BT1010

ASSIGNMENT – 2

Ammonite (extinct sea animal) are found in Himachal (Spiti).
Why many such marine animal fossil is found in Himalaya?

Evidences found in Himalayas:

1. Spiti valley is rife with evidence at which many fossils of marines were found dated back to 540 million years ago. Nepal Ammonites were found along Kali Gandaki river. Ammonites were marine cephalopods with shells that must have lived 240-265 million years ago.
2. First Fossil on the Himalayan mountains was found around 1922. Later often many fossils of coral reefs, marine plants and animals were discovered on the stratified rocks at high altitudes.

These Fossils on the highest peaks of the world prove that Himalayas were once under the sea bed.

Reason: <u>Continental Drift and Plate Tectonic Movements</u>:

Millions of years ago during late Paleozoic and early Mesozoic eras all the land existed in the form of a super continent called Pangaea. It was broken down into Laurasia and Gondwana 175 million years ago. Today's North America, Europe, Asia (without India) was comprised in Laurasia Gondwana was made of today's Australia, South America, India, Africa, Antarctica.

India broke away from Gondwana and moved towards north 150 million years ago during continental drift. The Indian Island was 10,000 KM from present India and took 100 million years to join the rest of Asian main land. The India Island further increased its speed leaving Madagascar behind. India was a fast-moving subcontinent which moved towards Asia 20cm per year.

Two consecutive major collisions were occurred between Indian subcontinent and Asian mainland. During the initial collision speed was reduced by 5cm per year. Even after the initial collision the speed was much higher than required for safe continental docking. During second collision because of plate tectonic movements the continental plate of India slid underneath Asia and got crumpled. So, the Himalayas grew from below pushed up the fragments of oceanic sediments from Tethys sea to the highest peaks. Even though after erosion many fossils of the Tethys sea were flown through rivers into oceans marine fossils are still left in Himalayan rocks which are being discovered now.