CLASS XI BIO CH:10

Set 1 – Cell Cycle and Cell Division

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1. The sequence of events by which a cell duplicates its genome and divides is known as —
A) Mitosis B) Meiosis C) Cell cycle D) Cytokinesis

2. The term "cell cycle" was given by —
A) Howard and Pelc B) Flemming C) Strasburger D) Sutton

3. Cell cycle consists of —
A) Interphase and M phase B) M phase and C phase C) G phase and S phase D) None

4. The interphase is also known as —
A) Resting phase B) Division phase C) Spindle phase D) Duplication phase

5. The interphase includes —
A) G_1, G_2, S phases B) G_1, S, G_2 phases C) M, C, S phases D) G_1, M, S phases

6. DNA replication occurs during —
A) G_1 phase B) G_2 phase C) S phase D) M phase

7. In animal cells, centriole duplication occurs during —
A) G_1 phase B) S phase C) G_2 phase D) M phase

8. The M phase includes —
A) Cytokinesis only B) Karyokinesis only C) Karyokinesis and Cytokinesis D) G_1 and G_2 phases

9. The G_1 phase is also called —
A) Post-mitotic gap phase B) Pre-mitotic gap phase C) Synthetic phase D) Resting phase

10. The G_2 phase is called —
A) Pre-mitotic gap phase B) Post-mitotic gap phase C) Resting phase D) Replicating phase

11. During G_2 phase —
A) DNA replication occurs B) Protein synthesis occurs C) Chromosome condensation occurs D) Nuclear envelope breaks

12. The M phase (mitosis) is divided into —
A) 2 phases B) 3 phases C) 4 phases D) 5 phases

13. The four stages of mitosis are —
A) Prophase, Metaphase, Anaphase, Telophase B) G_1, S, G_2, M C) Interphase, Prophase, Metaphase, Cytokinesis D) None

14. The mitosis which occurs in somatic cells is called —
A) Meiotic division B) Somatic division C) Equational division D) Reduction division

15. Mitosis maintains —
A) Same chromosome number as parent B) Half chromosome number C) Double chromosome number D) None

16. Mitosis was first observed by —
A) Walther Flemming B) Howard C) Sutton D) Mendel

17. The word “mitosis” was coined by —
A) Flemming B) Strasburger C) Farmer and Moore D) Sutton

18. In which phase of mitosis do chromosomes become visible?
A) Prophase B) Metaphase C) Anaphase D) Telophase

19. The nuclear membrane and nucleolus disappear during —
A) Prophase B) Metaphase C) Anaphase D) Telophase

20. Chromosomes align at the equatorial plate during —
A) Prophase B) Metaphase C) Anaphase D) Telophase

21. The spindle fibers attach to chromosomes at —
A) Centriole B) Centromere C) Chromatid D) Chromonema

22. Chromatids separate and move to opposite poles during —
A) Prophase B) Metaphase C) Anaphase D) Telophase

23. Reformation of the nuclear membrane occurs during —
A) Prophase B) Metaphase C) Anaphase D) Telophase

24. Cytokinesis is division of —
A) Nucleus B) Cytoplasm C) Chromosomes D) Cell wall

25. In plant cells, cytokinesis occurs by formation of —
A) Cell plate B) Cleavage furrow C) Contractile ring D) Plasma bridge

26. In animal cells, cytokinesis occurs by formation of —
A) Cell plate B) Cleavage furrow C) Cell wall D) Septum

27. The significance of mitosis is —
A) Growth B) Repair C) Asexual reproduction D) All of these

28. The duration of cell cycle in human cells is approximately —
A) 12 hours B) 24 hours C) 48 hours D) 72 hours

29. The stage at which chromosomes appear as thin, long threads —
A) Interphase B) Prophase C) Metaphase D) Telophase

30. In mitosis, daughter cells have —
A) Same genetic material as parent B) Different genes C) Half genes D) New genome

31. Meiosis occurs in —
A) Somatic cells B) Germ cells C) Nerve cells D) Muscle cells

32. Meiosis results in —
A) 2 diploid cells B) 4 haploid cells C) 2 haploid cells D) 4 diploid cells

33. Meiosis I is called —
A) Reductional division B) Equational division C) Resting division D) None

34. Meiosis II is called —
A) Reductional division B) Equational division C) Resting division D) Synapsis division

35. Pairing of homologous chromosomes is known as —
A) Synapsis B) Crossing over C) Zygotene D) Diplotene

36. Synapsis occurs during —
A) Leptotene B) Zygotene C) Pachytene D) Diplotene

37. Crossing over occurs during —
A) Leptotene B) Zygotene C) Pachytene D) Diplotene

38. Chiasmata are formed during —
A) Pachytene B) Diplotene C) Diakinesis D) Zygotene

39. Terminalization of chiasmata occurs in —
A) Leptotene B) Pachytene C) Diplotene D) Diakinesis

40. The number of divisions in meiosis is —
A) One B) Two C) Three D) Four

41. The number of nuclear divisions in mitosis is —
A) One B) Two C) Three D) Four

42. The chromosome number is reduced to half during —
A) Mitosis B) Meiosis I C) Meiosis II D) Cytokinesis

43. The chromosome number remains constant during —
A) Meiosis I B) Meiosis II C) Mitosis D) None

44. Which of the following is not a part of the cell cycle?
A) G_1 B) S C) M D) Z

45. G_0 phase is —
A) Active phase of cell division B) Resting phase C) Dormant phase where cells exit cycle D) Phase of DNA replication

46. Cells that do not divide are in —
A) G_0 phase B) G_1 phase C) S phase D) G_2 phase

47. In meiosis, homologous chromosomes separate during —
A) Anaphase I B) Anaphase II C) Metaphase I D) Telophase I

48. Sister chromatids separate during —
A) Anaphase I B) Anaphase II C) Metaphase I D) Telophase II

49. Meiosis occurs during formation of —
A) Gametes B) Somatic cells C) Skin cells D) Nerve cells

50. Significance of meiosis is —
A) Genetic variation B) Maintenance of chromosome number C) Gamete formation D) All of these

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✅ Answer Key (Set 1)

1-C, 2-A, 3-A, 4-A, 5-B, 6-C, 7-B, 8-C, 9-A, 10-A,
11-B, 12-C, 13-A, 14-C, 15-A, 16-A, 17-A, 18-A, 19-A, 20-B,
21-B, 22-C, 23-D, 24-B, 25-A, 26-B, 27-D, 28-B, 29-A, 30-A,
31-B, 32-B, 33-A, 34-B, 35-A, 36-B, 37-C, 38-B, 39-D, 40-B,
41-A, 42-B, 43-C, 44-D, 45-C, 46-A, 47-A, 48-B, 49-A, 50-D.