

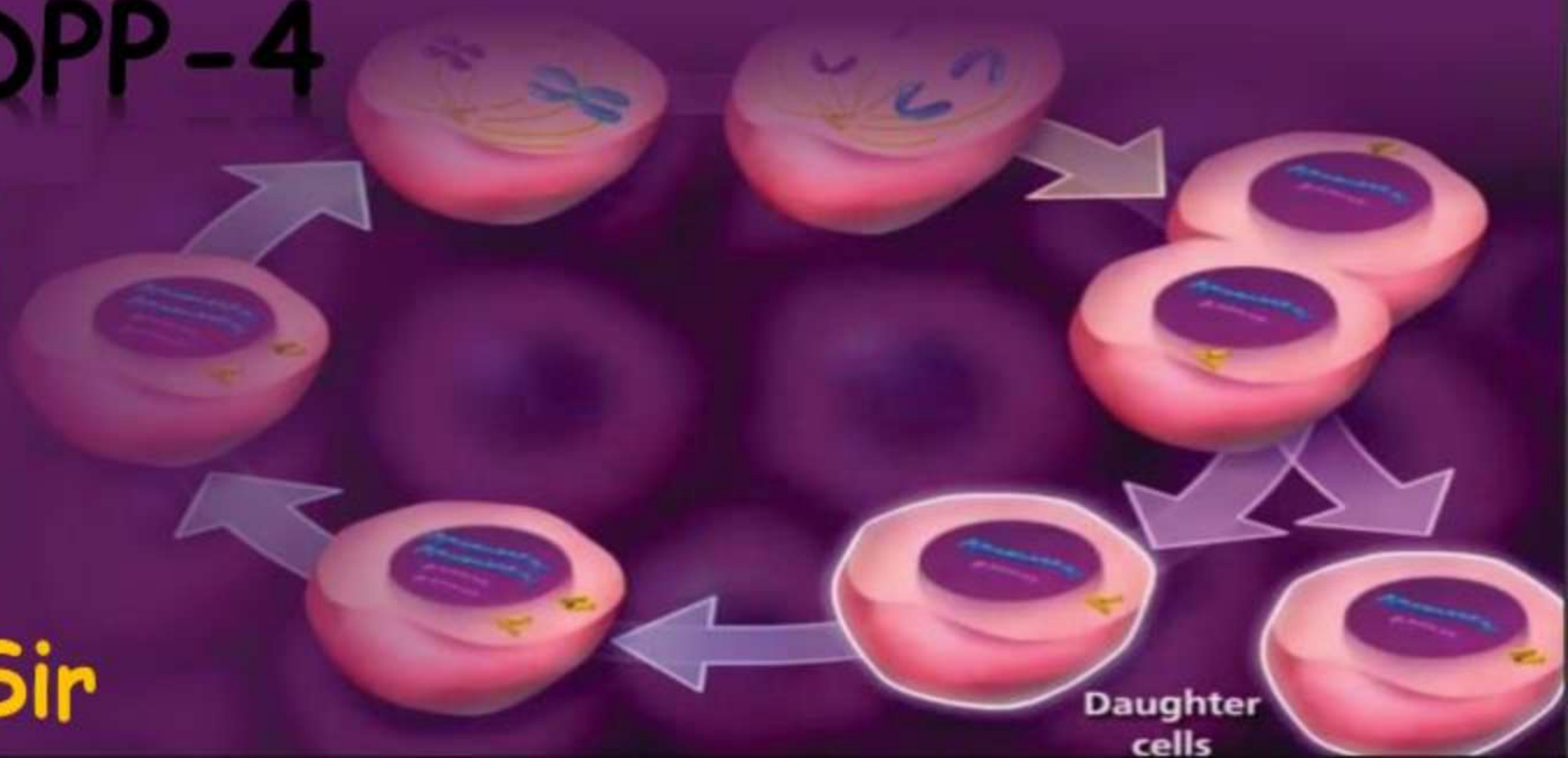


ARJUNA NEET BATCH



CELL CYCLE AND CELL DIVISION

DPP-4



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Q1. Which of the following is not a significance of Mitosis?

A. Repair (T)

B. Growth (T)

C. Maintenance of nucleocytoplasmic ratio (T)

☒ D. Maintenance of chromosome number generation after generation (F)

↳ meiosis





Q2. How many rounds of DNA replication takes in Meiosis?

A. 1

B. 2

C. 4

D. Zero



Q3. Which of the following event takes place in zygotene?

- A. Crossing over (pachytene) B. Formation of bivalents ✓
C. Synapsis ✓ D. More than one ✓

zygotene → Synapsis
↓
bivalent



Q4. Which of the following process is responsible for producing genetic recombination?

- A. Synapsis ✗
- B. Chiasmata ✗
- C. Crossing over ✓
- D. Exchange of segments of sister chromatids between homologous chromosomes ✗

→ crossing over





Q5. In which phase terminalization of chiasmata takes place?

A. Zygotene

B. Leptotene

C. Diakinesis

D. Diplotene





$$\rightarrow n = 10$$

Q6. If a gamete has 10 chromosomes then how many bivalents will be produced in its corresponding meiocyte during meiosis?

$$2n$$

☒ A. 10
C. 30

B. 20
D. 40

$$\text{bivalent} = n$$
$$(\text{if meiocyte} \rightarrow 2n)$$





$$n \rightarrow \underline{\underline{20}}$$

Q7. If a gamete has 20 chromosomes then how many chromatids will be there in pachytene phase in its corresponding meiocyte?

A. 20

B. 10

C. 40

D. 80

$$2n = 40$$

$$\text{chromatid} \Rightarrow 40 \times 2 = 80$$

or

$$\text{bivalent} = \text{tetrad} = n = 20$$

$$\therefore \text{chromatid} = 20 \times 4 = 80$$



Q8. How many rounds of nuclear division takes place in meiosis?

A. 1

☒ B. 2

C. 4

D. zero





Q9. In which of the following phase recombination nodule appears?

A. Zygotene
C. Pachytene

B. Leptotene
D. Diplotene

crossing over
↓
pachytene



Q10. Which of the following get separated in anaphase I?

- A. Sister chromatids ✗
- B. Homologous chromosomes ✓
- C. Nonhomologous chromosomes ✗
- D. More than one

anaphase → sister chromatids

ana I → homologous chromosomes

ana II → sister chromatids.



Q11. Chromosomes appear X shaped in

A. Leptotene

☒ C. Diplotene

B. Zygotene

D. Diakinesis

due
to
↓
chiasmata
↓
diplotene



Q12. A bivalent contains

- A. Two homologous chromosomes ☒
- B. 4 chromatids ☒
- C. 2 centromeres ☒
- D. All of the above ☒



Q13. How many metaphasic plates are formed in metaphase I?

A. 1

~~B. 2~~

C. 4

D. 0

<u>phases</u>	<u>metaphic plate formed</u>
metaphase	→ 1
metaphase I	→ 2
metaphase II	→ 1





Q14. When does desynapsis start?

A. Zygotene

B. Pachytene

☒ C. Diplotene

D. Diakinesis



Q15. Prophase I is relatively as compared to prophase of mitosis

- A. Simple ✗
- B. Shorter ✗
- C. Longer ✓
- D. Longer and complex ✓





Thank You ਕਰਦੀਆਂ

