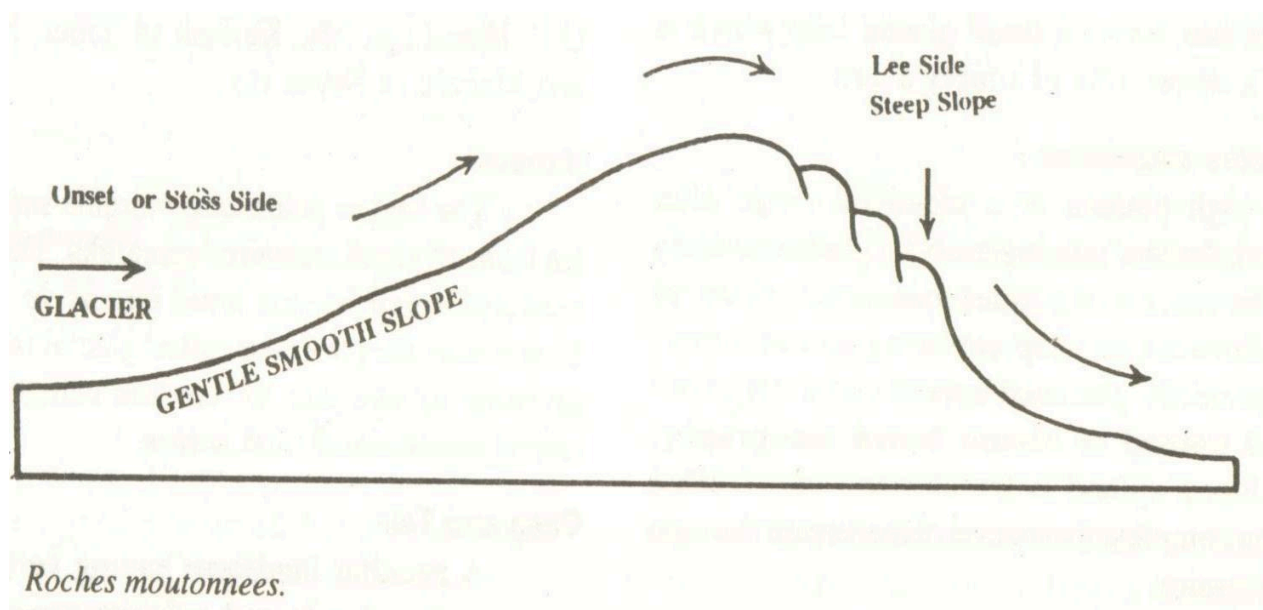


**2011-A**

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

31.



32.

(a) (i)  $R < 500$ (ii) When the  $\text{SO}_2$ ,  $\text{CO}_2$ ,  $\text{NO}_2$  in the atmosphere are mixed with rain water, acid rain results.

(b)(i) A

(ii) Dip of the valley is opposite to the dip of mudstone beds. So no water seepage or sliding.

33.

(a)(i)

(ii) Tidal

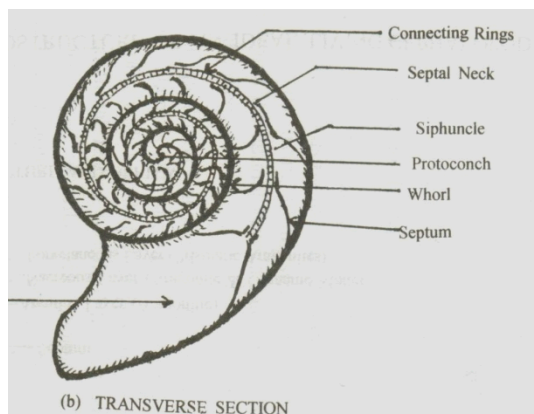
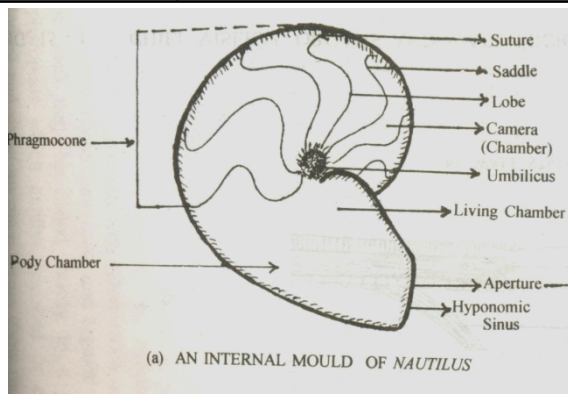
(iii) stormy

(b) (i) flute casts

(ii) convolute bedding

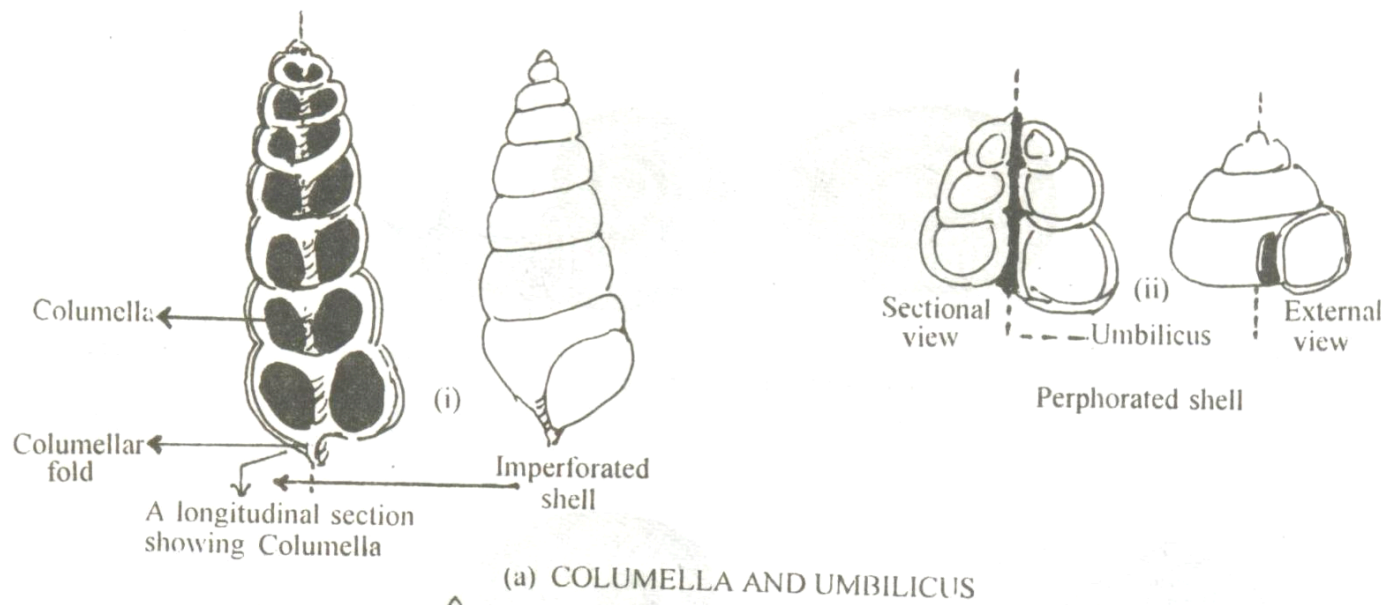
34.(a)

Septa	Suture
The interior of cephalopoda is divided into no: of compartments by thin transverse partition which is known as septa.	When septum meets the external surface of shell is known as suture lines



(ii)

Collumella	Umbilicus
In gastropoda if the inner shell coalesce to form a central pillar like axis from apex to base is known as collumella	If the inner shell do not coalesce leaving a hollow space from apex to base known as umbilicus
Imperforate shells	Perforate shells
Eg turritella	Eg natica

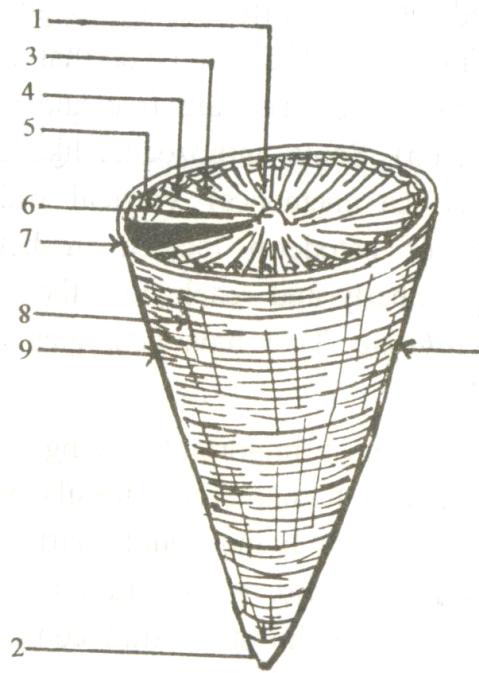


(b)

(i) opisthoparian



(ii) fossula

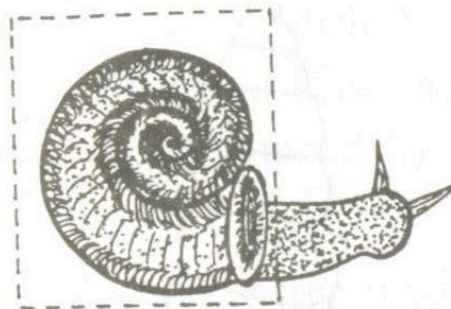


(a) A SIMPLE CORALLUM

FIG. 9 - 3 : BASIC MORPHOLOGIC

1. BASE (Calix) 2. APEX 3. MAJOR SEPTUM  
 4. MINOR SEPTUM 5. EPITHECA  
 6. FOSSULA 7. SEPTAL TRACE 8. GROOVE  
 9. EPITHECA

(iii) planispiral



35.

(a)(i) semri group

(ii) panchet

(iii)

(b)(i)

Assemblage zone

Acme zone

It is characterized by the occurrence of two or more parts of zonal fossil.

It consists of body of strata in which particular species or genus of an organism occur at abundance.

(ii) formation is the fundamental unit of lithostratigraphic classification.

Bed  $\rightarrow$  member  $\rightarrow$  formation  $\rightarrow$  group  $\rightarrow$  supergroup

36.(a)

(i) Because hydrothermal deposits are formed at low temperature conditions similar to acidic magma. eg copper, lead, zinc

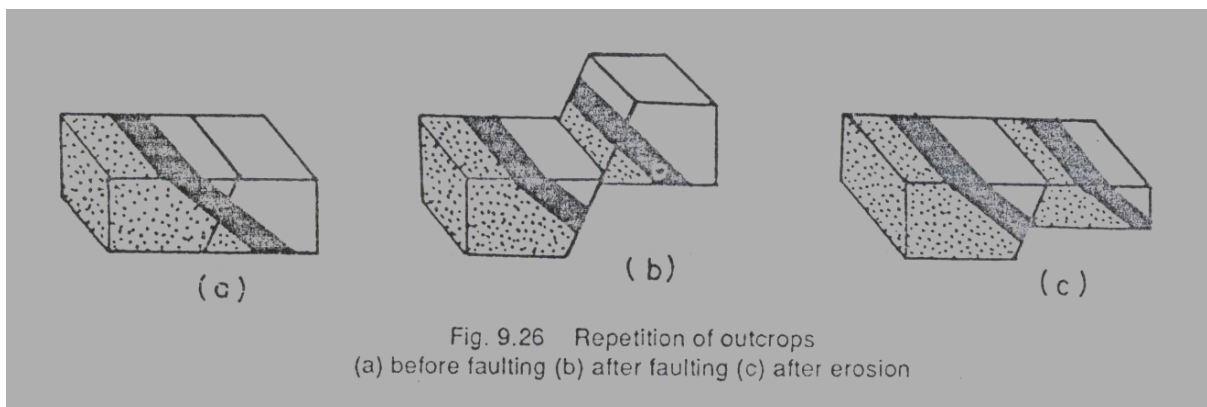
(ii) Barail group

(b)

37.

(a) In an inverted sedimentary sequence older beds occur at the top and younger ones lie at the bottom. It may be developed due to tectonism.

(b)



38.(a)(i) Flash figure

(ii)  $\alpha = -37^\circ$

(b) (i)  $2V = 50^\circ$

(ii)  $2E = 80^\circ$

39.(a)

(i) Mg-O bond distance =  $1.98 \text{ \AA}$

Ionic radii of O =  $1.40 \text{ \AA}$

Ionic radii of Mg =  $1.98 - 1.40 = 0.58 \text{ \AA}$  (ans)

Cr-O bond distance=2.02Å

Ionic radii of O=1.40Å

Ionic radii of Cr= 2.02-1.40=0.62Å (ans)

(ii) Radius – ratio of Mg=0.58/1.40=0.414∴C.N=6

Radius – ratio of Cr=0.62/1.40=0.442∴C.N=6

(b)

(i) stishovite

(ii) phlogopite = annite

Diopside= hedenbergite

40.

(a) (i) oxidation, carbonation

(ii)

(b)(i) Cratons are tectonically stable landmass. Two cratonic blocks of India are Dharwar Craton and Singhbhum Craton .

(ii) Diastrophism

41.

42.

(a) (i) Hornfels is fine-grained metamorphic rock formed by the contact metamorphism of shale which often shows maculose structure.

(ii) Amphibolite facies

(iii) pyroxene-hornfels facies/ granulite facies

(b) Post kinematic

43.

(a) (I) (i) angular unconformity

(ii) non - conformity

(iii) disconformity

(II) normal fault

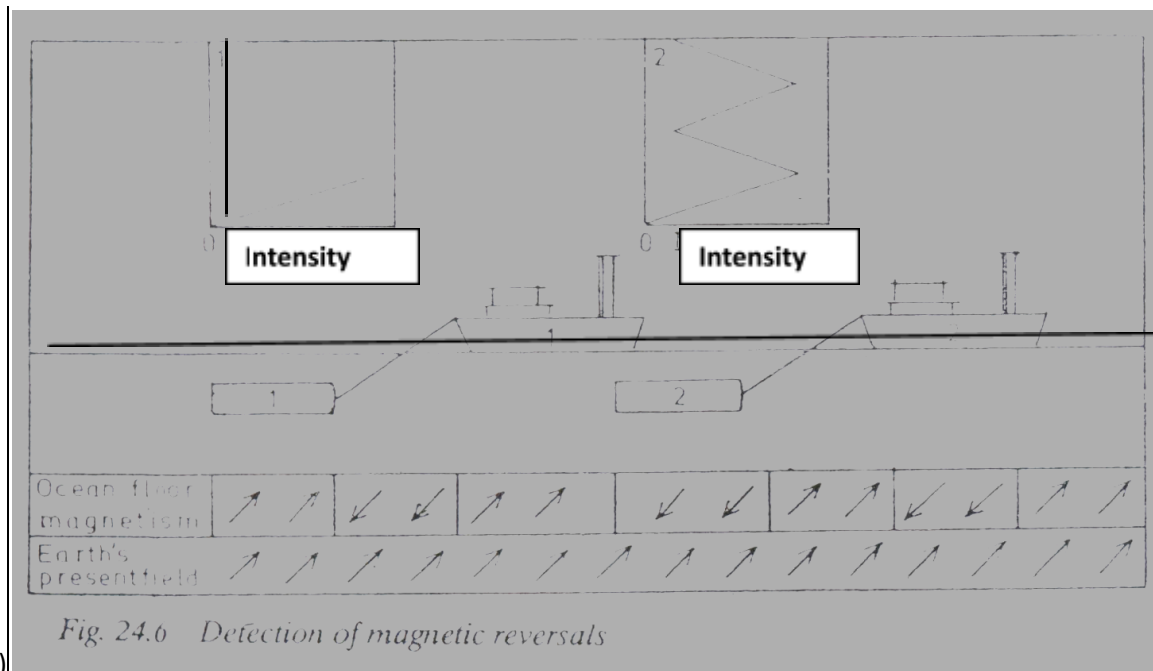
(b)

Youngest=X

Younger=Y

Older=Z

44.



(a)

(b)(i) Half-life of C-14 is 5730 years . So Radiocarbon method can be applied for dating rocks upto 70000 years . But age of pre-cambrian rocks is greater than 2500 million years. So Radiocarbon method can't be used for determining the age of Precambrian rocks.

(ii) K-Ar method and Ur-Pb method .