



Name: Chiranjeev

Subject: Geography

Time: -----

Maximum Marks: 180

		TO BE FILLED BY EVALUATOR
Question No:	Marks allotted	Comments
Q: 1	31	
Q: 2	25	
Q: 3	32	
Q: 4		
Q: 5		
Q: 6		
Q: 7		
Q: 8		
Q: 9		
Q: 10		
Q: 11		
Q: 12		
Q: 13		
Q: 14		
Q: 15		
Q: 16		
Q: 17		
Q: 18		
Q: 19		
Q: 20		

Total Marks (Obtained):

Feedback/Comment/Suggestion:

88/180

→ good try

→ you need to write every aspects of the question,

→ stick to the demand of the questions.

→ you can improve

TEST-1

a.2] Explain the "Plate Tectonic Theory", Give a detailed account of Indian Plate movement & Himalaya formation.

The rigid lithospheric slabs or rigid & solid crustal layers ~~are~~ of solid rock, generally composed of both continental & oceanic lithosphere, are known as tectonic plates. The motion & mechanism of the evolution, nature & motion of plates & resultant reaction is called "Plate Tectonics". It is based on two major scientific concepts i.e. (i) The concept of continental drift & (ii) The concept of sea-floor spreading. Six major & 20 minor plates have been identified so far.

The tectonically plate boundaries or plate margins are most important because all tectonic activities ~~are~~ occur along the plate margin. So, the plate margins are generally divided into three groups i.e.

- (1) Constructive Plate margins are also called as "divergent Plate Margins" or "accreting Plate margins". It represent zones of divergence where there is continuous upwelling of molten material (lava) & thus new oceanic crust is continuously formed. In fact, oceanic plates split apart along the mid-oceanic ridges & move in opposite direction.

plate movement

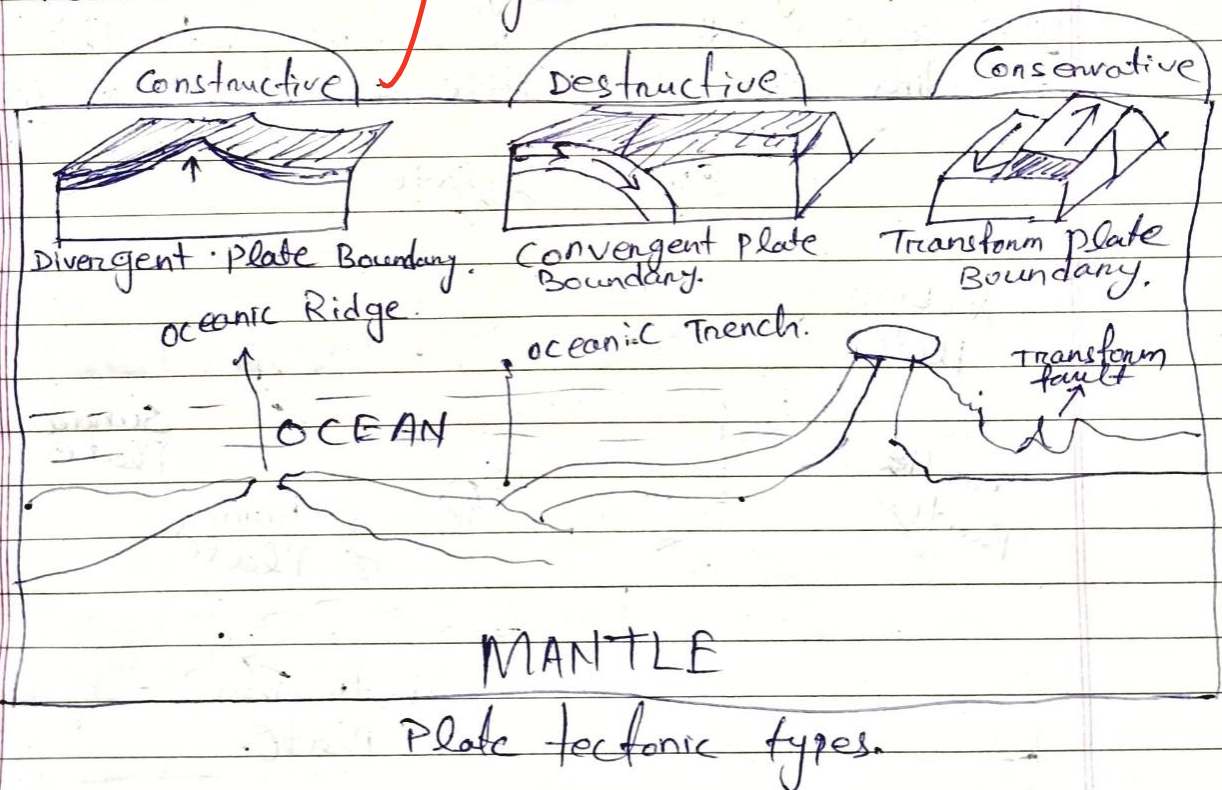
Date _____
Page _____

T_i

Interior of Earth

(2) Destructive Plate Margins are also called as "consuming Plate margins" or "convergent plate margins" because two plates move towards each other or two plates converge along a line. & leading edge of one plate overrides the other plate & the overridden plate is subducted or thrust into the mantle & thus part of crust is lost in mantle.

(3) Conservative Plate Margins are also called as shear plate margins. Here two plates, here two plates pass or slide past one another along transform faults & thus crust is neither created nor destroyed.



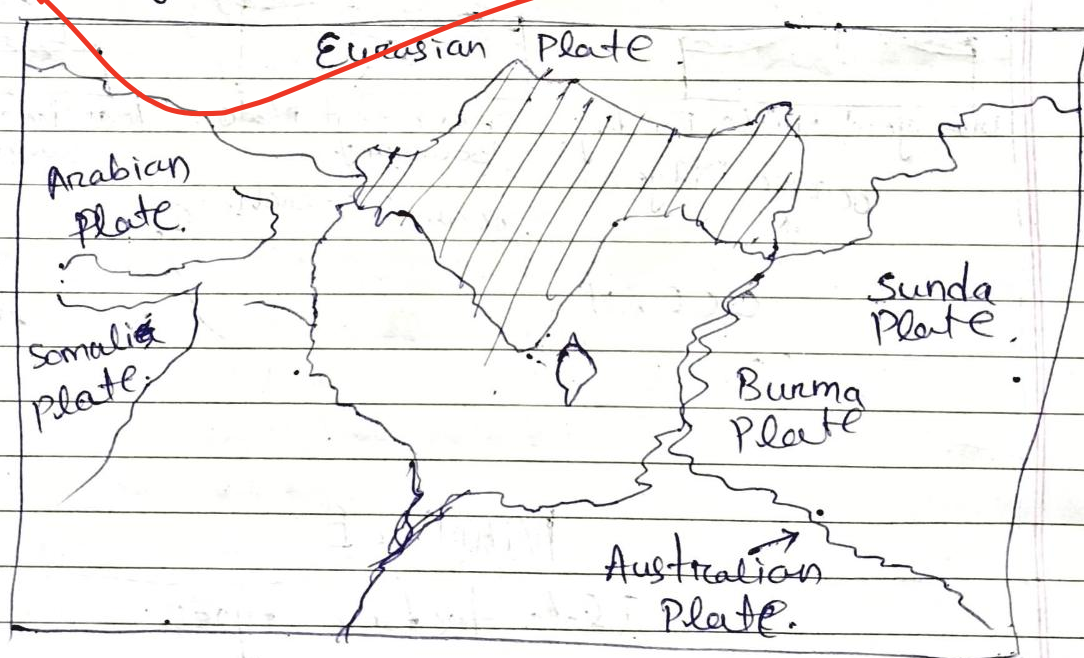
6

INDIAN PLATE MOVEMENT

Date _____
Page _____

The Indian plate include peninsular India & the Australian Continental portions. In the east, it extends through Rakim Yoma mountains of myanmar towards the island arc along the Java trench. The western margin follows Kirthair mountain of Pakistan. It further extends along the Makrana Coast of Balochistan & Joins the spreading site from the Red sea rift south-eastward along the chagos Archipelago.

The boundary between India & the Antarctic plate is also marked by an oceanic ridge (divergent boundary) running in roughly west to east direction & merging into the spreading site, @ a little south of New Zealand.

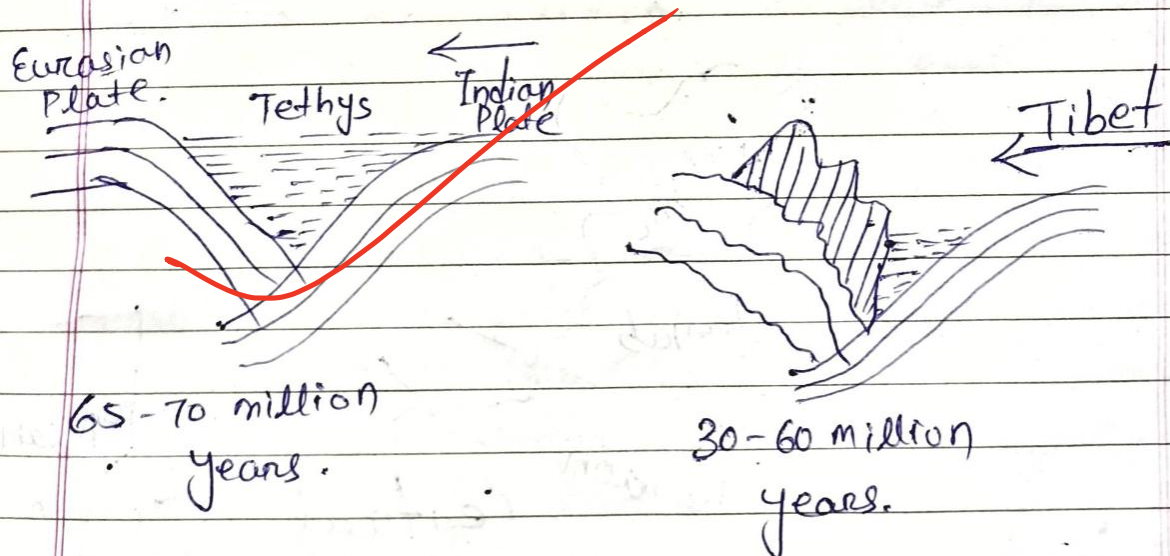


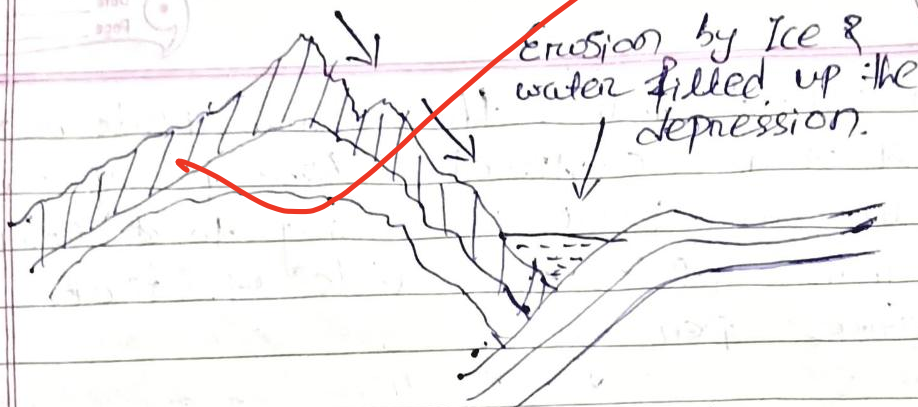
In recent studies, the Indian plate is moving north-east at five centimetres ~~per~~ per year, while the Eurasian plate is moving to ~~the~~ compress at the Indian plate at a rate of four millimetres per year.

Formation of Himalaya :-

Till Mesozoic times, the region now occupied by the Himalayas & Northeast plains was under the level of sea. It is known as Tethys Sea. The Himalayas were formed when the Indian plate, driven northwards pushed under the ~~the~~ Eurasian plate.

Around 65-70 million years ago, the Tethys Sea started contracting & about 30 to 60 million years ago as the two plates came closer to each other, the Tethys Sea crust began to fracture in to thrust-edges & by 20-30 million years ago, the Himalayas started emerging.



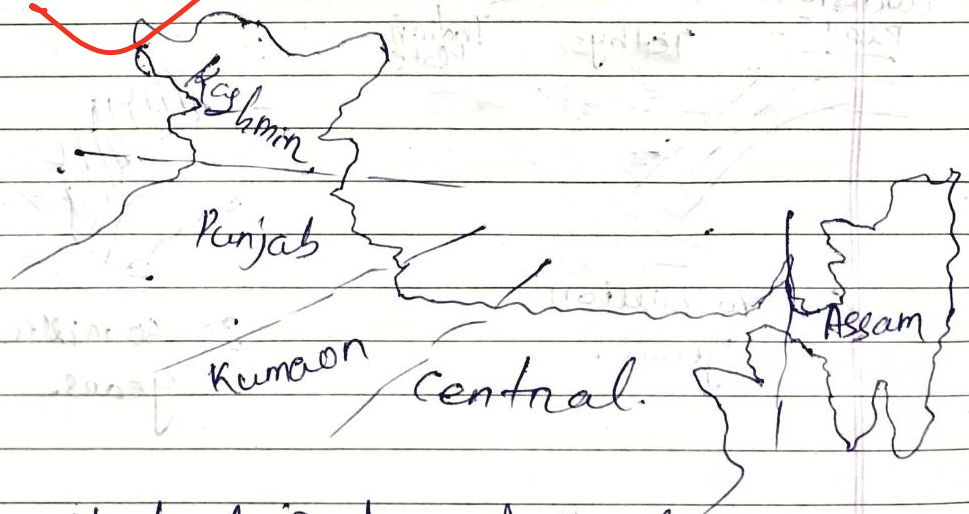


20-30 million years.

(Various stages in the uplift of the Himalayas).

Intense erosion of ice & water resulted in deposition in a basin south of the Himalayas, & thus began the process of infilling of the depression.

~~At present~~ There is a clear evidence of upheaval of Himalayas. The Himalayas being a zone of constant seismic activity, the desiccation of the Tibetan land with sand ~~bars~~ terraces existing above the water level & the youthful nature of the Himalayas. Thus the Himalayas are known as youngfold mountain ranges.



Longitudinal Sections of Himalaya.

3. Write an essay on geomorphic cycles with reference to the theories explained by Davis & Penck. Discuss cycle of erosion by fluvial process (rivers) & landforms associated. (60 marks)

Cyclic concept was probably 1st postulated by Scottish geologist James Hutton. The concept of cyclic nature of the earth's history was later on transformed into the concept of "Uniformitarianism" i.e. The process is still operative till today. Based on the concept put by James Hutton, W.M. Davis presented a modified concept of "cycle of erosion" under the title of "geographical cycle of erosion" in the year 1899 through the concept of "complete cycle of river life" was previously postulated.

GEOGRAPHICAL CYCLE OF DAVIS :-

Davis tried to develop a comprehensive theory of development. He coined the word "landform" as a function of structure, process & stage.

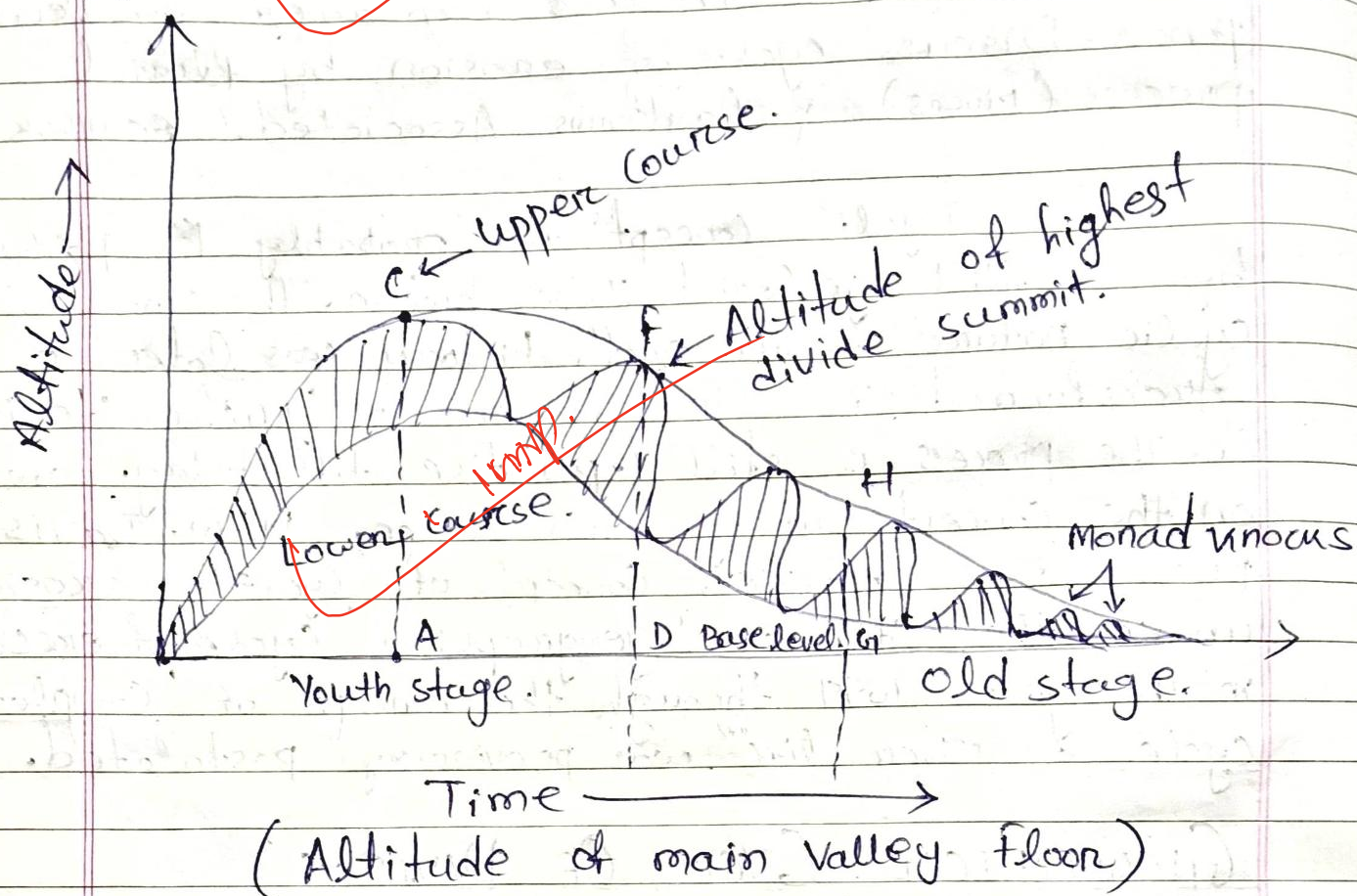
Structure:- It includes the deposition of underlying rocks, hardness, porosity, fold & fault.

Process:- It includes the all type of weathering by river, wind & glacial erosion, mass movement.

Stage → It means the time duration during which the process operate on a structure.

He used three stages. i.e. youth stage, mature stage & Old, to mark the different phase of evolution of landform. According to Davis, the geomorphic cycle is time dependent after

upliftment the erosion start.

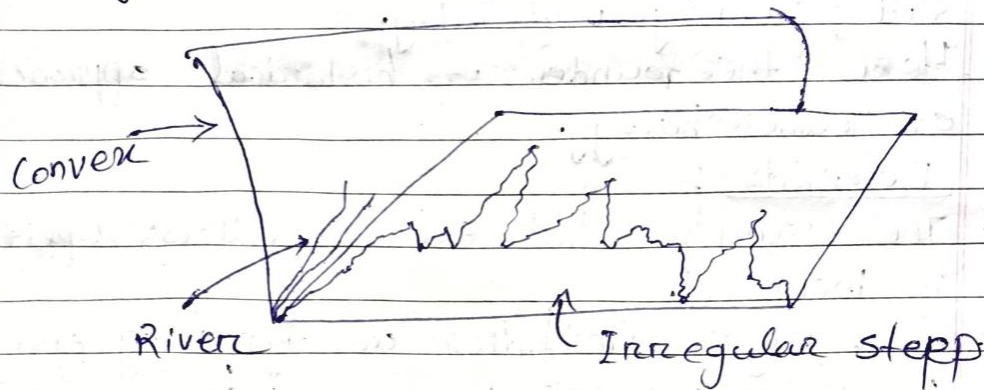


THEORY -

- According to Davisian theory, the geomorphic cycle is time dependent & to him after upliftment stop, the erosion start, hence the land form evolve. There are 3-stages with respect to time for geomorphic cycle. i.e.
 - (a) Youth stage.
 - (b) Mature stage.
 - (c) Old stage.

(a) Youth Stage -

- In this stage, very small stream flowing down the steep slope. Headward erosion leads to stream lengthening & valley deepening. Absolute relief is highest having no waterfall but relative relief are increased. The rivers can have gorges, waterfall, rapids, cascades. The valley floor is irregular & convex in nature.

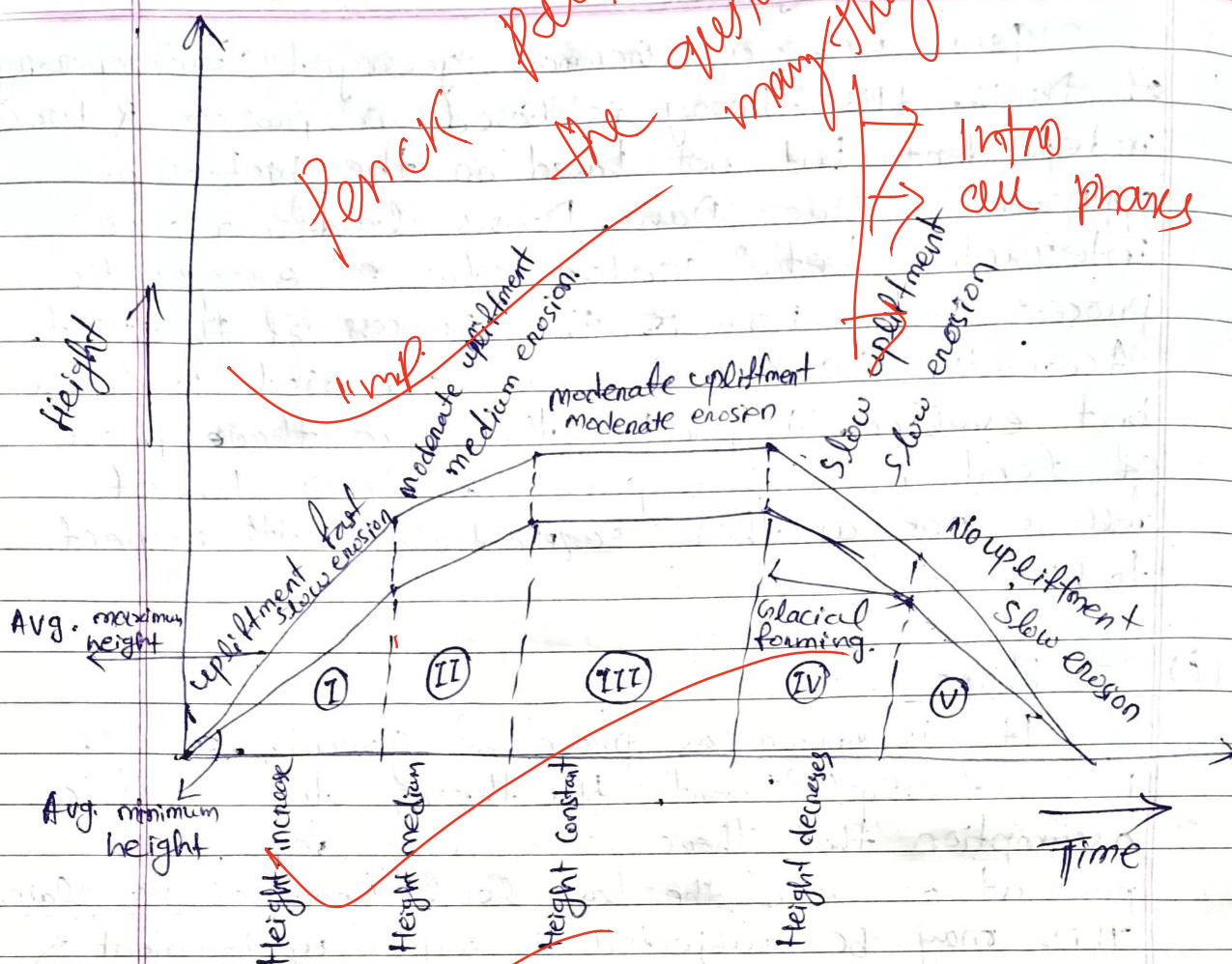


(b) Mature Stage -

River becomes wider & bigger due to lateral erosion. Decrease in absolute relief (erosion of summit). The relative relief will initially increase & the fall. In such case the river will acquire straight slope.

(c) Old Stage →

This stage consists valley deepening slows down & almost top. The river become larger & moving slowly. Valley widening continue & absolute relief fall rapidly & river reaches base level called peneplain. (Concave-convex in nature). Along the peneplain there must be some remnant hill is known as Monadnock.



- (a) $\text{upliftment} > \text{erosion}$ (Absolute relief increase, rate of relief const.)
- (b) $\text{upliftment} = \text{erosion}$ (Absolute relief & rate of relief const.)
- (c) $\text{upliftment} < \text{erosion}$ (upliftment slowdown on stop)
- (iii) 3rd phase:

It is known as waning phase. Upliftment stop & valley deepening is much less than summit erosion. Absolute relief start falling & relief feature also start failing & slope are always concave. The end product is a flat featureless plane which is convexo-concave surface called Endmpt.

Evaluation:-

All the process approaches time independent, reject concept of cycle, merit lies that he able to incorporate the interaction between ~~end~~ endogenetic & exogenetic forces. Erosion doesn't wait for upliftment. Upliftment can take place in various stages at different rate through the condition of development process. For Devis river is an active agent of erosion ~~total~~ for penu river is a sediment transporting medium.

Fluvial Landform:-

It developed by the running water like stream or river. It involve the application of physical forces associated with the running note.

(a) Hydraulic Action → Force inherent in the flow of running water can do a great erosion of the bank & bed rock mostly due to surface relief i.e. Gradient.

(b) Abrasion → The material which are being carried away by the running water act as tool of destruction because of their rubbing against the surface of the bedrock.

(c) Attrition → Material during their transport often collide among themselves & get tear themselves & gradually reduce in size called Attrition.

(d) Cavitation → It happen due to the entering of water * in to the pore & fissures ~~it~~ leads to widening the cavities.

6

Chemical Weathering

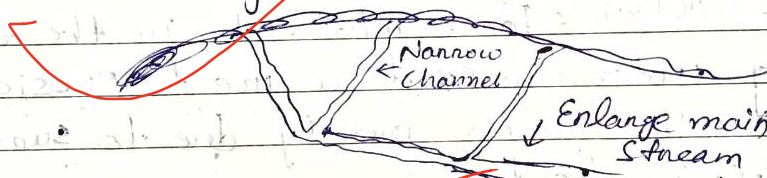
It is a process in which rocks are broken down by the chemical decay of minerals. During chemical weathering a set of chemical reactions act on rocks which changes their mineral to more stable form. Dissolving action of water due to presence of CO_2 & solubility of river bed are some very factors of affecting in chemical erosion.

Erosional Landforms

(1) Rills → Narrow channel developed by running water.



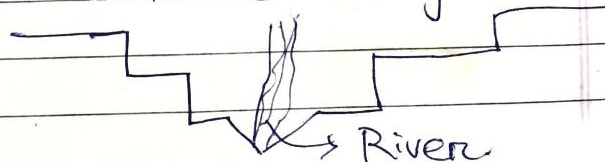
(2) Gullies → when rills are combined together it becomes enlarge called gullies. exp: Chambal valley.



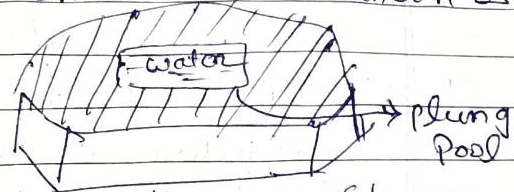
(3) Waterfall → The falling of stream water from a height due to change in vertical drop called waterfall & here the softer rock is eroded faster as compared to hard rock.



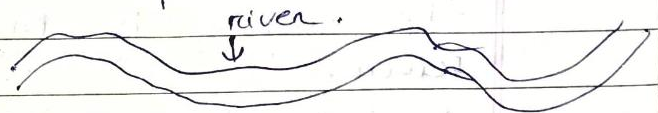
(4) River Terraces → steeped line features are formed due to erosional action on both side of valley created along valley deepening & part of valley left as terrace along the wall of valley.



(5) Plug Pool → When the pot-holes are comes together it becomes a larger one which is known as Plug Pool.

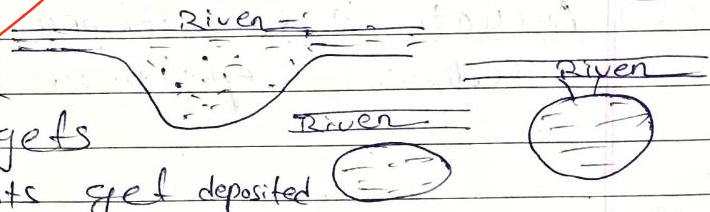


(6) Meander → In mature stage river develops the 'S'-shaped. In this way stream eroding its outer bank & deposit sediments at inner bank.



(7) Ox-bow Lake:-

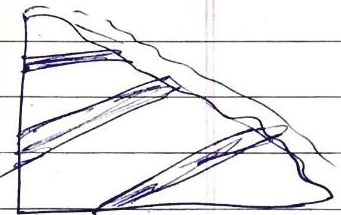
Due to meander of river outer bank gets eroded & sediments get deposited in inner bank. When the river cuts through the neck & start flowing straight leaving the old course.



(8) Rapids:- It is the band of alternating layers of hard & soft rock along the path of river which makes the river fall down ward.

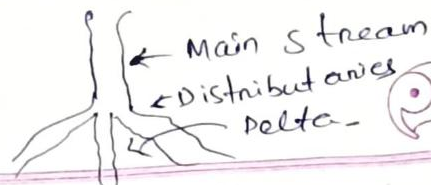
Depositional features:-

(i) Natural levees:- On the flood plain, long depositional ridges extending parallel to the river are, found known as natural levees.



(2) Sand Bank → After flood sand & silt are deposited in the inner bank of river.

(3) Delta → In the mouth of river, where the river meets with the sea, deltas are formed. It's an old stage depositional landform, As the velocity of river gradient is almost zero.



- (a) ~~Arconate Delta~~ → ~~for~~
- (b) ~~Bind foot Delta~~ → formed due to fine grain sediment deposits.
- (c) ~~Estuarine Delta~~ → formed at the place where regular exchange of sea water & river water took place.
- (d) ~~Riverine Delta~~ → Largest riverine Delta in the world is Majauli in Assam; on Brahmaputra river.
- (e) ~~Arcuate Delta~~ → formed due to coarse grained sediment deposition.

1. (a) Dead Sea →

- It is located in Israel. It's the highest salinity lake found in the world.
- It is also known as salt lake.
- It borders with Jordan, to east & Israel to west.

(b) Death Valley -

- Death valley is found in North American continent, near to California, US.
- It's a grabben i.e. a rift valley formed by sinking of ~~gotten~~ bedrock lying between ~~Des~~ ~~Neer~~ to Mojave Desert.

(c) Mt. Elbrus -

- It is the height peak in Russia. It is located in Caucasus mountain chain.
- Formed by the Collision of the Eurasian & Arabian plate.

(d) K₂ -

- It's located in north-western Karakoram Range. It's in the Northern part of Indian sub-continent.
- Now it's in POK. It's the 2nd highest mountain in the world.

(e) Gobi Desert -

- It covers an area of China in North & South of Mongolia. It's a cold desert, formed by Tibetan plate.
- In the west Taklamakan Desert is located.

(f) Great Dividing Range

- It's a series of mountain located in the eastern Australia.
- It's home to a large no. of native plant & animal, that don't grow anywhere else.

(g) Toronto

- Port City in Canada.

(h) Alaska

- It's situated in the north-western part of Canada.
- Alaska is the largest state of USA by Area.
- Arctic Circle divide Alaska in to two parts.

(i) Jalandhar

- It's an ancient city in Punjab, one of the state in India.
- It's mostly famous for leather & sports industry.
- Jalandhar's ^{local} economy mostly come from Indian Diaspora living outside.

(j) Zawar

- This city located in udaipur dist. of Rajasthan.
- Zinc mines are prominently found here.
- HZL (Hindustan Zinc Limited) is a key industry at that place.

(e) Gobi Desert -

- It covers an area of China in North & South of Mongolia. It's a cold desert, formed by Tibetan Plateau.
- In the west Taklamakan Desert is located.

(f) Great Dividing Range

- It's a series of mountain located in the eastern Australia.
- It's home to a large no. of native plant & animal, that don't grow anywhere else.

(g) Toronto

- Port City in Canada.

(h) Alaska

- It's situated in the north-western part of Canada.
- Alaska is the largest state of USA by Area.
- Arctic Circle divide Alaska in to two parts.

(i) Jalandhar

- It's an ancient city in Punjab, one of the state in India.
- It's mostly famous for leather & sports industry.
- Jalandhar's ^{local} economy mostly come from Indian Diaspora living outside.

(j) Zawar

- This city located in udaipur dist. of Rajasthan.
- Zinc mines are prominently found here.
- HZL (Hindustan Zinc Limited) is a key industry at that place.

(W) Kandla

- It's a sea port & situated in Kutch district of Gujarat. It's open to Arabian Sea.
- It's a natural port.
- Mostly Petroleum goods come to India from this port.

(L) Kudremukh

- It is found near to Mangalore City of Karnataka district.
- It has Iron ore deposits.
- It's in the western ghats range of mountain.

In mapping
question
you need to
write

→ Map pointing

→ place location

→ Most Significant
aspect of
the place.

→ Less words

