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Que. Explain the sequential development of landforms associated with coastal area.

coastal landforms develop through a series of processes that involves waves, tides, currents.

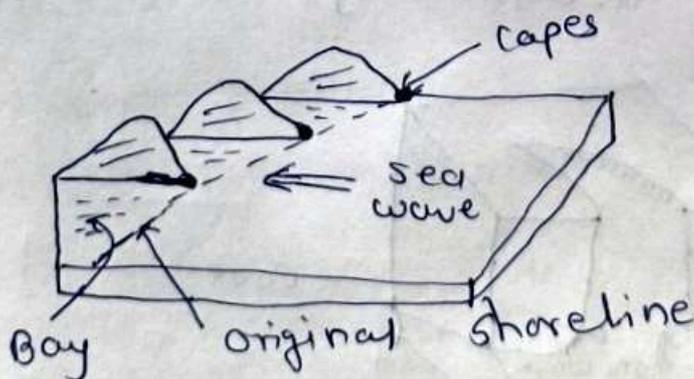
sequential development of landforms associated with coastal area include three defined stages as -

a) Young stage →

i. This stage begin with development of shoreline (tectonically, Eustatically or Isostatically).

ii. In young stage sea waves actively engaged in erosion developing generalised & special features +

General features → cape & Bay
Topography



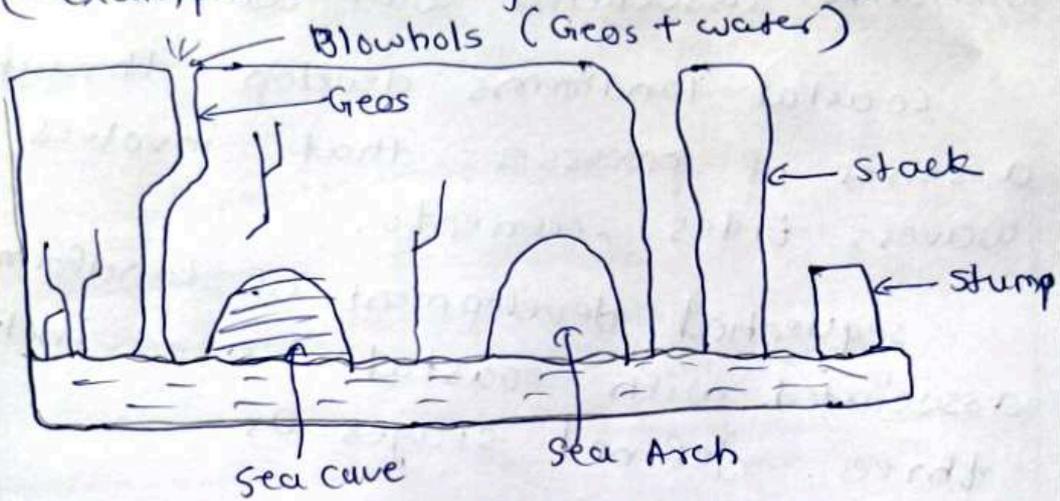
special category of features → eg

a) coastal caves with Arch or Grotto
(outcome of differential erosion)

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b) Sea cliff with Notch
(example of homogenic retreat)



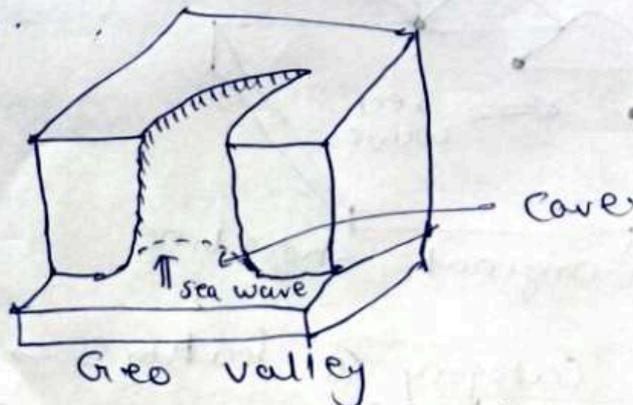
b) mature stage →

i. Maturity of topography denotes commencement of mature stage

ii) It is represented by -

a) coastal arch paving way to coastal pillar i.e. called stack

b) Geos converting themselves to geo valley i.e. destructing the coastal caves.

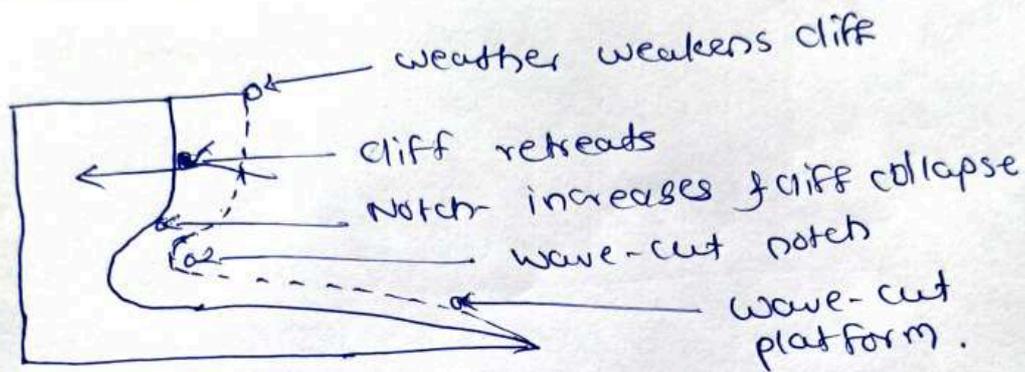


Sea cliff with notch as special feature developed involving

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homogenous structural coastal mountain during mature stage get sufficiently retreated to create wave-cut platform



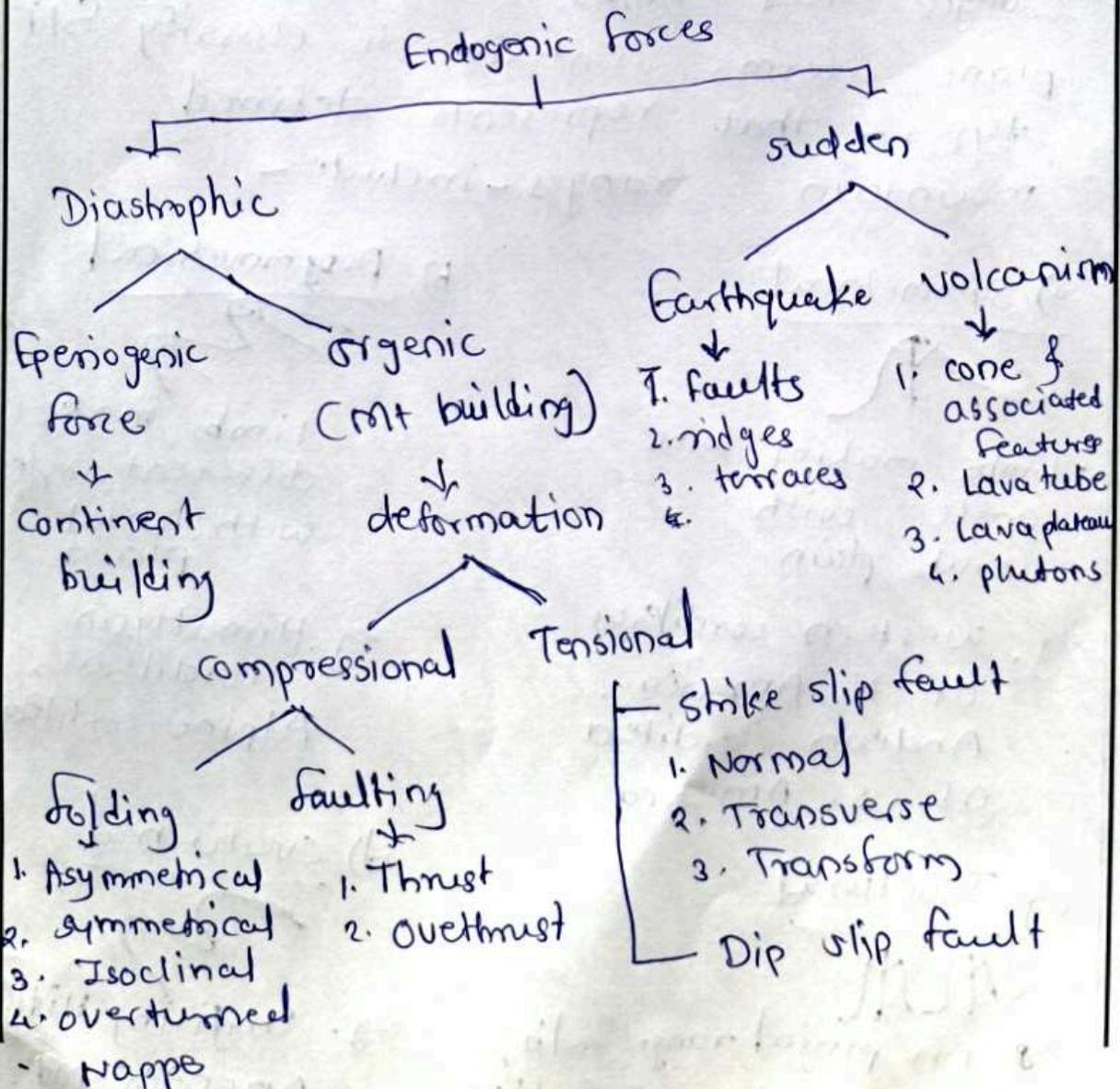
c) old stage

- i. This stage practically distinguish with dominance of deposition by sea waves backwash as maximum variations have been eroded.
- ii. All the coastal depressions are thus filled up by 'beach deposits' generating profile of Equilibrium.
- iii) End product of erosion is featureless lowland - coastal peneplain with some resistant thus remnant isolated mounts called coastal monad rocks.

Que. Describe the landforms which are product of endogenic forces?

Endogenic forces originate inside the earth and induces variations on the earth surface. They are referred as variability developers.

Forces of developed landforms -



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i) Folding deformation -

i. Ductile rocks subjected to compressional stress get folded creating that creates mountain peak and syncline that makes valley floor.

ii. Relating to mt building it is anticlines includes two limb & intersection point of limbs called Hinge - applied to demarcate axial plain.

iii) angle that limbs makes with axial plane forms criteria to classify fold types - that represents defined mountain ranges - include -

a) Symmetrical



- limbs making same angle with axial plain

eg. western cordillera of N. America, Andean cordillera of S. America

b) Asymmetrical



limb make different angle with axial plain

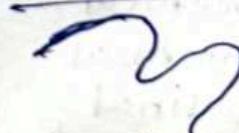
eg. Himalayan cordillera, Alpine cordillera

c) Isoclinal



eg. Pir Pinjal range India, Dinaric Alps of Balkan

d) Overturned

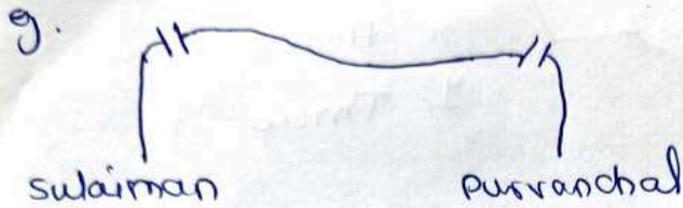


eg. Darjiling Hill, Pyrenees mt. (Spain)

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e) Nappe (Broken fold) → eg. Himalaya



2) faulting

compressional force applied to brittle rocks tends to generate 'brittle failure' i.e. faulting which is opposite to normal faulting. called reverse fault

II) Tensional stress induced deformation

a) strike slip fault → Heave only

i) Normal fault

← → Pulling apart

eg. ~~mitumba~~ mitumba /
muching mt
(Great African Rift
valley)

ii) Transverse

↑ ↓ slide pasting

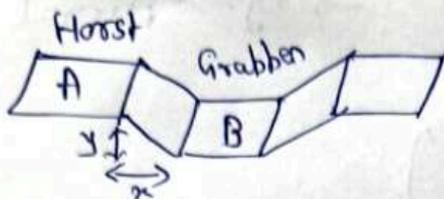
eg. Sierra Nevada,
Wasatch range
(Great Basin-
USA)

iii) Transform fault → Develop when movement of crustal slab is in same direction but at differential rate.
eg. Deccan trap of India,
walvis Ridge of Atlantic

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b) Dip slip fault → Heave + Throw.



x: Heave
y: Throw

- Develop Block mt & Rift valley.

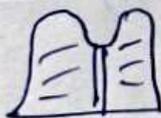
eg. Narmada Rift valley,
Vosges & Black forest Block mt &
Rhine rift valley.

Volcanism →
movement of ejected matter from earth's
surface towards the earth surface causes
gradual crystallisation & lava resulting
in development of topographical features -

a) Cones



1) Basic cone
eg. Mt. Mauna Loa

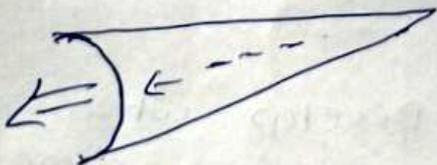


2) Acidic cone
eg. Mt. Vesuvius



3) Parasitic cone
eg. Mt. Shasta.

b) Lava tube



→ Identified in Iceland
&
Western Cordilleras
& N. America.

c) Lava-plateau →

eg. Borborema - Brazil
Deccan Trap - India

