Exogenetic Movements Part-2

Exercise

Q. 1. Rewrite the correct statement :

A. The temperature range helps the wind in its work.
B. River's work is more prominent than other agents of erosion in desert regions.
C. The work of groundwater is effective in the area with soft rocks.
D. The work of wind is not limited like river, glacier or the sea waves and takes place everywhere.

Answer : A is Correct because the average temperature on Earth is about 33.6 F (0.9 C), according to NASA. But the temperatures vary greatly around the world depending on the time of year, ocean and wind currents and weather conditions.

B is incorrect because the river work is prominent in the plains as the river flows from the mountainous regions, it has great erosive power. Speed and force of water is great, during this course river does lots of erosional work. As the river enters into the plains, all of sudden the speed of flow of water is reduced to a great extent and the river widens.

C is Incorrect because ground water moves through the porous rock formations similar to the way water flows through a sponge with inter-connected pores.

D is Incorrect because the wind action can be best seen in the desert areas. Features like sand dunes, Mushroom rocks, etc. are formed by the wind action. Wind acts as an agent of erosion and deposition which leads to the formations of different features

Q. 2. Correct and rewrite the incorrect statements :

A. The ice on the lateral side of the glacier moves faster than the ice at the base.
B. The depositional work by river shappens because of gentle slope, reduced speed and transported sediments.
C. A river flows at a faster speed than the glacier.
D. The speed of the glacier is more on both the banks than in the middle.

Answer : C

A is incorrect since the ice in the **middle of a glacier** actually flows faster than the ice along the sides of a glacier

B is incorrect: The rivers originate at a much higher altitude from the sea level. Here**, the river flows at a great speed** and therefore, its power to erode is great.

C is correct: The river originate at a much higher altitude from the sea level.Hence, the river flows at a great speed and therefore, its power to erode is great.

D is incorrect: The **sediments of the river** get deposited in its bed and on the banks

Q. 3. Identify the wrong pair

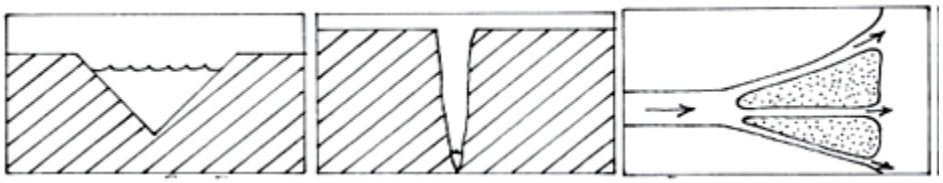
A. Deposition - V–shaped valley
B. Transport - Ripple Marks
C. Erosion - Mushroom Rocks

Answer : A B is Correct because the ripple marks are formed when water flows or wind blows over the loose sand and the sand towards the bottom is **pulled or pushed in the direction of flow.**

C is Correct because Mushroom rocks are those rocks where the landform are formed due to erosional work of wind.

A is incorrect because V-Shaped Valleys are produced due to erosional work of rivers

Q. 4. Identify and name the landforms in the following diagrams :



Answer : Figure 1 : It is V-Shaped Valley because Landform produced due to erosional work of rivers. A V-shaped river valley is formed near the origin of the river or in its upper course. Vertical erosion occurs rapidly near the river. Comparatively the headward erosion is lesser. And therefore its elevation is higher. But the riverbed starts deepening. Consequently, it gets the shape of the alphabet ‘V’;

Figure 2: It is Stalactite and Stalagmite because Pillars formed from alkaline deposits in the caves in limestone areas. The Salts brought by flowing groundwater deposit in the caves when water evaporates.

Figure 3: Since because the glaciers carry sediments with them and hence they are called as moraines

Q. 5. Complete the following table by classifying the landforms according to their agents of erosion.(waterfall, delta, cirque, arête, barchans, moraine, pothole, mushroom rock,sinkholes, beach, pillars, lagoons)

Answer :

Rivers	Wind	Glacier	Sea Waves	Groundwater
Waterfall Delta	Barchans Mushroom rock	Cirque Arete Moraine	Beach Lagoons	Pothole Sinkholes Pillars

Explanation:

Beach: Land between two headlands. Because of the headlands, coast is somewhat protected from the onslaught of the waves. Waves coming to the coast undergo refraction continuously because of this refraction, waves converge at the headlands. Beaches are generally concave to the sea.

Lagoons: Lagoons are commonly divided into coastal lagoons and atoll lagoons. Both the types of lagoon lakes are shallow and are separated from the main sea. Tides have no influence over them. Waves are also not very high.

Delta: Landform formed due to the depositional work of rivers at its mouth. In the lower course of the river, the flow of the river is very slow but the volume of water has increased.

Waterfall: The rivers which originate at a much higher altitude from the sea level is called as waterfall

Barchan: A crescent shaped sand dune. The convex side of this dune is the windward side, while the concave side is opposite the flow of the wind.

Mushroom Rock: Landform formed due to erosional work of wind.

Sinkhole: A landform produced mainly in limestone region due to erosion. Limestone, contains soluble materials in greater amounts. Such materials dissolve in water and are carried away by water.

Pillars: Pillars formed from alkaline deposits in the caves in limestone areas. Salts brought by flowing groundwater deposit in the caves when water evaporates

Cirque: Landforms produced due to erosional work of glaciers.The landforms are produced in the areas where the glaciers originate.

Moraine: The glaciers which carry sediments with them are called as moraines.

Q. 6 A. Answer the following questions in brief.

List the landforms that are a result of the erosional work of the rivers.

Answer : The following landforms are formed by the erosional work of the rivers and they are

1. Rivervalleys: The rivers originate at a much higher altitude from the sea level. Here, the river flows at a great speed and therefore, its power to erode is great. River valleys is further classified as V-shaped valleys which can be classified as Gorges and Canyons

2. Waterfalls: The rivers which originate at a much higher altitude from the sea level is called as waterfall

3. Potholes: The kettle-like small depressions in the rocky beds of the river valleys are called potholes which are usually cylindrical in shape. Potholes are generally formed in coarse-grained rocks such as sandstones and granites.

4. Structural Benches: The step-like flat surfaces on either side of the present lowest valley floors are called terraces. The benches or terraces formed due to differential erosion of alternate bands of hard and soft rock beds are called structural benches or terraces

5. River terraces: The narrow flat surfaces on either side of the valley floor are called river terraces which represent the level of former valley floors and the remnants of former (older) flood plains.

6. River Meanders: River meanders refer to the bends of longitudinal courses of the rivers. The bends of sinous rivers have been named meanders on the basis of Meander River of Asia Minor (Turkey) because it flows through numerous bends.

7. Ox-Bow lakes: The lakes formed due to impounding of water in the abandoned meander loops are called ox-bow or horse-shoe lakes.

8. Peneplains: Peneplains represent low featureless plain having undulating surface and remnants of convexo-con- cave residual hills. These are, in fact, the end products of normal cycle of erosion.

Q. 6 B. Answer the following questions in brief.

Which agent is responsible for formation of stalactites and stalagmites and where are they formed?

Answer : • Water from the end of the **stalactite** leaves more calcite in a pile on the cave floor, and pretty soon a cone-like **stalagmite** forms.

• That's why **stalactites and stalagmites** are usually formed in pairs. Sometimes they grow together to form a pillar or column

• They are formed in the Bora caves of Vishakhapatnam district in Andhra Pradesh and this is considered as one of the major limestone caves in India

Q. 6 C. Answer the following questions in brief.

List the landforms that are produced by the depositional work of the sea waves.

Answer : The following landforms are formed by the depositional work of the sea waves and they are

Beaches: Land between two headlands. Because of the headlands, coast is somewhat protected from the onslaught of the waves

Sandbars: The landforms are produced due to deposition of sand on the sea coasts. Beach is one of them. The waves carry away the sand on the beaches.

Lagoons: Lagoons are commonly divided into coastal lagoons and atoll lagoons. Both the types of lagoon lakes are shallow and are separated from the main sea.

Q. 6 D. Answer the following questions in brief.

Name the types of moraines.

Answer : Depending on the location of the deposits, moraines can be divided into 4 types:

Ground moraines: If the lower part of a glacier is heavily charged with debris which it cannot transport, the excess load is deposited as ground moraine. It consists of an irregular sheet of glacial drift over the valley floor.

Lateral moraines: Lateral moraines form along each side of a valley glacier. It is a ridge ofglacial load by the side of a glacier or lying along the side of a valley which was formerly occupied by a glacier.

Medial moraines: When two glaciers flow side by side, they do not unite. The result is that two lateral moraines of these glaciers mingle together, giving rise to a medial moraine

Terminal moraines: End moraines that mark the farthest advance of the glacier's snout are called terminal moraines. When the snout remains stationary for a long period of several years, an arcuate ridge comprising glacial debris is built up.

Recessional Moraines: Moraines deposited because of a halt in the snout's retreat, followed by astabilization of the ice front prior to further retreat are called recessional moraines.

Englacial Moraines: Sometimes weathered material and debris present in the body of the ice-mass move downward and deposited as and when conditions are favourable.

Activity

Q. 1. Go to a river bank or a sea coast and observe the erosional, depositional and trans portational work done by them.

Answer :

Q. 2. Make a collage of pictures of landforms by collecting them from magazines and newspaper

Answer :