

# Bio 100 -Chapter 18

Student: \_\_\_\_\_

1. Programmed cell death is called
  - A.mitosis
  - B.cytokinesis
  - C.apoptosis
  - D.interphase
2. Apoptosis is critical for
  - A.cell division to occur correctly
  - B.removing cells which are dividing when they should not
  - C.spermatogenesis
  - D.DNA synthesis
3. A photograph of cellular chromosomes taken just prior to division and arranged in pairs is called:
  - A.micrograph
  - B.chromograph
  - C.karyotype
  - D.photochromograph
4. The normal cycle of events whereby a cell grows and divides is called:
  - A.the circle of life
  - B.the cell cycle
  - C.cytotropism
  - D.cytogenesis
5. The interval of time between cell divisions is called:
  - A.interphase
  - B.cytokinesis
  - C.cellular streaming
  - D.furrowing

6. The cell cycle consists of:
- A.mitosis and meiosis
  - B.interphase, cytokinesis and mitosis
  - C.mitosis and cell death
  - D.meiosis and cell death
7. Interphase:
- A.is truly a resting stage
  - B.is a time of DNA replication
  - C.has cellular activity before DNA replication
  - D.is a time of DNA replication and cellular activity before DNA replication
8. Cells that are about to divide contain:
- A. $3n$  chromosomes
  - B. $1n$  chromosomes
  - C.two nuclei
  - D.duplicated chromosomes
9. In a non-dividing cell, the nucleus contains indistinct and diffuse chromatin, but in a dividing cell, these become short and thick and are called:
- A.genes
  - B.DNA
  - C.chromosomes
  - D.chromatin
  - E.chromogen
10. Chromatids within a replicated chromosome are held together by a:
- A.centriole
  - B.centromere
  - C.chromocenter
  - D.spindle fiber

11. Mitosis is characterized by four stages. Place these in chronological order:
- A. anaphase, prophase, telophase, metaphase
  - B. prophase, telophase, metaphase, anaphase
  - C. prophase, metaphase, anaphase, telophase
  - D. telophase, metaphase, anaphase, prophase
12. The structures that begin to attach to centromeres as the chromosomes continue to shorten and thicken during prophase are:
- A. asters
  - B. chromatin
  - C. centromeres
  - D. spindle fibers
13. Mitosis is NOT associated with:
- A. a body cell
  - B. tissue repair
  - C. the zygote
  - D. sperm and egg production
14. In this phase, chromosomes arrive at the poles and an indentation passes around the circumference of the cell:
- A. interphase
  - B. prophase
  - C. metaphase
  - D. anaphase
  - E. telophase
15. Pairs of similar chromosomes are called:
- A. tetrads
  - B. homologous
  - C. bifurcates
  - D. replicants

16. In meiosis, the process of homologous chromosomes lining up together side-by-side is called:
- A.tetrad
  - B.synapsis
  - C.alignment
  - D.crossing-over
17. Homologous chromosomes separate during which phase of meiosis:
- A.metaphase I
  - B.anaphase I
  - C.telophase I
18. The cells resulting from meiotic division are called:
- A.parent cells
  - B.daughter cells
  - C.autosomic cells
  - D.dyad pairs
  - E.homozygous cells
19. In the beginning of meiosis II, each chromosome is duplicated and attached. These chromosomes are called:
- A.homologous chromosomes
  - B.tetrads
  - C.autosomic chromosomes
  - D.sister chromatids
  - E.sister chromosomes
20. In prophase of meiosis I, homologous chromosomes form groupings called:
- A.dyads
  - B.tetrads
  - C.synapsis
  - D.di-kinases
  - E.di-hybrid crosses

21. Crossing-over:
- A.is a way to recombine the genetic material during meiosis
  - B.causes mutagens
  - C.occurs during interphase
  - D.is associated with mitosis
22. During crossing-over:
- A.exchange of genetic material occurs
  - B.sister chromatids duplicate genetic material
  - C.all chromatids shuffle their own genetic material
  - D.chromosomes align in parallel
23. A single diploid cell is divided into four haploid cells in:
- A.meiosis only
  - B.mitosis only
  - C.both meiosis and mitosis
24. Choose the following description of a polar body that is the most accurate.
- A.a small, malformed sperm formed during spermatogenesis
  - B.a small daughter cell formed during oogenesis
  - C.a small malformed sperm formed during oogenesis
  - D.a small daughter cell formed during spermatogenesis
25. Following mitosis, a human cell:
- A.is  $2N$
  - B.has 23 pairs of homologous chromosomes
  - C.has either an X or Y
  - D.is both  $2N$  and has 23 pairs of homologous chromosomes
26. An inactive X chromosome is called a
- A.Down body
  - B.Jacobs body
  - C.Barr body
  - D.Trisome body

27. Trisomy 21 is more commonly known as:

- A. Turner syndrome
- B. cri-du-chat
- C. Klinefelter's
- D. Down syndrome
- E. Duchene disorder

28. Turner syndrome individuals have which genotype?

- A. XXY
- B. XO
- C. XYY

# Bio 100 -Chapter 18 **Key**

1. Programmed cell death is called

- a. mitosis
- b. cytokinesis
- C** apoptosis
- d. interphase

*Mader - 018 Chapter... #1*

2. Apoptosis is critical for

- a. cell division to occur correctly
- B** removing cells which are dividing when they should not
- c. spermatogenesis
- d. DNA synthesis

*Mader - 018 Chapter... #2*

3. A photograph of cellular chromosomes taken just prior to division and arranged in pairs is called:

- a. micrograph
- b. chromograph
- C** karyotype
- d. photochromograph

*Mader - 018 Chapter... #3*

4. The normal cycle of events whereby a cell grows and divides is called:

- a. the circle of life
- B** the cell cycle
- c. cytotropism
- d. cytogenesis

*Mader - 018 Chapter... #5*

5. The interval of time between cell divisions is called:

- A** interphase
- b. cytokinesis
- c. cellular streaming
- d. furrowing

*Mader - 018 Chapter... #6*

6. The cell cycle consists of:

- a. mitosis and meiosis
- B** interphase, cytokinesis and mitosis
- c. mitosis and cell death
- d. meiosis and cell death

*Mader - 018 Chapter... #8*

7. Interphase:

- a. is truly a resting stage
- b. is a time of DNA replication
- c. has cellular activity before DNA replication
- D** is a time of DNA replication and cellular activity before DNA replication

*Mader - 018 Chapter... #9*

8. Cells that are about to divide contain:

- a.  $3n$  chromosomes
- b.  $1n$  chromosomes
- c. two nuclei
- D** duplicated chromosomes

*Mader - 018 Chapter... #10*



9. In a non-dividing cell, the nucleus contains indistinct and diffuse chromatin, but in a dividing cell, these become short and thick and are called:
- a. genes
  - b. DNA
  - C** chromosomes
  - d. chromatin
  - e. chromogen

*Mader - 018 Chapter... #12*

10. Chromatids within a replicated chromosome are held together by a:
- a. centriole
  - B** centromere
  - c. chromocenter
  - d. spindle fiber

*Mader - 018 Chapter... #15*

11. Mitosis is characterized by four stages. Place these in chronological order:
- a. anaphase, prophase, telophase, metaphase
  - b. prophase, telophase, metaphase, anaphase
  - C** prophase, metaphase, anaphase, telophase
  - d. telophase, metaphase, anaphase, prophase

*Mader - 018 Chapter... #16*

12. The structures that begin to attach to centromeres as the chromosomes continue to shorten and thicken during prophase are:
- a. asters
  - b. chromatin
  - c. centromeres
  - D** spindle fibers

*Mader - 018 Chapter... #19*

13. Mitosis is NOT associated with:

- a. a body cell
- b. tissue repair
- c. the zygote
- D** sperm and egg production

*Mader - 018 Chapter... #21*

14. In this phase, chromosomes arrive at the poles and an indentation passes around the circumference of the cell:

- a. interphase
- b. prophase
- c. metaphase
- d. anaphase
- E** telophase

*Mader - 018 Chapter... #29*

15. Pairs of similar chromosomes are called:

- a. tetrads
- B** homologous
- c. bifurcates
- d. replicants

*Mader - 018 Chapter... #32*

16. In meiosis, the process of homologous chromosomes lining up together side-by-side is called:

- a. tetrad
- B** synapsis
- c. alignment
- d. crossing-over

*Mader - 018 Chapter... #33*

17. Homologous chromosomes separate during which phase of meiosis:

- a. metaphase I
- B** anaphase I
- c. telophase I

*Mader - 018 Chapter... #37*

18. The cells resulting from meiotic division are called:

- a. parent cells
- B** daughter cells
- c. autosomic cells
- d. dyad pairs
- e. homozygous cells

*Mader - 018 Chapter... #40*

19. In the beginning of meiosis II, each chromosome is duplicated and attached. These chromosomes are called:

- a. homologous chromosomes
- b. tetrads
- c. autosomic chromosomes
- D** sister chromatids
- e. sister chromosomes

*Mader - 018 Chapter... #41*

20. In prophase of meiosis I, homologous chromosomes form groupings called:

- a. dyads
- B** tetrads
- c. synapsis
- d. di-kinases
- e. di-hybrid crosses

*Mader - 018 Chapter... #42*

21. Crossing-over:

- A** is a way to recombine the genetic material during meiosis
- b. causes mutagens
- c. occurs during interphase
- d. is associated with mitosis

*Mader - 018 Chapter... #52*

22. During crossing-over:
- A** exchange of genetic material occurs
  - b. sister chromatids duplicate genetic material
  - c. all chromatids shuffle their own genetic material
  - d. chromosomes align in parallel

*Mader - 018 Chapter... #54*

23. A single diploid cell is divided into four haploid cells in:
- A** meiosis only
  - b. mitosis only
  - c. both meiosis and mitosis

*Mader - 018 Chapter... #58*

24. Choose the following description of a polar body that is the most accurate.
- a. a small, malformed sperm formed during spermatogenesis
  - B** a small daughter cell formed during oogenesis
  - c. a small malformed sperm formed during oogenesis
  - d. a small daughter cell formed during spermatogenesis

*Mader - 018 Chapter... #65*

25. Following mitosis, a human cell:
- A** is 2N
  - b. has 23 pairs of homologous chromosomes
  - c. has either an X or Y
  - d. is both 2N and has 23 pairs of homologous chromosomes

*Mader - 018 Chapter... #67*

26. An inactive X chromosome is called a
- a. Down body
  - b. Jacobs body
  - C** Barr body
  - d. Trisome body

*Mader - 018 Chapter... #69*

27. Trisomy 21 is more commonly known as:

- a. Turner syndrome
- b. cri-du-chat
- c. Klinefelter's
- D** Down syndrome
- e. Duchene disorder

*Mader - 018 Chapter... #72*

28. Turner syndrome individuals have which genotype?

- a. XXY
- B** XO
- c. XYY

*Mader - 018 Chapter... #86*

# Bio 100 -Chapter 18 Summary

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