



Kingdom of Saudi Arabia

Taibah University

Deanery of Academic Services

Mock Exam For Biology (Biol. 101)

Mid-Term Exam First semester 2013-2014

1) Starch granules in plant cell

- A. are responsible for storage
- B. are responsible for photosynthesis
- C. are responsible for respiration
- D. none of the above

2) Which one of the following is associated with energy generation in cells?

- A. mitochondria
- B. chloroplast
- C. ribosomes
- D. Lysosome

3) The major components of cell membranes are the:

A. proteins

B. carbohydrates

C. phospholipids

D. Cholesterol

5) Which one of the following is NOT an organelle?

A. mitochondria

B. RNA

C. golgi complex

D. Lysosomes

5) Plants synthesise protein from

A. starch

B. sugars

C. amino acids

D. fatty acids

6) A _____ is a biologist dedicated to naming, describing, and classifying organisms.

A. Ecologist

B. Physician

C. Taxonomist

D. Physiologist

7) Which atoms are always found in organic molecules?

A. carbon and hydrogen

B. carbon and oxygen

C. carbon and nitrogen

D. oxygen and nitrogen

8) Which group is present in alcohols?

A. Hydroxyl (OH)

B. Carbonyl (C=O)

C. Carboxyl (COOH)

D. Methyl (CH₃)

9) The backbone of the DNA is made of:

- A. sugar-phosphate
- B. nitrogenous base
- C. sugar-nitrogenous base
- D. phosphate-nitrogenous base

10) In DNA, adenine (A) pairs with:

- A. Uracil (U)
- B. cytosine (C)
- C. guanine (G)
- D. thymine (T)

11) Lipids

- A. do not mix with water
- B. insoluble in water
- C. hydrophobic
- D. All of the above

12) Which of the following structures is common to plant and animal cells?

- A. Chloroplasts
- B. A wall made of cellulose
- C. Vacuole
- D. Mitochondria

13) _____ is the process of splitting of a bond within a larger molecule by the addition of water.

- A. Phosphorylation
- B. Dehydration
- C. Diffusion
- D. Hydrolysis

14) _____ is the process in which water is removed when two monomers join to form a macromolecule.

- A. Hydrolysis
- B. Dehydration**
- C. Osmosis
- D. Diffusion

15) Which type of lipid has four fused carbon rings?

- A. Cholesterol**
- B. Triglyceride
- C. Phospholipid
- D. Maltose

16) What is the final three-dimensional shape of a protein called?

- A. quaternary structure
- B. tertiary structure**
- C. secondary structure
- D. primary structure

17) What are the components of a nucleotide?

- A. glucose, cholesterol, triglyceride
- B. phosphate, glucose, fatty acid
- C. phosphate, hexose sugar, nitrogen-containing base
- D. phosphate, pentose sugar, nitrogen-containing base

18) "TEM" refers to a photomicrograph taken by a _____.

- A. light microscope
- B. transmission electron microscope
- C. scanning electron microscope
- D. scanning-probe microscope

19) Which of the following organelles is the largest and most easily observed with the light microscope?

- A. Mitochondria
- B. Golgi
- C. Nucleus
- D. Lysosomes

20) _____ is/are the site of protein synthesis in the cytoplasm.

- A. Smooth endoplasmic reticulum
- B. Golgi apparatus
- C. Ribosomes
- D. Lysosomes

21) The _____ function(s) in the packaging, storage, and distribution of molecules produced by the ER.

- A. Golgi apparatus
- B. Rough endoplasmic reticulum
- C. Smooth endoplasmic reticulum
- D. mitochondria

22) _____ is a green pigment found within grana that makes chloroplasts and leaves green.

- A. Cellulose
- B. Ribosomal RNA
- C. Hemoglobin
- D. Chlorophyll

23) The structure of flagella is most similar to that of _____.

- A. Cilia
- B. basal bodies
- C. microvilli
- D. rough endoplasmic reticulum

24) Which of the following describes the fluid-mosaic model of the plasma membrane structure?

- A. phospholipid monolayer with embedded proteins
- B. phospholipid bilayer with embedded proteins
- C. phospholipid trilayer with embedded proteins
- D. triglyceride bilayer with embedded proteins

25) Pinocytosis is a type of _____.

- A. Endocytosis**
- B. Exocytosis
- C. simple diffusion
- D. facilitated diffusion

26) _____ is the net movement of any type of molecule from a region of higher concentration to a region of lower concentration.

- A. simple diffusion**
- B. osmosis
- C. active diffusion
- D. Pinocytosis

27) A dye is dissolved in water. The _____ is the solute and the solvent is the _____ molecules.

- A. water, dye**
- B. dye, water**
- C. dye, dye
- D. water, water

28) Energy of motion is referred to as _____ energy.

- A. Potential
- B. heat or thermal
- C. kinetic
- D. electrical

29) The _____ law of thermodynamics states that energy is constant, can neither be created nor destroyed.

- A. First
- B. Second
- C. Third
- D. Fourth

30) The study of energy relationships and their transformation is called

- A. Photosynthesis
- B. Metabolism
- C. Thermodynamics
- D. oxidation

31) The backbone of the DNA is made of:

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32) In RNA, adenine (A) pairs with:

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33) Which of the cellular structures are not present in prokaryotic cells like bacteria?

- A. Ribosomes
- B. Plasma membrane
- C. Mitochondria
- D. Cell wall

34) Which of the following organelles is not found in plant cells?

- A. Nucleus
- B. Endoplasmic reticulum
- C. Centriol
- D. Chloroplast

35) Which statement is correct about ribosomes?

- A. Ribosomes are particles made of ribosomal RNA and protein
- B. Ribosomes are synthesized in the nucleolus
- C. Ribosomes carry out protein synthesis
- D. All the above statements are correct

36) Cilia and flagella are made of:

- A. microtubules
- B. microfilaments
- C. intermediate filaments
- D. collagen

37) The plasma membrane proteins can function in:

- A. cell-cell recognition and communication
- B. transport
- C. enzyme activity
- D. all the above are correct

38) Water-loving molecules are called:

- A. hydrophilic
- B. hydrophobic
- C. hydrocarbons
- D. Hydrolytic

39) Which of the following molecules crosses (passes) plasma (cell) membrane easily?

- A. amino acids
- B. glucose
- C. oxygen
- D. cellulose

40) Large solid particles enter the cell by a process called:

- A. exocytosis
- B. phagocytosis
- C. pinocytosis
- D. Polycytosis

41) Almost enzymes are:

- A. nucleic acids
- B. proteins
- C. lipids
- D. Carbohydrates

42) In your body cells, enzymes need:

- A. optimal temperature
- B. optimal pH
- C. vitamins
- D. all the above are correct

43) What is the energy

- A) The amount of food eaten
- B) The capacity to perform work
- C) Movement
- D) The capacity to produce heat

44) Which one of the following statement is true about diffusion?

- A. involves movement of solute molecules
- B. It occurs when molecules move from a region of high concentration to a region of low concentration
- C. It does not require a semi-permeable membrane
- D. All of the above