

Midterm Exam

Question 1

1) Which is true about "Cell"?

A. a cell is the structural unit of a living organism.

B. a cell is the functional unit of a living organism.

C. a cell is the structural and functional unit of unicellular organisms.

D. a cell is the structural and functional unit of all living organisms

Question 2

2) Which of the following taxonomic categories the highest in hierarchy?

A. species

B. class

C. order

D. genus

Question 3

3) Protists are a diverse collection of-----

- A. unicellular prokaryotes
- B. unicellular eukaryotes
- C. unicellular and multicellular eukaryotes
- D. None of the above

Question 4

4) How many different amino acids are used in making proteins?

A. 2

B. 12

C. 20

D. 32

Question 5

5) Nuclear membrane is absent in

A. bacteria

B. fungi

C. plants

D. all of the above

Question 6

6) The three basic structural differences between DNA and RNA are

A. RNA has the base uracil instead of thymine in DNA.

B. DNA has the sugar deoxyribose but RNA has the sugar ribose.

C. DNA is double stranded while RNA is single stranded.

D. all of the above

Question 7

7) Which chemical group distinguishes each of the 20 different amino acids?

A. carboxyl group (COOH)

B. amino group (NH₂)

C. hydrogen atom

D. R-group

Question 8

8) A saturated fatty acid contains more _____ atoms than the same unsaturated fatty acid.

A. carbon

B. oxygen

C. phosphorous

D. hydrogen

Question 9

9) Which of the following supply energy?

- A. fats and minerals
- B. carbohydrates and vitamins
- C. minerals and vitamins
- D. carbohydrates and fats**

Question 10

10) Two or more polypeptide chains (subunits) associate to provide the:

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

Question 11

11) What type of lipids are the sex hormones (testosterone and estradiol)?

A. steroids

B. fatty acids

C. phospholipids

D. none of the above is correct

Question 12

12) Plants differ from animals in that plants have--

A. an endoplasmic reticulum

B. a central vacuole

C. Golgi complexes

D. vesicles

Question 13

13) White blood cells **كرات الدم البيضاء** are responsible for engulfing **ابتلاع** and digesting **هضم** foreign objects **الأجسام الغريبة** such as bacteria and viruses. What organelle do you expect to have a relatively large amount of them?

A. Lysosome

B. Ribosome

C. Endoplasmic Reticulum

E. Mitochondria

Question 14

14) To enter or leave a cell, substances must pass through

A. microtubule.

B. a ribosome.

C. the nucleus.

D. the plasma membrane

Question 15

15) Of the following organelles, which group is involved in manufacturing substances needed by the cell?

A. lysosome, vacuole, ribosome

B. ribosome, rough ER, smooth ER

C. vacuole, rough ER, smooth ER

D. smooth ER, ribosome, vacuole

Question 16

16) Which of the following correctly matches an organelle with its function?

- A. mitochondrion . . . photosynthesis
- B. nucleus . . . cellular respiration
- C. ribosome . . . manufacture of lipids
- D. central vacuole . . . storage**

Question 17

17) You would expect a cell with an extensive Golgi apparatus to-----

A. makes a lot of ATP.

B. secretes a lot of material.

C. move actively.

D. store large quantities of food

Question 18

18) The term "nuclear envelope" is more correct than the term "nuclear membrane" because—

- A. the enclosure has pores which membranes do not
- B. the enclosure is made up of two membranes
- C. the chemical composition is inconsistent with cellular membranes
- D. none of the above

Question 19

19) The rough Endoplasmic Reticulum is so named because it has an abundance of _____ on it.

A. mitochondria

B. ribosomes

C. Golgi bodies

D. lysosomes

Question 20

20) Which type of microscopes is used to study the cell surface?

A. light microscope

B. scanning electron microscope (SEM)

C. transmission electron microscope (TEM)

D. all the above are correct

Question 21

21) One type of organelles is not a component of endomembrane system:

- A. endoplasmic reticulum
- B. Golgi apparatus
- C. lysosomes
- D. mitochondria**

Question 22

22) Which statement best describes the plasma membrane?

A. it is freely permeable to all substances.

B. it is selectively permeable to certain substances.

C. it is non-permeable to all substances.

D. it is a solid-mosaic model.

Question 23

23) Enzymes embedded in the membrane of the smooth ER—3

- A. synthesize lipids
- B. may be used for detoxification
- C. synthesize carbohydrates
- D. all of the above

Question 24

24) Adenosine Triphosphate (ATP) is

A. an enzyme

B. a protein

C. a hormone

D. a molecule with high energy for cellular work

Question 25

25) Inorganic cofactors required by enzymes are

A. non-protein compounds

B. protein compounds

C. lipids

D. sugars

Question 26

26) In plants water is absorbed by the root hairs by a process called:

- A. respiration
- B. photosynthesis
- C. diffusion
- D. osmosis**

Question 27

27) Diffusion does not require the cell to expend energy. Therefore, diffusion is considered a type of

- A. endocytosis
- B. exocytosis
- C. active transport
- D. passive transport**

Question 28

28) Exocytosis is a mechanism used by the cell to

- A. import molecules useful to the cell
- B. helps molecules to cross the cell membrane
- C. recycles the damaged organelles
- D. export molecules out of the cell**

Question 29

29) Process of Endocytosis can occur through

A. phagocytosis

B. pinocytosis

C. receptor-mediated endocytosis

D. all of the above

Question 30

30) The energy converting organelles are:

A. mitochondria and golgi

B. mitochondria and chloroplasts

C. mitochondria and lysosomes

D. mitochondria and nucleus