

BIOLOGY

1. A person has blood group type B. What could be the genotype of this person?
 - A) BO
 - B) AB
 - C) BB
 - D) Answers A, B and C are correct
 - E) Answers A and C are correct

2. What will enable you to distinguish between a prokaryote and a eukaryote?
 - A) Presence or absence of a rigid cell wall
 - B) Presence or absence of ribosomes
 - C) Presence or absence of a nucleus with nuclear envelope
 - D) Presence or absence of electron transport chain
 - E) None of the above is correct

3. Which statement is **false** about eukaryotic DNA?
 - A) The strands go in opposite directions
 - B) It is circular
 - C) It contains two strands
 - D) Purine bases are complement to pyrimidine bases
 - E) It is replicated in the S phase of the cell cycle

4. What do we call a molecule containing a purine or pyrimidine base, a sugar residue and a phosphate group?
 - A) nucleolus
 - B) nucleosome
 - C) nucleotide
 - D) nucleoside
 - E) nucleoli

5. For a trait that is inherited in a monogenic way, one parent is homozygote recessive and the other parent is heterozygote. What is the ratio of the possible genotypes in their children?
 - A) 100% heterozygote.
 - B) 25% homozygote recessive, 50% heterozygote, 25% homozygote dominant.
 - C) It cannot be predicted.
 - D) 50% heterozygote, 50% homozygote recessive.
 - E) 75% heterozygote, 25% homozygote dominant.

6. Which of the following is not a digestive enzyme?
- A) Bile
 - B) Salivary amylase
 - C) Pancreatic amylase
 - D) Lipase
 - E) Pepsin
7. The correct order of the phases of mitosis is
- A) Prophase, anaphase, metaphase, telophase
 - B) Telophase, prophase, metaphase, anaphase
 - C) Prophase, anaphase, telophase, metaphase
 - D) Prophase, metaphase, telophase, anaphase
 - E) Prophase, metaphase, anaphase, telophase
8. Which of the following statements is **false**?
- A) Glycogen is built up from glucoses.
 - B) Phospholipids are built up from glycerol and 3 fatty acids.
 - C) Cellulose is built up from glucoses.
 - D) Starch is built up from glucoses.
 - E) Polypeptide chains are built up from amino acids.
9. Pyruvic acid (pyruvate) is the end product of
- A) lactic acid fermentation.
 - B) formation of acetyl coenzyme A.
 - C) citric acid cycle.
 - D) glycolysis.
 - E) none of the above.
10. Which hormone decreases blood glucose level?
- A) Cortisol
 - B) Insulin
 - C) Epinephrine (adrenalin)
 - D) TSH
 - E) Glucagon
11. On which day of the ovarian cycle does ovulation occur in a woman?
- A) On day 0
 - B) On dag 1
 - C) On day 14
 - D) On day 28
 - E) On day 30

12. Which of the following is not a function of the liver?

- A) Synthesis of immunoglobulins
- B) Synthesis of urea
- C) Detoxification of certain drugs
- D) Deamination of amino acids
- E) Storage of glycogen

13. Which statement is **false**?

- A) The cell membrane consists of two phospholipid layers.
- B) Mitochondria have an outer and an inner membrane.
- C) The nucleus is surrounded by a double-membrane.
- D) The cell membrane consists of two phospholipid bilayers.
- E) Centrosomes are not surrounded by any membrane.

14. Which type of bond is responsible for formation of the primary structure of a protein?

- A) Peptide bond
- B) H-bond
- C) Ionic bond
- D) Glycosidic bond
- E) Ester bond

15. During G1 , S and G2 phases, a cell is said to be in:

- A) The process of mitosis
- B) The process of meiosis
- C) Interphase
- D) Cytokinesis
- E) Apoptosis

16. Which statement is true about smooth endoplasmic reticulum?

- 1. It contains ribosomes on the surface.
- 2. Phospholipids synthesis takes place here.
- 3. It is the place of intracellular digestion.
- 4. It is an intracellular membrane system.
- 5. Steroid synthesis takes place here.

A. 1,2,3 B. 2,4,5 C. 2,3,4 D. 1,5 E. 3

17. Which of the following hormones are steroids?

1. Estrogen
2. Progesterone
3. Cortisol
4. Epinephrine (adrenalin)
5. Oxytocin

A. 1,2,3 B. 3,4,5 C. 1,2,5 D. 1,2,3,4 E. 4,5

18. Which statement(s) is/are true?

1. Oxygenated blood is carried from the lungs to the heart.
2. Oxygenated blood is carried from the lungs directly to the body.
3. Deoxygenated blood is carried from the lungs to the heart
4. Deoxygenated blood is carried from the heart to the lung capillaries.
5. Deoxygenated blood is carried from the body directly to the lung capillaries.

A. 1,2,3,4,5 B. 1,2,3,4 C. 1,2,3 D. 1,2 E. 1,4

19. Which of the following statements are true about the immune system?

1. T cells are responsible for cellular immunity.
2. B cells are responsible for humoral immunity.
3. Tumor cells are destroyed mostly by B cells.
4. Mast cells release histamine in allergic reactions
5. When a person receives antibodies in a vaccine, active immunity develops.

A. 1,2,3 B. 3 C. 1,2,4 D. 3,4,5 E. 5

20. Which of the following chromosome numbers characterizes an abnormal polyploidy human body cell?

1. 45 chromosomes
2. 47 chromosomes
3. 69 chromosomes
4. 92 chromosomes
5. 23 chromosomes

A. 1,2 B. 1,2,3 C. 3,4 D. 3,4,5 E. 5