Various patterns of Cleavage-

The repeated cleavage furrows produce a number of blastomeres which exhibit a specific pattern of arrangement. The following types of cleavage patterns have been studied in different mammals on various basis :-

1. **On The Basis Of cleavage furrow.**
2. **On The basis of fate of germ layers**
3. **On The Basis Of arrangement of the cells**

A. On The Basis of Cleavage furrow-

- **Holoblastic equal cleavage-**

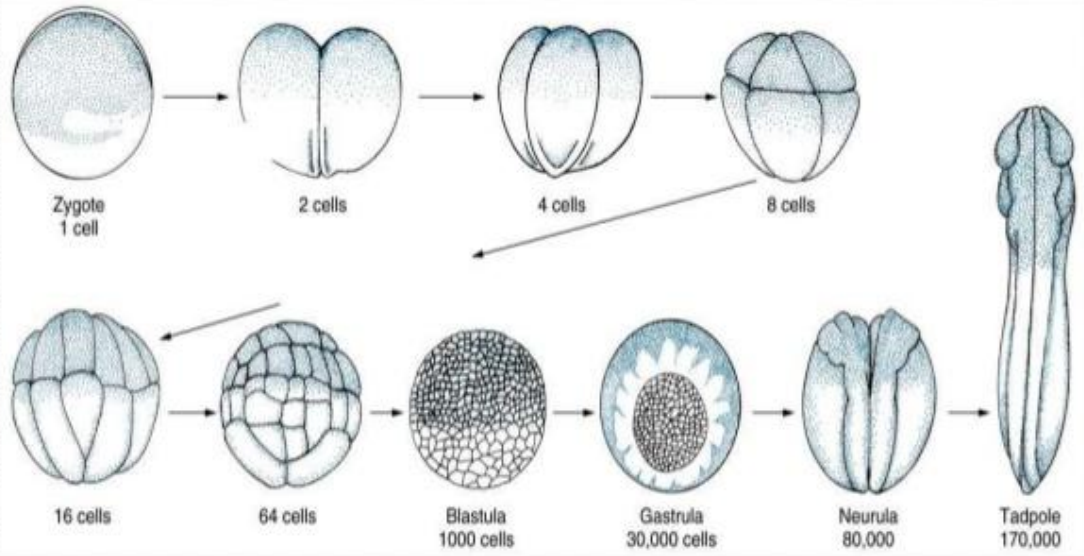
In this type of cleavage, the cleavage furrow extends completely through the entire length of the egg and bisects it into equal blastomeres. It occurs in microlecithal eggs.

❑ Holoblastic unequal cleavage-

In such type of cleavage the yolk is distributed along vegetal animal axis. The yolk is sparse in the animal pole and gradually increases towards the vegetal pole. The first and second furrow are laid down similar to those as in holoblastic equal cleavage. Third furrow is not equatorial but towards the animal pole producing 4 small cells in animal and 4 large cells in Vegetal hemisphere called **macromeres and megameres.**

This type of pattern is seen in lower fishes and amphibians.

Holoblastic cleavage



❑ Meroblastic cleavage or Discoidal cleavage-

It occurs in megalecithal or heavily telolecithal eggs, which have anormous amount of yolk. The active portion of the egg is confined to a small cytoplasmic region at the animal pole called the germinal disc or blastodisc. The cleavage furrows are restricted to the germinal disc, the yolk remains uncleaved.

The early blastomeres are incomplete and are continuous with the underlying yolk.

Examples- abairds, reptiles, bony fishes and monotreme eggs, elasmobranchs.

Meroblastic cleavage