

# Formation of Himalayas

1. With the reference to the theory of plate tectonics, explain the formation of Himalayas.

Himalayas are mighty range of mountains consisting of Upper, Middle and Lower Himalayas rising from Hindustan and Pamir Knot and all the way to Arakan Yoma and Andaman and Nicobar Islands. It acts as a barrier from cold winds from Siberia entering India and responsible for monsoonal climate in India.

## Theory of plate Tectonics:

1. Plates are rigid slab of landmass floating over the asthenosphere which is responsible for historical movements of Laurasia, Gondwana and its subsequent breaking.
2. Plate Tectonics refers to the movement of the slab of plates by convergent, divergent; transform boundary movement thereby causing volcanic mountains, ridges, faults etc.
3. Theory was evidenced by Parker, McKenzie during continental drift.
4. The theory of plate Tectonics gave rise to present 7 major plates and subsequent minor plates.

## Formation of Himalayas:

### I. Break during <sup>Paleo</sup> Paleozoic <sup>era</sup> ~~era~~:

1. During end of Permian phase 250 MY ago, Indian plate as a part of Gondwana land begins to break from Gondwana near Antarctica

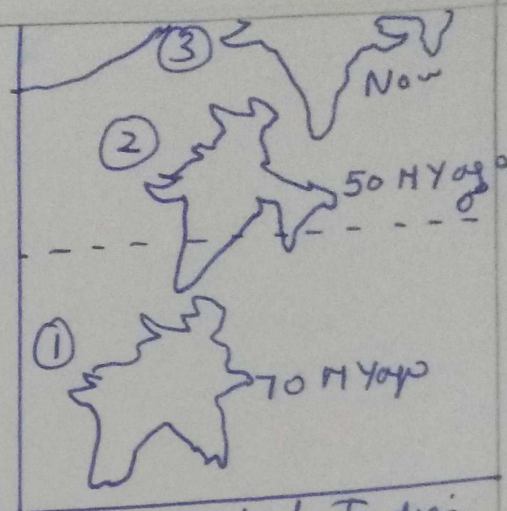


Fig: Movement of Indian plate

### II. Split and movement during Cretaceous period:

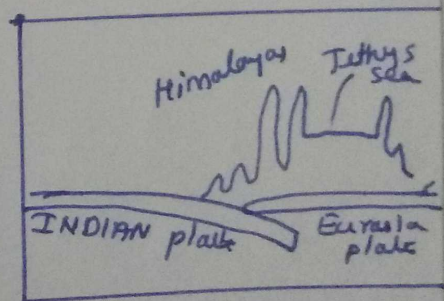
1. During Mesozoic era, India plate in figure ① at 70 MY ago split from Gondwana land and moved eastwards towards equator and north.

### III. Collision during Cenozoic era:

1. During Pleistocene period after Figure ② around 20-30 MY ago, there was a collision of the Indian continental plate with lighter Eurasian plate.

### IV. Formation of Himalayas during Tertiary period:

1. There was an subduction of Indian plate with Eurasian plate and the lighter sediments uploaded to form Volcanic sedimentary Himalayas



2. After Figure ③, Himalayas is still subjected to folds by Indian plate and hence rises 1cm each year due to North-east movement and its current height is 8848.86m.