Our Changing Earth
Chapter 3

Q1. Fill in the blanks.

i. Mushroom rocks are found in deserts.

ii. Ox bow lakes are found in river basin.

iii. Glaciers are "rivers" of ice.

iv. The highest waterfall is Angel Falls of Venezuela in South America.

v. Sudden movements in the earth interior are cause due to endogenic forces.

Q2. True/False

i. The molten magma inside the earth moves in a circular manner. True

ii. Beach is an erosional feature of sea waves. False

iii. Moraine is a depositional feature of a glacier. True

iv. Volcano is caused by the sudden movements of the earth. True

v. The strength of the earthquake increases away from the centre. False

vi. Moraine is the depositional feature of a glacier. True

Q3. What are the major agents of erosion?

Ans. Water, wind and ice are the major agents of erosion.

Q4. Define loess?

Ans. When sand is deposited in large areas, it is called loess.

Q5. What is vent?

Ans. The narrow opening of a volcano is called vent.

Q6. What is a seismograph?

Ans. An earthquake is measured with a machine called a seismograph.

Q7. What is the name of the scale used to measure earthquakes?

Ans. The magnitude of the earthquake is measured on the Richter scale.

Q8. Write some examples of coastal landforms?

Ans. Examples of coastal landforms are sea caves, sea arches, stacks and sea cliff.

Q9. Write names of a few rivers of the world that form a delta.

Ans. Ganga-brahmaputra, Zaire, Murray-Darling, Amazon, Nile, Murray-Darling

Q10. What are distributaries?

Ans. The river begins to break up into a number of streams called distributaries.

Q11. Why do the plates move?

Ans. Plates move because of the movement of the molten magma inside the earth.

Q12. How are beaches formed?

Ans. Beaches are formed when the sea waves deposit sediments along the shores.

Q13. What is erosion?

Ans. Erosion is the wearing away of the landscape by different agents like water, wind and ice.

Q14. What are meanders?

Ans. As the river enters the plain it twists and turns forming large bends known as meanders.

Q15. What are Lithospheric plates?

Ans. The lithosphere is broken into a number of plates known as the Lithospheric plates.

Q16. How much do lithospheric plates move in a year?

Ans. Lithospheric plates move around very slowly – just a few millimetres each year.

Q17. What is a volcano?

Ans. A volcano is a vent (opening) in the earth's crust through which molten material erupts suddenly.

Q18. What are the two processes which wear away the landscape?

Ans. The landscape is being continuously worn away by two processes – weathering and erosion.

Q19. How do glacial moraines form?

Ans. The material carried by the glacier such as rocks big and small, sand and silt gets deposited. These deposits form glacial moraines.

Q20. What are the processes that create different landforms on the surface of the earth?

Ans. The process of erosion and deposition create different landforms on the surface of the earth.

Q21. Define the term focus and epicenter.

Ans. The place in the crust where the movement starts is called the focus. The place on the surface above the focus is called the epicentre.

Q22. Why are the flood plains very fertile?

Ans. The flood plains are very fertile because these plains are formed by the fine soil and sediments brought by the flood water.

Q23. What is a delta?

Ans. A delta is a feature formed when rivers drop off sediments in low-lying areas, usually as they enter the ocean, sea or an estuary. It is sometimes shaped like a triangle.

Q24. How does waterfall form?

Ans. The running water in the river erodes the landscape. When the river tumbles at steep angle over very hard rocks or down a steep valley side it forms a waterfall.

Q25. What are some other methods used to predict an earthquake?

Ans. Some common earthquake prediction methods adopted locally by people include studying animal behaviour; fish in the ponds get agitated, snakes come to the surface.

Q26. What are earthquakes?

Ans. When the Lithospheric plates move, the surface of the earth vibrates. The vibrations can travel all-round the earth. These vibrations are called earthquakes.

Q27. What are sand dunes?

Ans. When the wind blows, it lifts and transports sand from one place to another. When it stops blowing the sand falls and gets deposited in low hill – like structures. These are called sand dunes.

Q28. What are the three types of earthquake waves?

Ans. There are three types of earthquake waves:

1. P waves or longitudinal waves

2. S waves or transverse waves

3. L waves or surface waves

Q29. Name some waterfalls.

Ans. The highest waterfall is Angel Falls of Venezuela in South America. The other waterfalls are Niagara Falls located on the border between Canada and USA in North America and Victoria Falls on the borders of Zambia and Zimbabwe in Africa.

Q30. What are exogenic and endogenic forces?

Ans. <u>Exogenic forces</u> - The forces that work on the surface of the earth are called as Exogenic forces.

<u>Endogenic forces</u> - The forces which act in the interior of the earth are called as Endogenic forces.

Q31. How are flood plains formed?

Ans. At times the river overflows its banks. This leads to the flooding of the neighbouring areas. As it floods, it deposits layers of fine soil

and other material called sediments along its banks. This leads to the formation of a flat fertile flood plain.

Q32. What are ox bow lakes?

Ans. Due to continuous erosion and deposition along the sides of the meander, the ends of the meander loop come closer and closer. In due course of time the meander loop cuts off from the river and forms a cut-off lake, also called an ox-bow lake.

Q33. Why some rocks have a shape of a mushroom?

Ans. Winds erode the lower section of the rock more than the upper part. Therefore, such rocks have narrower base and wider top which resembles a mushroom. These rocks in the shape of a mushroom, commonly called mushroom rocks.

Q34. How earthquakes are measured?

Ans. An earthquake is measured with a machine called a seismograph. The magnitude of the earthquake is measured on the Richter scale. An earthquake of 2.0 or less can be felt only a little. An earthquake over 5.0 can cause damage from things falling. A 6.0 or higher magnitude is considered very strong and 7.0 is classified as a major earthquake.

Q35. How a delta is formed?

Ans. As the river approaches the sea, the speed of the flowing water decreases and the river begins to break up into a number of streams called distributaries. The river becomes so slow that it begins to deposit its load. Each distributary forms its own mouth. The collection of sediments from all the mouths forms a delta.

Q36. Sea caves are turned into stacks. Give reason.

Ans. Sea waves continuously strike at the rocks. Cracks develop. Over time they become larger and wider. Thus, hollow like caves are formed

on the rocks. They are called sea caves. As these cavities become bigger and bigger only the roof of the caves remain, thus forming sea arches. Further, erosion breaks the roof and only walls are left. These walls like features are called stacks.

Q37. Explain the work of ice.

Ans. Glaciers are "rivers" of ice which too erode the landscape by bulldozing soil and stones to expose the solid rock below. Glaciers carve out deep hollows. As the ice melts they get filled up with water and become beautiful lakes in the mountains. The material carried by the glacier such as rocks big and small, sand and silt gets deposited. These deposits form glacial moraines.

Q38. Why do buildings collapse due to earthquakes?

Ans. Buildings collapse due to earthquakes because

i. Earthquakes move the ground side to side and up and down—simultaneously. The force behind this movement is powerful enough to turn soft soil instantly into quicksand, eliminating its ability to bear weight.

ii. Most of the buildings are not safe enough to resist the vibrations of the earthquakes due to shallow foundation and lack of adequate steel in the interior design.

Q39. Write a short note on earthquake preparedness.

Ans. Although earthquakes cannot be predicted, the impact can certainly be minimised if we keep the following points in mind.

<u>Safe Spot</u> – Take shelter during an earthquake under a kitchen counter, table or desk, against an inside corner or wall.

<u>Stay Away from</u> – Fire places, areas around chimneys, windows that shatter including mirrors and picture frames.

Be Prepared – Spread awareness amongst our friends and family members and face any disaster confidently.

Q40. Write a short note on work of wind.

Ans. Work of wind

i. **An active agent of erosion and deposition in the deserts is wind. In deserts we see rocks in the shape of a mushroom, commonly called mushroom rocks. Winds erode the lower section of the rock more than the upper part. Therefore, such rocks have narrower base and wider top.**

ii. **When the wind blows, it lifts and transports sand from one place to another. When it stops blowing the sand falls and gets deposited in low hill – like structures. These are called sand dunes.**

iii. **When the grains of sand are very fine and light, the wind can carry it over very long distances. When such sand is deposited in large areas, it is called loess. Large deposits of loess are found in China.**

Q41. Give an account of the work of sea waves.

Ans. Work of sea waves

i. **The erosion and deposition of the sea waves gives rise to coastal landforms. Sea waves continuously strike at the rocks. Cracks develop. Over time they become larger and wider. Thus, hollow like caves are formed on the rocks. They are called sea caves.**

ii. **As these cavities become bigger and bigger only the roof of the caves remain, thus forming sea arches.**

iii. **Further, erosion breaks the roof and only walls are left. These walls like features are called stacks.**

iv. **The steep rocky coast rising almost vertically above sea water is called sea cliff.**

v. **The sea waves deposit sediments along the shores forming beaches.**

Q42. Explain the work of a river.

Ans. <u>Work of a river</u>

i. **The running water in the river erodes the landscape. When the river tumbles at steep angle over very hard rocks or down a steep valley side it forms a waterfall.**

ii. **As the river enters the plain it twists and turns forming large bends known as meanders.**

iii. **Due to continuous erosion and deposition along the sides of the meander, the ends of the meander loop come closer and closer. In due course of time the meander loop cuts off from the river and forms a cut-off lake, also called an ox-bow lake.**

iv. **At times the river overflows its banks. This leads to the flooding of the neighbouring areas. As it floods, it deposits layers of fine soil and other material called sediments along its banks. This leads to the formation of a flat fertile floodplain. The raised banks are called levees.**

v. **As the river approaches the sea, the speed of the flowing water decreases and the river begins to break up into a number of streams called distributaries. The river becomes so slow that it begins to deposit its load. Each distributary forms its own mouth. The collection of sediments from all the mouths forms a delta.**