



Yakeen NEET 2.0 - 2026

Cell Cycle and Cell Division Botany By Rupesh Chaudhary Sir

Practice Sheet - 03

1. Metaphase -1
 - (A) bivalent chromosome aligned on one plate
 - (B) microtubule attach to centromere of homologous chromosome
 - (C) Both incorrect
 - (D) Both correct
2. Correct
 - (A) homologous chromosome separation
 - (B) splitting of centromere
 - (C) chromosome number same in both metaphase-1 @ anaphase -1
 - (D) both (A) & (C) are correct
3. Telophase -1
 - (A) nuclear membrane disappear
 - (B) tetrad of cell are formed
 - (C) chromosome do not undergoes dispersion
 - (D) chromosome do not reach the extended state of interphase nucleus
4. Interkinesis
 - (A) stage between two mitosis
 - (B) similar to interphase
 - (C) long lived
 - (D) centriole duplication and DNA replication
 - (E) all are incorrect
5. Diakinesis
 - (A) final stage of mitotic prophase -1
 - (B) terminalisation of chiasmata
 - (C) chromosome fully condensed but spindle not formed
 - (D) transition to metaphase -2
 - (E) by early diakinesis nucleolus nuclear membrane disappear
 - (F) all are incorrect
6. Diplotene
 - (A) dissolution of synaptonemal complex in late of this stage
 - (B) chiasmata formed
 - (C) in oocyte of some invertebrate, it last for month or year
 - (D) all are incorrect
7. Leptotene (Incorrect)
 - (A) Chromosome not visible
 - (B) chromosome viable in light microscope
 - (C) short lived
 - (D) compaction of chromosome continue
8. Zygotene
 - (A) second stage of prophase -2
 - (B) pairing of chromosome -synapsis
 - (C) Paired chromosome called non homologous chromosomes
 - (D) complex formed by homologous chromosome is bivalent or tetrad which is clearly visible
 - (E) synaptonemal complex formed lipid in nature
9. Pachytene
 - (A) first two stage of prophase -2 is short lived
 - (B) tetrad is clearly visible in form of two chromatid
 - (C) recombination nodule formed where mutation occur
 - (D) crossing over is exchange of genetic material between sister chromatid of homologous chromosome
 - (E) None
10. Pachytene
 - (A) Recombinase not involved
 - (B) Recombination completed by early Pachytene
 - (C) prophase of first meiotic is longer and complex compare to prophase of mitosis
 - (D) Both (B) & (C) are correct

11. Prophase -2
 (A) Meiosis - 2 initiated immediately after cytokinesis before chromosome fully elongated
 (B) meiosis - 2 resemble to mitosis
 (C) nuclear membrane reappear
 (D) chromosome become elongated
 (E) Both (C) & (D) are incorrect
12. Metaphase -2 (Incorrect)
 (A) chromosome on equator
 (B) 2 plates are formed
 (C) spindle attach to kinetochore of non sister chromatid
 (D) Both (B) & (C) are incorrect
13. Anaphase - 2
 (A) splitting of centromere
 (B) chromosome move towards opposite pole
 (C) shortening of microtubule
 (D) all are correct
14. Telophase -2
 (A) mitosis end with telophase - 2
 (B) tetrad of cells are formed
 (C) all four haploid cells are similar to each other and parent
 (D) nuclear membrane disappear
15. How many statement are correct
 A. In animal cell cytokinesis occur due to furrow formation in cell membrane
 B. Furrow move centre to periphery
 C. Furrow gradually deepens and join in centre
 D. Plant cell wall is extensible
 E. In plant cell, wall formation start in centre and grow periphery or outward to meet existing lateral wall
 F. The formation of new cell wall begins with simple percuter called middle lamella
 G. At the end of cytokinesis organelle Like Mitochondria & plastid distributed between two daughter cell
- Option
 (A) 4 (B) 5
 (C) 3 (D) 6
16. Syncytium
 (A) Karyokinesis is not followed by cytokinesis
 (B) Multinucleated condition arise
 (C) Liquid endosperm in coconut
 (D) All of these
17. How many statement are correct
 A. Mitosis produce diploid daughter cell with non identical genetic complement
 B. Growth of multicellular organism due to meiosis
 C. Cell growth results in disturbing ratio between nucleus and cytoplasm so cell divide to maintain or restore nucleocytoplasmic ratio
 D. Mitosis do not contribute in cell repair
 E. Cell of upper layer of epidermis. Cells lining gut, blood vessel Are being constantly replaced
 F. Mitosis occur in meristematic tissue -apical and lateral cambium result in limited growth of plant throughout their life
- Options
 (A) 5 (B) 4
 (C) 3 (D) 2
18. Correct statement
 (A) Mitosis is equational division restricted to haploid cell only
 (B) In some lower plant and social insect haploid cell also divide by meiosis
 (C) Both are correct
 (D) None
19. How many statement are correct
 A. Nuclear and cytoplasm division occur twice
 B. Cell division occur twice
 C. DNA Replication occur twice and centriole duplication single
 D. Meiosis involve meiosis 1 and meiosis 2 only
 E. Two haploid cells are formed at end of meiosis -1
 F. Four haploid cell Are formed at end of meiosis - 2
 G. Meiosis initiated after duplication of parental chromosome (DNA) in S phase where identical sister chromatid produce
- Options
 (A) 6 (B) 5
 (C) 4 (D) 3

20. How many statement are correct statement

- A. The production of offspring by sexual reproduction include fusion of gamete, each with diploid set of chromosome
- B. Gamete formed by haploid cell
- C. Meiosis maintain the same chromosome number & produce haploid daughter cell
- D. Meiosis ensure haploid phase in life cycle of sexually reproducing organism & fertilisation restore the diploid phase in progeny
- E. Meiosis occur during gametogenesis in plants & animal
- F. Meiosis produce diploid gametes

- (A) 5
- (B) 4
- (C) 3
- (D) 2

21. Significance of meiosis

- (A) Conservation of chromosome number from generation to generation in sexually reproducing organism even though process paradoxically result in reduction of chromosome number by half
- (B) Genetic variability
- (C) Evolution
- (D) All



Answer Key

- | | |
|---------|---------|
| 1. (C) | 12. (D) |
| 2. (D) | 13. (D) |
| 3. (D) | 14. (B) |
| 4. (E) | 15. (A) |
| 5. (B) | 16. (D) |
| 6. (B) | 17. (D) |
| 7. (A) | 18. (D) |
| 8. (B) | 19. (A) |
| 9. (E) | 20. (D) |
| 10. (C) | 21. (D) |
| 11. (E) | |



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