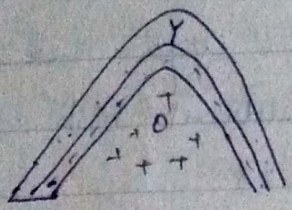
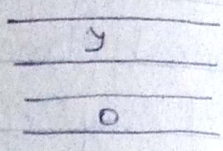
Classification of Folds :-

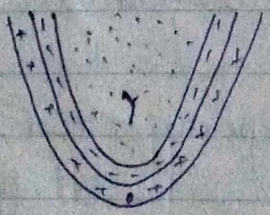
1) On the basis of appearance in Cross Section and Stratigraphy

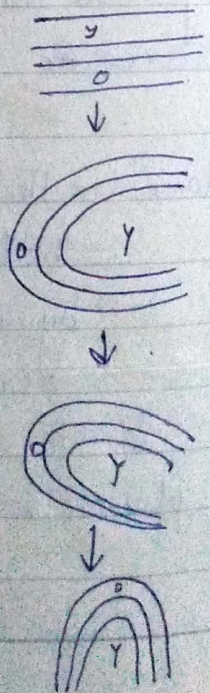
a) Anticline
- Opposite inclined
- Convex upward
- The oldest rock lie in its Core.





b) Syncline
- Together inclined
- Convex downward or Concave upward.
- Youngest rock lie in the Core.





c) Antiformal Syncline :-

- Convex upwards
- Youngest rock lie at the core.

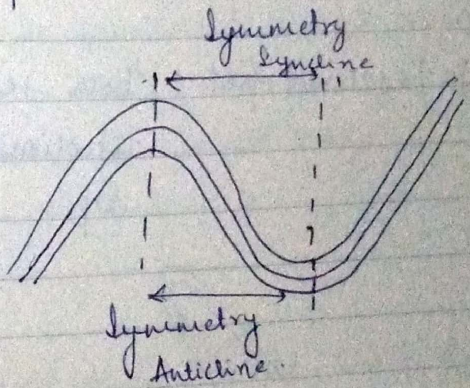
d) Synformal Anticline

- Concave upward
-

2) On the basis of Orientation of the axial plane / Symmetry of Fold.

a) Symmetric fold

- Symmetry fold is Vertical
- Both the limbs dip in different direction with same amount of dip.



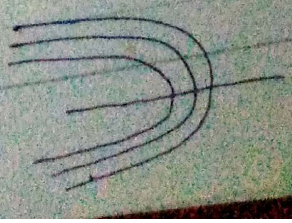
b) Assymmetric fold

- The axial plane is inclined condition

i) Both the limbs dip in opposite direction with different amount of dip.

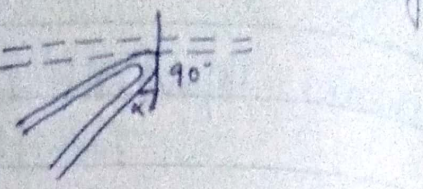
ii) Both the limbs dip in same direction with same or different amount of dip.

c) Recumbent fold :- The axial plane is more or less horizontal



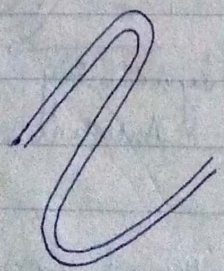
3. On the basis of the attitude of the limbs:-

a) Overturned fold :-
- In overturned fold both the limbs dip in same direction
- It appears that one of the limb is rotated through more than 90°

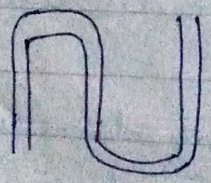


b) Recumbent fold : Both the limbs are ~~fold~~ fore overturned that the axial plane becomes more or less horizontal.

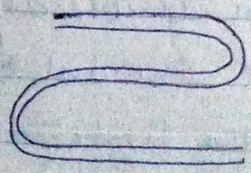
c) Isoclinal fold : Both the limbs dip in same direction with same amount of dip.



Inclined Isoclinal



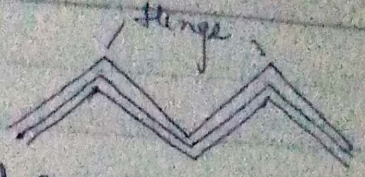
Vertical Isoclinal



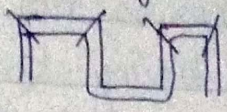
Recumbent Isoclinal

4) On the basis of the hinge line :-

a) Chevron fold :
- The hinge line is very sharp and angular.



b) Box fold :
- It appears like box i.e rectangular.
- It is characterised by the presence of 2 hinges.



c) Fan Fold :
Both the limbs are so overturned that it appears like a fan.
In a fan fold the hinge line is not very distinct.

5) On the basis of fold Angle / Inter-limb Angle.

Fold Angle.

a) $< 180 - 120$ → Gentle Fold
b) $< 120 - 70^\circ$ → open Fold
c) $< 70^\circ - 30^\circ$ → Closed Fold
d) $< 30^\circ$ → Tight Fold

6) On the basis of Plunge / Attitude of fold

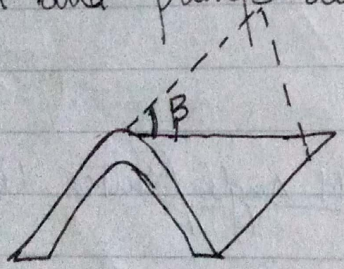
⇒ The attitude of the hinge fold is defined by two measurements :—

(i) The bearing or Strike of its horizontal projection

(ii) The plunge.

Plunging Fold → A fold is said to plunge if the axis is not horizontal. The amount of plunge being the angle between the axis and a horizontal line lying in a Common Vertical plane. The Axial plane is tapering and inclined plunge.

Pitch is the angle between a horizontal line and the axis measured on the axial plane, unless the axial plane is upright, pitch and plunge donot coincide.

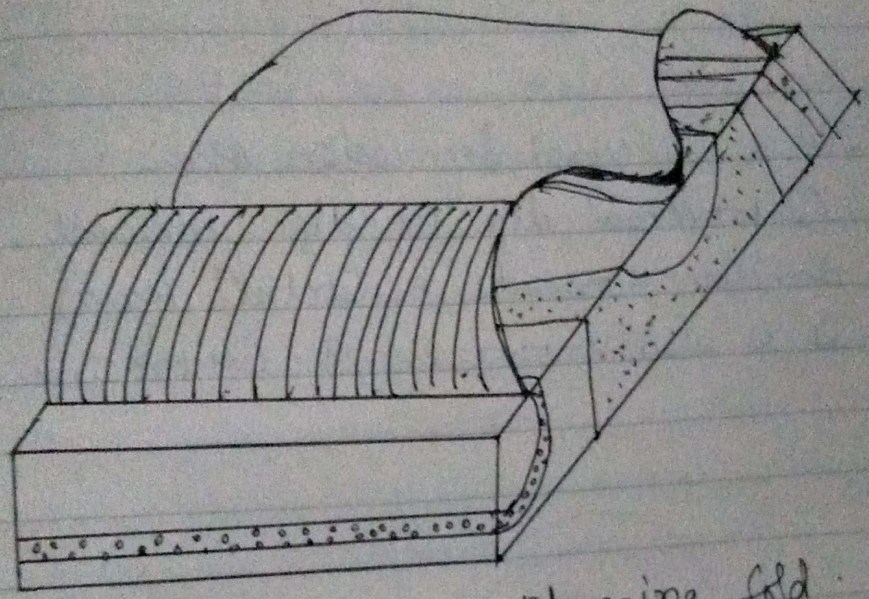


β - Angle of

→ The Axial plane is tapering and Inclined plunge.

(ii) Non-plunging Fold :→ When the axis of the fold ~~donot~~ doesnot dip in any direction, it is said to be non-plunging fold.

For symmetrical fold or non-plunging fold, the axial trace and the horizontal projection of the hinge coincide, but this not true if the axial plane is inclined and the fold plunges.

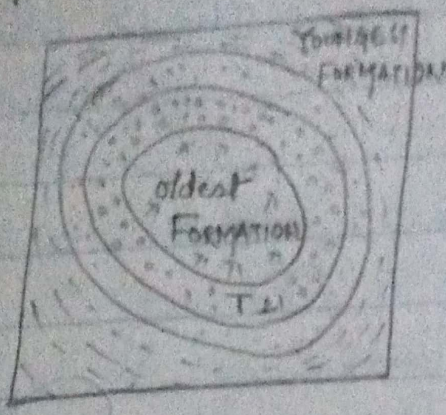


Non-plunging fold

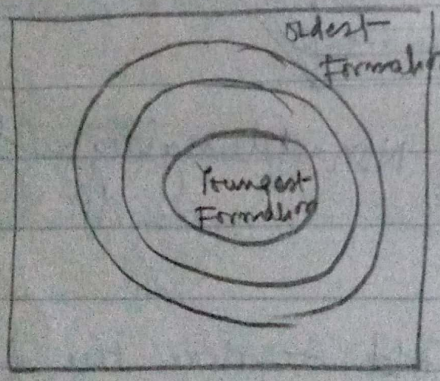
(iii) Doubly plunging Fold :- Here the fold reverses its direction of plunge within the limits of the area of under Consideration.

(iv) Periclinal Structure :- It Commonly includes two Structures namely; dome and basin.

Dome : It is an anticlinal uplift that has no distinct trend.
A dome is said to be known as periclline.



Basin : is a Synclinal depression with Centrovorsal dip i.e dip from all direction towards a Central region.
It is also known as a Centricline.



(v) Reclined fold → Here the axis plunges directly down the dip of the axial plane.

Effect on Out Crops :-

(i) Folds cause shortening of the crust of the earth and their subsequent thickening.

(ii) It usually observed that streams follows the axis portion of the anticlinal ridges and high-lands and domed-structure occurs along the axis of the synclines.

(iii) Repetitions of bed in their occurrence in the field, infers the presence of a fold.