelter for building or trees. Always try to be in high-level areas, these make a better safety for the people.

## 11. Question

TRY IT



### Across:

1. The major elements of the mantle.
2. Fractures that are formed when crustal rocks are displaced.
3. These waves are the most destructive seismic waves.
4. The other name of Core.
5. These waves are generated when Earthquake occurs.

### Down:

6. This occurs due to endogenic movements.
7. Bowl-shaped depression found at the top of a volcano.

**Up:**

8. The point on the Earth's surface where the Earthquake is measured.
9. Large seismically generated sea waves.

**Answer**

Across:

1. The major elements found in the mantle are Silica (Si) and Magnesium (Mg), hence it is popularly known as SIMA
2. Due to the earthquake and other tectonic shifts, fractures are being formed in the rocks. The fault is the fracture between crustal rocks.
3. L-waves are the most destructive seismic waves compared to the other P-waves and S-waves.
4. The centre of the earth is known as the core. Therefore, it is also known as the centre.
5. Seismic waves are generally generated when there is an earthquake on the surface. Earthquake creates seismic waves

Down

6. Landslides are the major occurrence due to the endogenic movement of the earth.
7. Crater: it is the bowl-shaped depression found at the top of the volcano

Up

8. Epicentre: Epicentre is a point on earth surface which lies above the point of focus, the effect of the earthquake is mainly caused by the epicentre
9. Tsunami: it is the word derived from the Japanese word which means harbour waves. It is caused due to the large seismic waves under the sea.