

Practical No. 1

Aim : To study mitosis and meiosis.

Apparatus : Permanent slides of mitosis and meiosis, compound microscope.

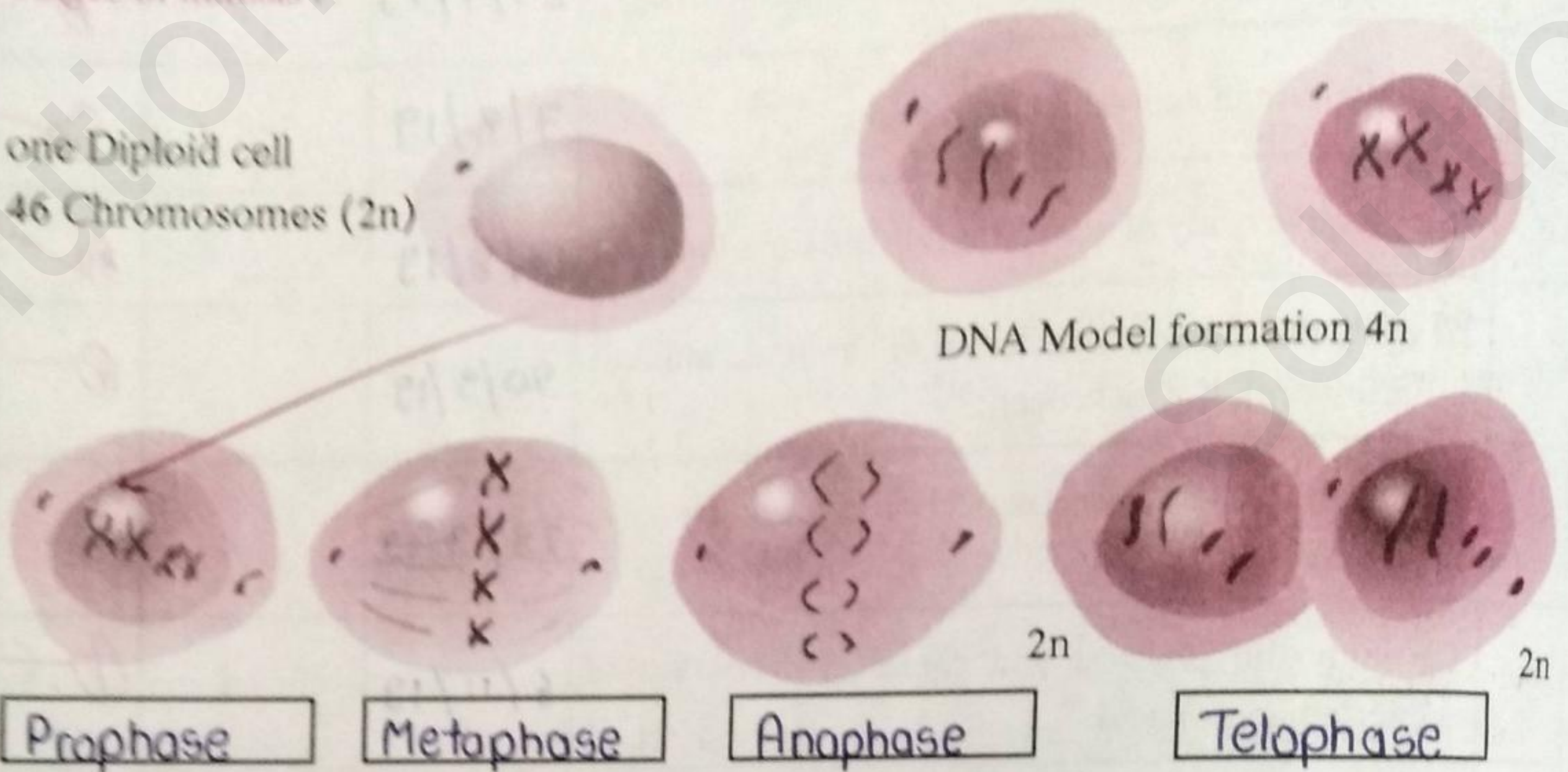
Procedure :

1. Observe the permanent slides showing different stages of mitosis, under compound microscope.
2. Repeat the same procedure for meiosis also.
3. Label the following diagrams:

Diagrams: (Label the following diagram.)

Stages of mitosis:

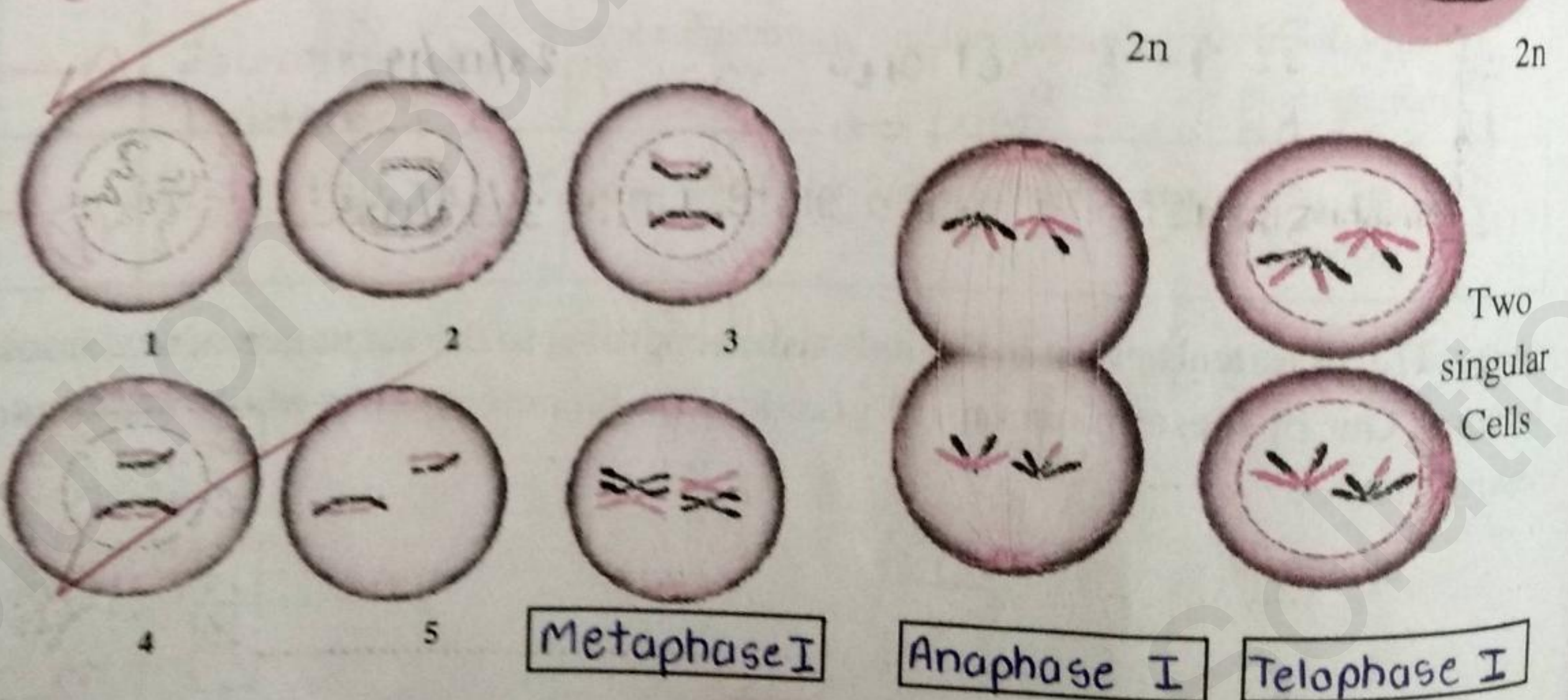
one Diploid cell
46 Chromosomes ($2n$)



DNA Model formation $4n$

Two Diploid cells
46 Chromosomes

Stages of meiosis:



Two singular Cells

Observations :

Main differences between mitosis and meiosis :

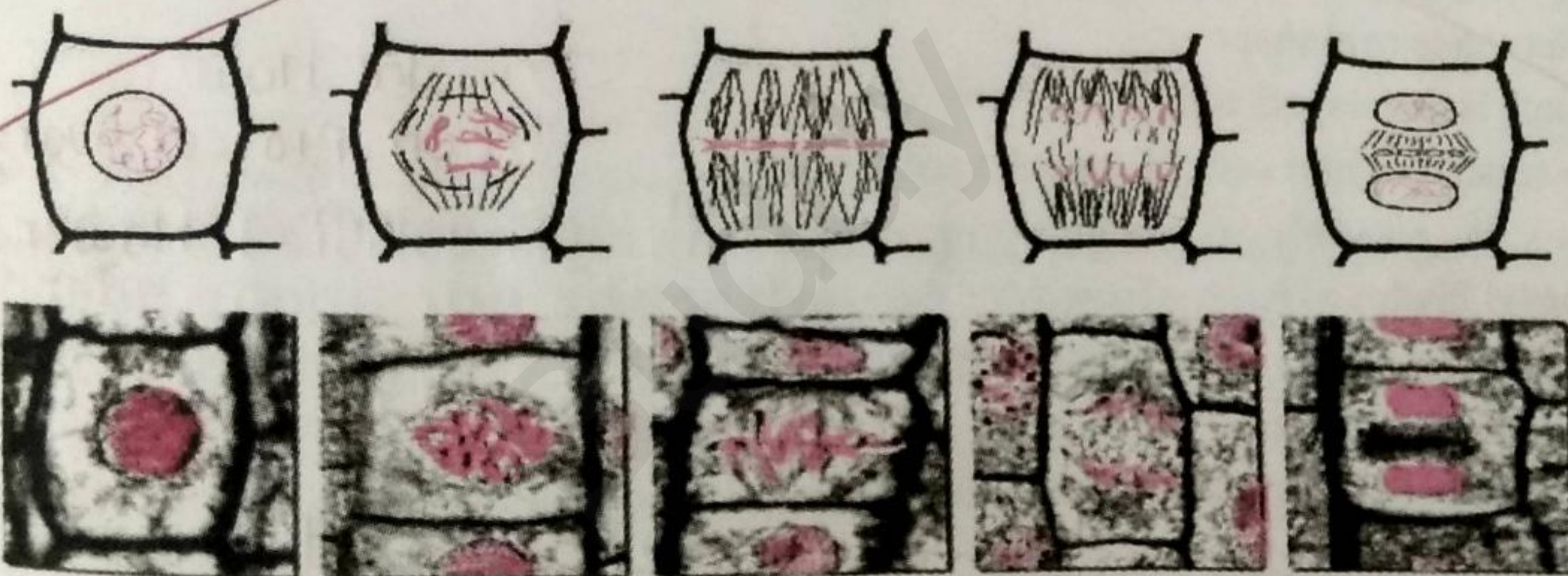
1. Mitosis happened in the somatic cell.
2. Meiosis happened in the germ cell.
3. In mitosis cell division somatic cell have 46 chromosomes.
4. In meiosis cell division, $4n$ chromosomes have been made.

Inference :

- 1) Due to mitosis the number of chromosomes in the cell n therefore, this division occurs in somatic cells.
- 2) Due to meiosis the number of chromosomes in the cell $2n$, so this division occurs in germ cells.

Multiple Choice Questions

1. A diploid cell means $2n$
a. n ☒ b. $2n$ c. $3n$ d. $4n$
2. In this stage of mitosis, the daughter chromosomes appear like bunch of bananas.
a. Prophase b. Metaphase ☒ c. Anaphase d. Telophase
3. During metaphase this change occurs in the chromosomes
a. get coil shape. ☒ b. arranged parallel to equatorial plane.
c. get destroyed due to breaking d. get folded.
4. How many times a cell will have to divide mitotically, to form 128 cells?
☒ a. 7 b. 14 c. 28 d. 32
5. Suppose, you have supplied with onion root to observe steps in cell division. If you want to count the number of chromosomes, which step will you observe?
a. Prophase ☒ b. Metaphase c. Anaphase d. Telophase



: Exercise :

1. What would have happened if meiosis not occur during the production of human sperm cell and egg cell?

In the meiosis crossing over is happened with new cell organisation. Without them, reproduction is not happened.

Remark and Signature 