

Section - B

6. *Volcanoes are classified on the basis of nature of eruption and the form developed at the surface. Elaborate. Also, discuss the volcanic land forms?*

Approach

1. *Brief introduction on volcanoes (30 words)*
2. *Classification of volcano (80 words)*
3. *Volcanic land forms (80 words)*

Hints:

A volcano is a rupture on the crust from where gases, ashes and/or molten rock material - lava - escape to the ground. Once it starts moving towards the crust or it reaches the surface, it is referred to as lava. The material that reaches the ground includes lava flows, pyroclastic debris, volcanic bombs, ash and dust and gases such as nitrogen compounds, Sulphur compounds and minor amounts of chlorine, hydrogen and argon.

A volcano is called an active volcano if the materials mentioned are being released or have been released out in the recent past. In India, Barren Island (Andaman and Nicobar Islands) has the only active volcano of the country. Recently, population of a part of Hawaiian island was evacuated due to massive lava eruption.

Major types of volcanoes are as follows:

- **Shield Volcanoes:** Barring the basalt flows, the shield volcanoes are the largest of all the volcanoes on the earth. The Hawaiian volcanoes are the most famous examples. These volcanoes are mostly made up of basalt, a type of lava that is very fluid when erupted. For this reason, these volcanoes are not steep.
- **Composite Volcanoes:** These volcanoes are characterized by eruptions of cooler and more viscous lavas than basalt. These volcanoes often result in explosive eruptions.
- **Caldera:** These are the most explosive of the earth's volcanoes. They are usually so explosive that when they erupt they tend to collapse on themselves rather than building any tall structure.
- **Flood Basalt Provinces:** These volcanoes outpour highly fluid lava that flows for long distances. Some parts of the world are covered by thousands of sq. km of thick basalt lava flows. The Deccan Traps from India, presently covering most of the Maharashtra plateau, are a much larger flood basalt province.
- **Mid-Ocean Ridge Volcanoes:** These volcanoes occur in the oceanic areas. There is a system of mid-ocean ridges more than 70,000 km long that stretches through all the ocean basins.

Volcanic landforms:

- **Intrusive Forms:** The lava that is released during volcanic eruptions on cooling develops into igneous rocks. The cooling may take place either on reaching the surface or also while the lava is still in the crustal portion.