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MAINS ANSWER WRITING APPROACH ANSWERS

Topic- GEOGRAPHY DAY 2

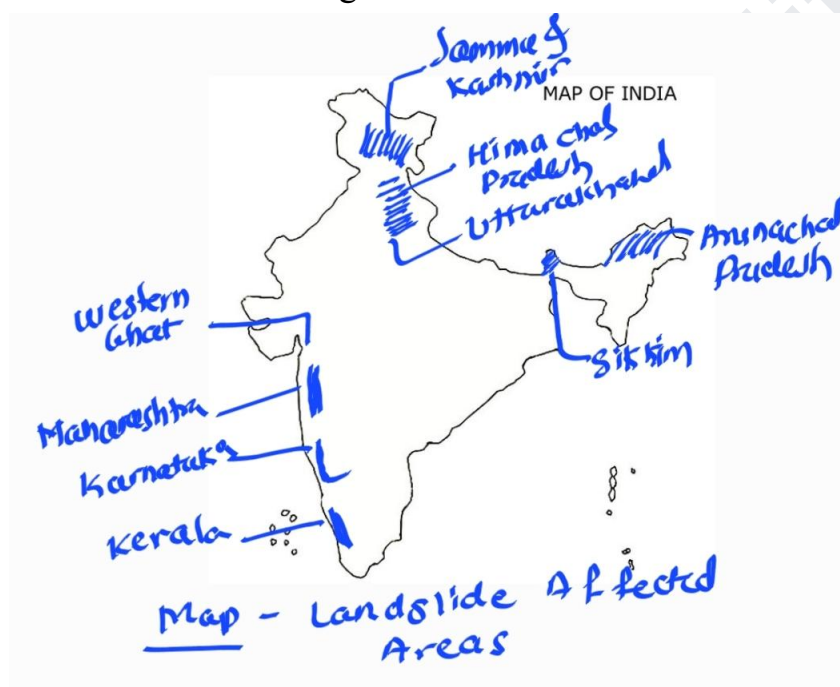


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Q.1) Bring out the causes for more frequent landslides in the Himalayas than in Western Ghats. (10 marks) (150 words)

Landslides are mass movements of soil or rock along mountain slopes caused by natural or man-made factors. Studies show that more than **12 percent** of the land area in the country is susceptible to landslides. Landslides incidentally are the **third most deadly natural disasters** on earth with **\$400 billion** being spent annually on landslide disaster management.



Causes for more frequent landslides in the Himalayas than in Western Ghats

- The **Himalayan** range is one of the **world's newest tertiary fold** mountains. The Himalayas were formed by the **convergence of the Indian and Eurasian plates**. The Himalayas are **still growing and gaining height**. The Himalayas are thus a **tectonically active mountain chain**. Tectonic movement raises the likelihood of earthquakes and landslides.
- The Western Ghats are a **stable mountain chain** much older than the Himalayas. The Western Ghats are on the stable **Deccan plateau of the Indian plate**, hence the Indian plate movement does not influence them.

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- The **Himalayas have high peaks, steep slopes, and copious rainfall and snowfall, increasing avalanche risk.** The Western Ghats are **degraded and denuded** with a mild slope. On the leeward side of the mountain, there is **no snow and minimal rain.** So the Western Ghats have few landslides.
 - **Unplanned buildings in the Himalayas, shifting farming, industrial growth, and tourist influx** have exacerbated landslide danger.

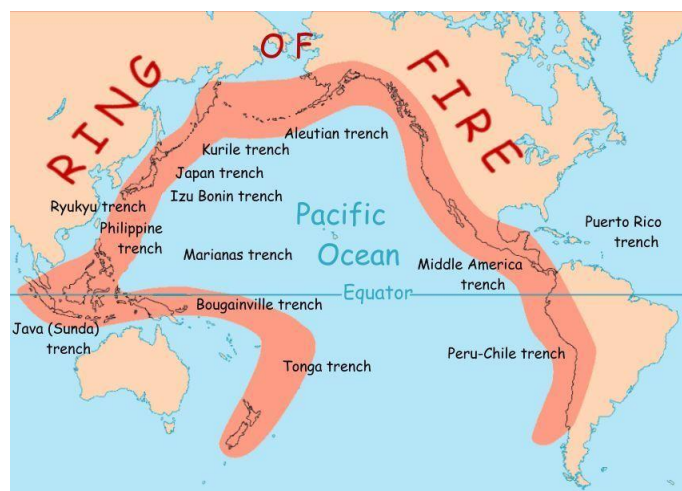
Thus, the Himalayas are more prone to landslides due to geology and anthropogenic factors. Afforestation, environmental education, and public awareness can help mitigate the effects of landslides in this area.

Q.2) Volcanoes are located in major belts and regions around the world. Give an account of how volcanoes are distributed around the world. (10 Marks) (150 words)

Volcanoes are fissures or openings in the crust of the earth through which molten magma from beneath the earth's crust is released onto the surface. They are found in some major belts and regions around the world.

Distribution of volcanoes

- **Ring of fire belt**
 - It is present around continental boundaries that touch the **Pacific Ocean (the Pacific plate)**, and it extends in a continuous pattern across **Japan, the Philippines, the Aleutian Islands, Peru, Chile, New Zealand, and other countries.**
 - The region represents the **subducting Pacific plate** beneath the boundaries of the adjacent continental plates. It causes severe stress and fracturing, allowing hot magma to escape. Famous volcanoes in this belt include **Mount Fuji in Japan, Mount Cotopaxi in Ecuador, and Mount Pinatubo in the Philippines.**



- The **East African Rift**, which separates the **Somali Plate** from the **African Plate**, is another location for active volcanoes. The **Dabbahu volcano** in **Ethiopia** erupted in **2005** and is known for its visible fissures on the ground.
- The **Alps and Mediterranean region** contain some of the **most active and dangerous volcanoes**, such as **Mount Etna** and **Mount Vesuvius**. The African plate is subducted beneath the massive Eurasian plate.
- The **Mid Atlantic ridges** are the **world's longest continuous chains of active volcanism**. On one side, they represent the diverging boundaries of the North American and South American plates, while on the other, they represent the diverging boundaries of the Eurasian and African plates. The magma from within the earth continues to pour out on both sides, forming new crust.
- **Pacific Ocean islands**, such as the **Hawaiian Islands** and the **Deccan traps**, are an **anomaly** in an otherwise explainable correlation of volcanoes with plate boundaries. **Hotspots** explains this. These are fixed-in-space regions of the earth's mantle. As a result, a series of volcanic eruptions are observed as the tectonic plate moves over the **hotspots**. The **Deccan traps** were formed today when the Indian plate moved over a hotspot near Reunion Island.

Thus, volcanoes exhibit a distinct pattern in their distribution. A combination of **plate tectonics, hot spots, and mid-oceanic ridges** can explain their distribution pattern. Their physical uniqueness, as well as their role in shaping the world around them, must be recognized.

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