TOSS-UP (All Bio questions)

1. Which of the following is a disaccharide?

W) Glyceraldehyde

X) Ribose

Y) Fructose

Z) Lactose

ANSWER: Z) Lactose

# BONUS

1)What kind of sugar is used in glycogen?

ANSWER: Alpha glucose

# TOSS-UP

2) What type of bonds do not hold together tertiary structure?

W) Disulfide bridges

X) Hydrophobic Interactions

Y) Polar Covalent Bonds

Z) Ionic Bonds

ANSWER: Y) Polar Covalent Bonds

# BONUS

2) What are the pyrimidines?

ANSWER: Cytosine, Thymine, Uracil

**TOSS-UP**

3) What type of channel proteins facilitates the passage of water molecules through the cell?

ANSWER: Aquaporins

# BONUS

3) In diffusion, substances diffuse down the region along which the density decreases, which is called what?

ANSWER: Concentration gradient

# TOSS-UP

4) If a cell with a cell wall is placed in a hypotonic solution, what will happen to it?

W) It will become turgid.

X) It will lyse.

Y) It will stay the same state.

Z) It will become plasmolyzed.

ANSWER: W) It will become turgid.

# BONUS

4) What type of channel proteins open or close in response to a stimulus?

ANSWER: Ion channels

**TOSS-UP**

5) What is the study of how energy flows through living animals called?

ANSWER: Bioenergetics

# BONUS

5) What is the study of cells called?

ANSWER: Cytology

# TOSS-UP

6) Glucose is converted into glyceraldehyde-3-phosphate and dihydroxyacetone phosphate by what process?

ANSWER: Glycolysis

# BONUS

6) What enzyme catalyzes the transformation of Dihydroxyacetone Phosphate into G3P?

ANSWER: Isomerase

**TOSS-UP**

7) What protein complex makes ATP from ADP and inorganic phosphate?

ANSWER: ATP Synthase

# BONUS

7) What organisms cannot survive in the presence of oxygen?

ANSWER: Obligate anaerobes

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# TOSS-UP

8) What is the incorporation of carbon into organic compounds in the Calvin cycle called?

ANSWER: Carbon fixation

# BONUS

8) What hydrocarbons have colors of yellow and orange and broaden the spectrum of colors that drive photosynthesis?

ANSWER: Carotenoids

**TOSS-UP**

9) In what stage of mitosis does the nuclear envelope fragment?

W) Prophase

X) Prometaphase

Y) Metaphase

Z) Anaphase

ANSWER: X) Prometaphase

# BONUS

9) What are the noncoding segments of nucleic acids that lie between coding regions called?

ANSWER: Introns

# TOSS-UP

10) When all of the voltage-gated sodium channels are opened, a massive change in membrane voltage occurs called what?

ANSWER: Action potential

# BONUS

10) What is the adaptation that enables fast conduction in narrow axons?

ANSWER: Myelin Sheath

**TOSS-UP**

11) What type of immunity is found in all animals and is active immediately upon infection and is the same whether or not the pathogen has been encountered previously?

ANSWER: Innate immunity

# BONUS

11) What are the most abundant phagocytic cells in the body?

ANSWER: Neutrophils

# TOSS-UP

12) What type of cells detect pathogens due to fragments of molecules characteristic of a set of pathogens?

W) Toll like receptors

X) Macrophages

Y) Eosinophils

Z) Dendritic cells

Answer: W) Toll like receptors

# BONUS

12) What proteins provide defense against viral infections and are secreted by virus-infected body cells?

ANSWER: Interferons

**TOSS-UP**

13) Where is histamine stored?

ANSWER: Mast cells

# BONUS

13) What type of cells recognize and eliminate diseased cells in vertebrates due to the dection of class I MHC molecules?

ANSWER: Natural killer cells

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# TOSS-UP

14) Which of the following has a two-chambered heart?

W) Turtles

X) Snakes

Y) Lizards

Z) Fish

ANSWER: Z) Fish

# BONUS

14) What chamber of the human heart pumps blood to the capillaries of the legs?

ANSWER: Left ventricle

**TOSS-UP**

15) What cluster of autorhythmic cells keeps the rate and timing of contractions of cardiac muscle cells?

ANSWER: Sinoatrial node

# BONUS

15) If blood squirts backward through a defective valve, what sound does this produce?

ANSWER: Heart murmur

# TOSS-UP

16) What process quickly makes many copies of target segments of DNA molecules?

ANSWER: PCR

# BONUS

16) What technique is used to insert recombinant DNA into eukaryotic cells through applying electrical pulses to a solution containing cells?

ANSWER: Electroporation

**TOSS-UP**

17) What are phages capable of both the lytic cycle and the lysogenic cycle within a bacterium called?

ANSWER: Temperate phages

# BONUS

17) What are infectious proteins called?

ANSWER: Prions

# TOSS-UP

18) What principle states that the frequencies of alleles and genotypes in a population will remain constant from generation to generation?

Answer: Hardy-Weinberg equilibrium

# BONUS

18) What kind of bonds holds primary structure of proteins together?

ANSWER: Peptide bonds

**TOSS-UP**

19) What polysaccharide is formed from a combination of glucose and fructose?

ANSWER: Sucroses

# BONUS

19) What enzymes do animals use to digest macromolecules?

ANSWER: Lysosomes

# TOSS-UP

20) What are the three binding sites for tRNA?

ANSWER: E site, P site, A site

# BONUS

20) What cells are capable of differentiationg into many different cell types?

ANSWER: Pluripotent cells

**TOSS-UP**

21) What are chemical changes in a single base pair of a gene called?

Answer: Point mutations

# BONUS

21) What are substitutions that change one amino acid to another one called?

ANSWER: Missense mutations

# TOSS-UP

22) What are physical and chemical agents that cause mutations?

ANSWER: Mutagens

# BONUS

22) What are fruits that result from a single flower with more than one separate carpal?

ANSWER: Aggregate fruits

**TOSS-UP**

23) What are adaptations in plants for growing in darkness called?

ANSWER: Etiolation

# BONUS

23) What type of plant steroids promote xylem differentiation and slow leaf abscission?

ANSWER: Brassinosteriods

# TOSS-UP

24) What is the minimum metabolic rate of a nongrowing endotherm at rest?

ANSWER: Basal metabolic rate

# BONUS

24) What is the metabolic rate of a fasting, nonstressed ectotherm at rest at a particular temperature?

ANSWER: Standard Metabolic Rate

**TOSS-UP**

25) What is a physiological state in which activity is low and metabolism decreases?

ANSWER: Torpor

# BONUS

25) What hormone is produced in the hypothalamus and manages the osmoregulatory function of the kidneys?

Answer: ADH