Geography · GS - I

Discuss how the changes in shape and sizes of continents and ocean basins of the planet take place due to tectonic movements of the crustal masses.

EXAM YEAR	PAPER	SUBJECT
2025	GS - I	Geography

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Plate tectonics, continental drift, divergent boundaries, convergent boundaries, transform boundaries, seafloor spreading, subduction, mountain building, Wilson cycle

Model Answer

Introduction

The Earth's continents and ocean basins are not geographically static. Plate tectonics continuously modifies their configuration through movement of lithospheric plates.

1. Divergent Movements

At divergent boundaries, plates move apart and magma rises to create new crust. Seafloor spreading at mid-oceanic ridges enlarges ocean basins. The Atlantic Ocean continues to widen through this process.

2. Convergent Movements

At oceanic-continental boundaries, oceanic crust may subduct beneath continental crust, reducing oceanic area and generating volcanoes and mountains. At continental-continental boundaries, collision produces major mountain systems such as the Himalayas.

3. Transform Movements

Transform boundaries involve horizontal movement of plates along faults. They reshape crustal blocks and generate earthquakes without substantial creation or destruction of crust.

4. Long-Term Cycle

The Wilson Cycle explains repeated opening, expansion, closure and reorganisation of ocean basins through continental breakup, seafloor spreading, subduction and collision.

Conclusion

Thus, tectonic movements continuously alter continental outlines and ocean-basin dimensions, making Earth's surface a dynamic geological system.