2006

1	C	11	D	21	C
2	D	12	A	22	D
3	B	13	B	23	B
4	B	14	C	24	C
5	A	15	C	25	B
6	C	16	B	26	D
7	D	17	B	27	D
8	B	18	A	28	A
9	C	19	D	29	B
10	A	20	C	30	B

31.

(a) (i) A meandering stream is one which follows a highly undulating path during it's mature stage.

(ii)

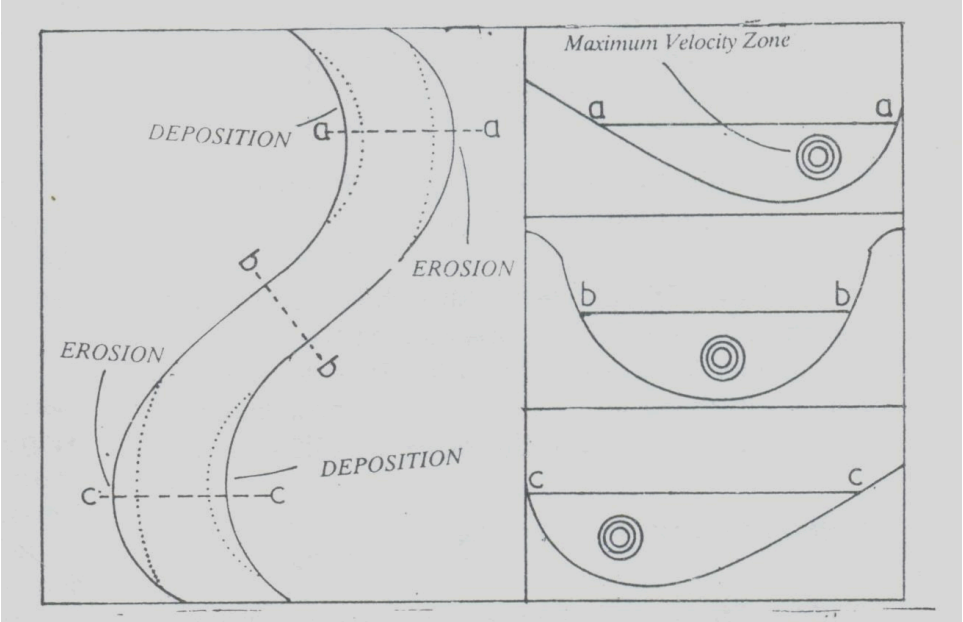
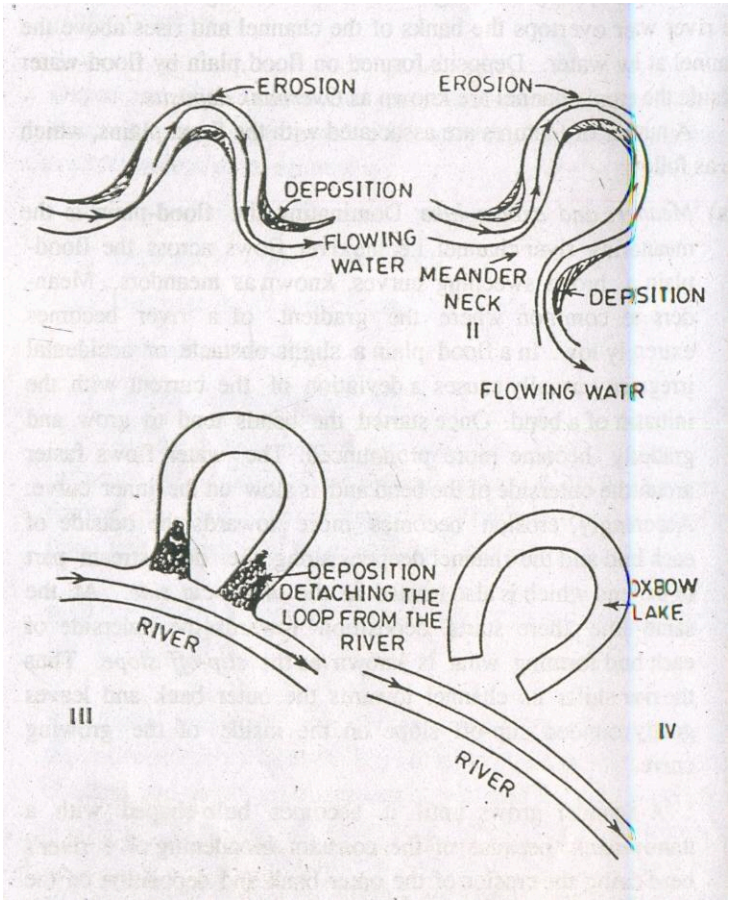


Fig. 15.8 Meander development. Note the change in the maximum velocity zone within the channel width.

(b) During flood stages the river water tends to follow a straight path due to it's very high velocity. So instead of following the curved meandering path it flows straight and thus the abandoned curve where the water stagnates is called as the ox-bow lake.



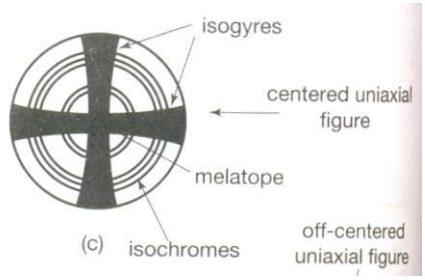
32.

(a)(i) maximum birefringence= 1.658-1.486=0.172

(ii) 1.658; as the mineral is optically negative so the velocity of O-ray is least. So it's refractive index is highest.

(b)

(i)



(ii) pleochroism, interference colours,

33.

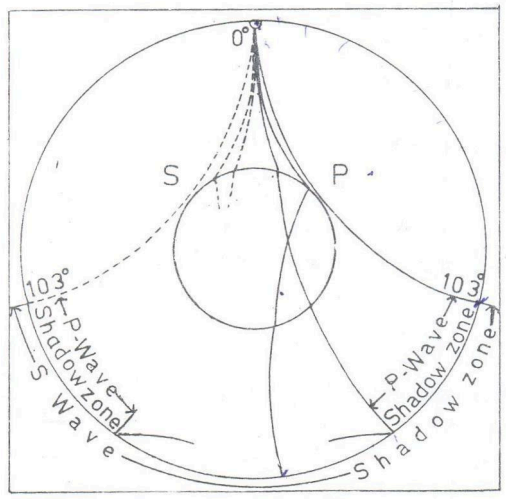
(a) (i) Aquifer is a porous and permeable water bearing formation.

(ii) Water table is the upper limit of zone of saturation below which all the interstitial space is filled with water.

(iii)

34.

(a) (i)



ig.. 30.18 Shadow zones

(ii)S-wave can't pass beyond 103° of epicenter.--> outer core is liquid.

(b) underwater earthquake, faulting , volcanicity, artificial bombardment.

35.

36.

(a) (i) pelitic/ argillaceous

(ii)isograd

(iii) muscovite + silica = k-felspar + sillimanite + vapour

(b)(i) barrovian facies series , continental orogenic belt=tectonic setting.

(ii)yes

Fe-Chlorite + muscovite + quartz = almandine(garnet) + annite + vapor

37.

(a)(i)B= dyke

C=sill

D= ? magma chamber perhaps

(ii)A= vescicular

B= ophitic

(iii)A= basalt

B= dolerite

C= gabbro

(b) changes in pressure and temperature conditions

38.

(i) A=B= albite +liquid

C = nepheline + albite

D = tridymite + albite

X = Y = albite

(ii) because there exists a temperature barrier between nepheline and quartz where neither of them can overcome and unite to form albite.

39.

(a) ceratitic, goniatitic, ammonitic

(b) (i)

	brachiopoda	Pelecypoda
Valve size	inequivalve	Equivalve
Plane of symmetry	Passes through the middle of each valve	Passes in between two valves.

(ii) lameta beds

40.

(a)(i) Banded Gneissic Complex

(ii) Deccan traps

(iii) Boulder conglomerate

(b)(i)

chronostratigraphic	Geochronologic
System	Period

Series	Epoch
stage	Age

(ii) lesser Himalaya(South) central crystalline Himalaya tethyan Himalaya(north)

41.

(a) (i) Sharing of edge or face will bring the Si atoms close enough so that high electrostatic repulsion will cause instability to the compound.

(ii) 5-, 7-, 10- fold symmetry shall not fill all space between the lattices .So, void will be resulted. So they don't exist.

(iii) 4mm(perhaps)

(b) (i) growth, transformation, deformation

(ii) A twin law is a symbol of a face or axis that depicts the relationship between the different parts of a twinned crystal.

42.

(a) (i) Sublimation process is the process where those minerals which have been volatilized by heat are subsequently redeposited in the same form in low temp. and pressure.

(ii) stockwork= it is a mass of rock that is traversed by a network of small ore- bearing veins.

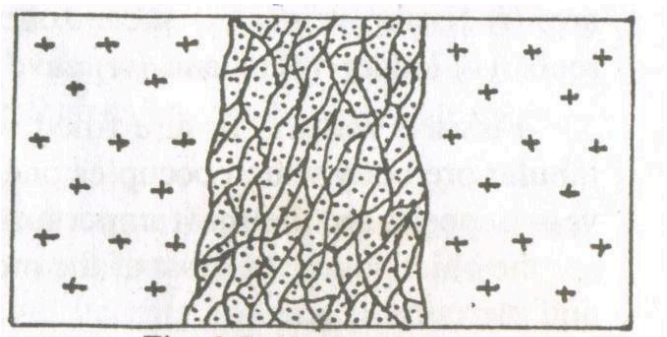


Fig. 9.7. Stockwork.

Saddle reef = these are mineralized openings at the crest of anticlines and resembles to a saddle.

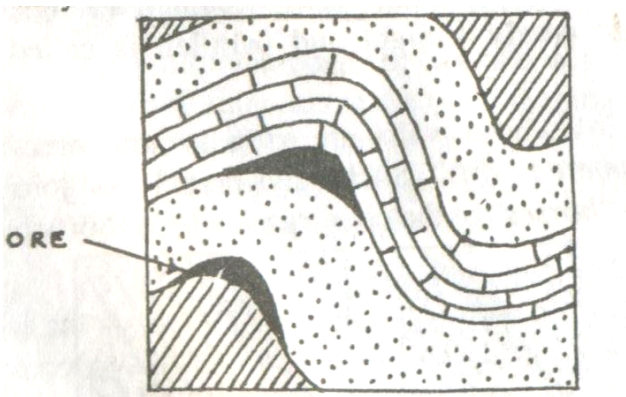


Fig. 9.8. Saddle reef.

(iii) strip mining, Mountain top removal, open pit mining are the three common surface mining methods.

(b) (i) Eluvial placer are the low-grade deposits deposited along hillslopes formed due to weathering and erosion of country rocks .

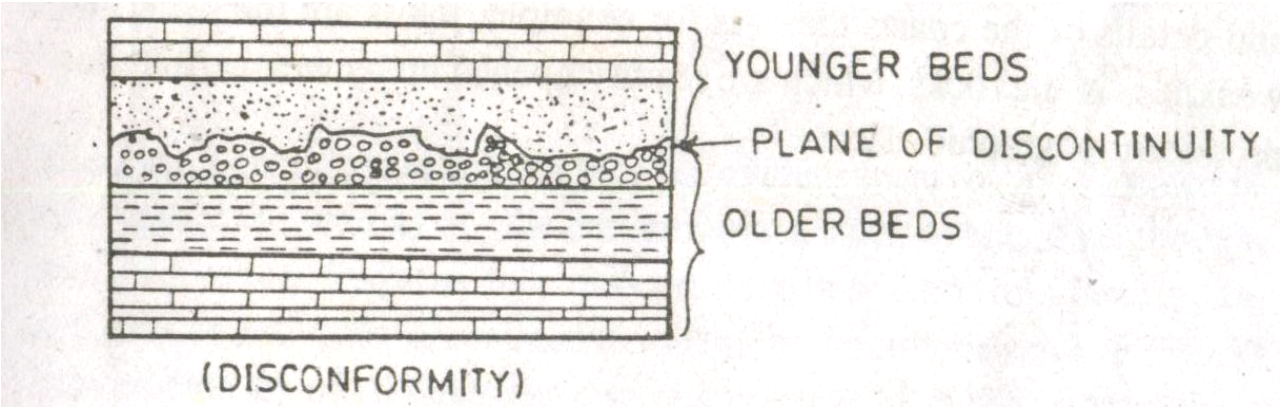
(ii) Neyvelli, Palana

43.

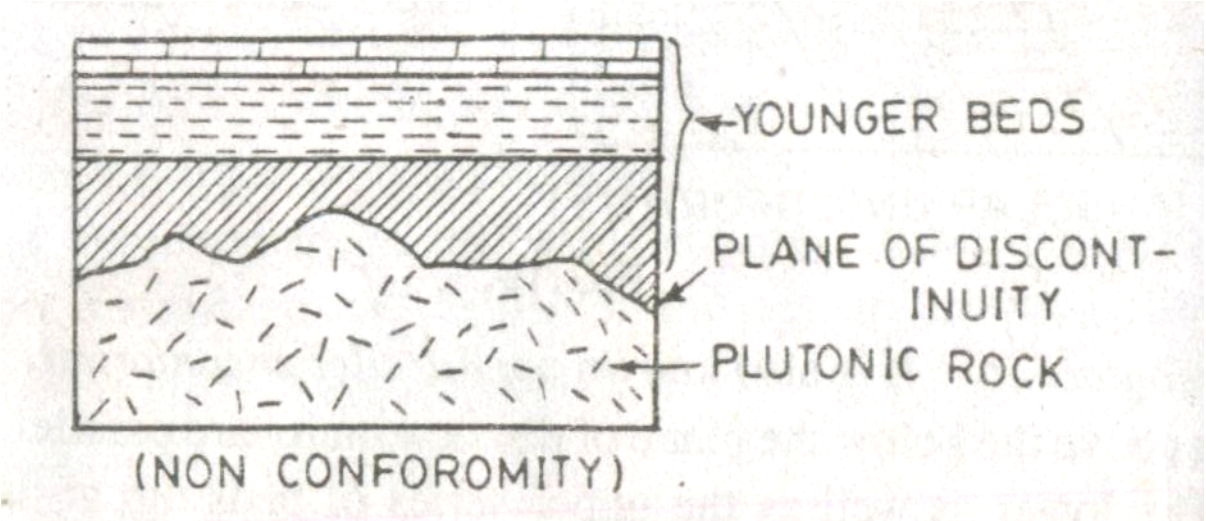
(a)(i) The throw of a fault is the vertical component of apparent displacement of a bed, measured along the direction of dip of the fault.

Heave of a fault is the horizontal component of apparent displacement of a bed, measured along the direction of dip of the fault.

(ii) Disconformity is the unconformity where bedding both below and above the unconformity are parallel.



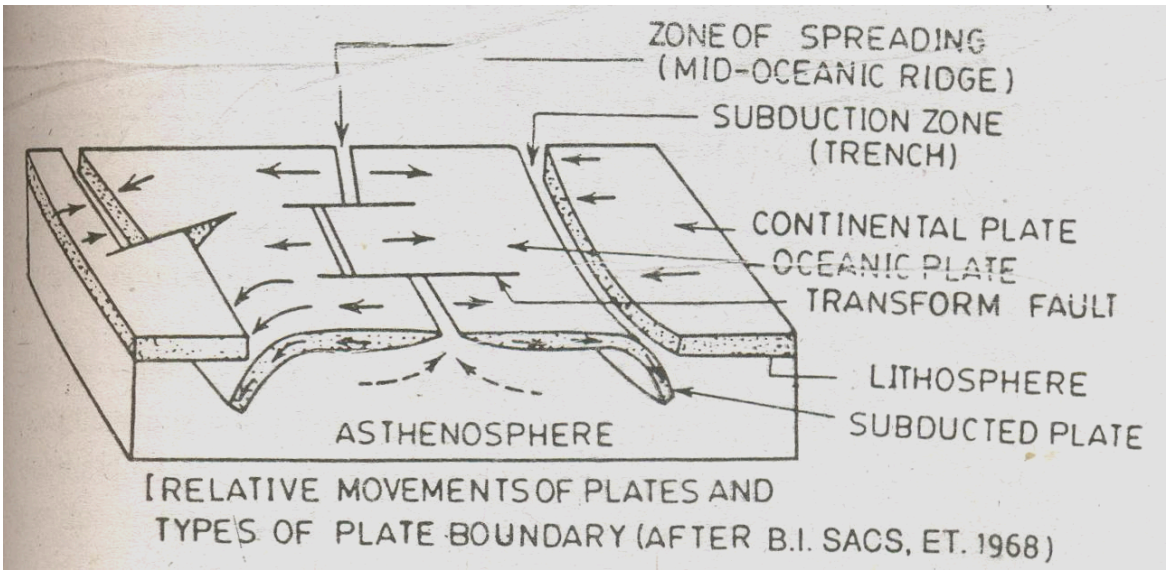
Nonconformity is the unconformity where a plutonic rock is unconformably overlain by a sedimentary rock bed or lava flows.



(b)

44.

(a)



(b)<u>Fours evidence of continental drift</u>

1⃣fitting of zig-saw coastline between east coast of south America and west coast of Africa.

2⃣Evidence of widespread glaciations in Brazil, India, Australia, Madagascar.

3⃣Similar pre-cambrian rocks of central Africa, Madagascar, Brazil, India, Australia.

4⃣Widespread occurrence of Gondwana flora (Glossopteris) in the above mentioned countries.