Geography · GS - I

Differentiate the causes of landslides in the Himalayan region and Western Ghats.

EXAM YEAR	PAPER	SUBJECT
2021	GS - I	Geography

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Young fold mountains, tectonic activity, earthquakes, steep slopes, monsoon rainfall, cloudbursts, weathered rocks, lateritic soils, deforestation, road construction, quarrying, regional differences.

Model Answer

Introduction

Landslides result from slope instability caused by geological, climatic and human factors. Their dominant causes differ between the Himalayas and the Western Ghats.

Himalayan Region

- **Geological instability:** Young, tectonically active mountains have fractured rocks, steep slopes and frequent earthquakes.
- **Extreme rainfall:** Cloudbursts and intense monsoon precipitation trigger rapid slope failures.
- **Additional triggers:** Road cutting, tunnelling, hydropower projects, deforestation and glacial hazards increase vulnerability.

Western Ghats

- **Deep weathering:** Thick weathered regolith and lateritic soils become unstable when saturated.
- **Prolonged rainfall:** Heavy monsoon rainfall increases soil moisture and pore-water pressure, triggering debris and soil slides.

- **Human interference:** Quarrying, hill cutting, plantation expansion and unplanned construction weaken slopes.

Examples

The 2023 Joshimath crisis highlighted Himalayan slope instability, while the 2018 Kerala floods triggered widespread landslides in the Western Ghats.

Conclusion

Both regions require hazard mapping, scientific land-use planning, slope stabilisation, early-warning systems and regulation of construction in vulnerable areas.

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