

Name: _____

Class: _____

Date: _____

Cell Structure and Transport Take Home Exam

___ 1. Which is found in the nucleus?

- (1.) ribosome (2.) centrosome
- (3.) vacuole (4.) lysosome
- (5.) chromosome

___ 2. Which structure composed mainly of proteins and lipids, aids in maintaining homeostasis in the cell?

- (1.) chromosome (2.) centrosome
- (3.) nucleolus (4.) cell membrane
- (5.) cell wall

___ 3. Which cellular component can NOT be seen with the compound microscope?

- (1.) DNA (2.) cell wall
- (3.) nucleus (4.) cytoplasm
- (5.) cell membrane

___ 4. In which organelle would water and dissolved minerals be stored?

- (1.) food vacuole (2.) contractile vacuole
- (3.) lysosome (4.) nucleus
- (5.) ribosome

___ 5. The organelle most directly involved in cellular aerobic respiration is the

- (1.) ribosome (2.) mitochondrion
- (3.) nucleus (4.) lysosome
- (5.) Golgi apparatus

___ 6. The rigidity (support) of a plant cell is due primarily to the presence of the

- (1.) DNA (2.) centrosomes
- (3.) cell membrane (4.) cell wall
- (5.) lysosomes

___ 7. In the laboratory, when iodine solution is used to stain a cell, the cell structure most readily seen is the

- (1.) vacuole (2.) cytoplasm
- (3.) Golgi complex (4.) lysosome
- (5.) nucleus

___ 8. Which structure permits the entry and exit of dissolved materials in an animal cell?

- (1.) lysosome (2.) chromosome
- (3.) vacuole (4.) cell wall
- (5.) cell membrane

___ 9. The structure most closely associated with the destruction of worn out cell organelles is the

- (1.) lysosome (2.) centrosome
- (3.) vacuole (4.) Golgi apparatus
- (5.) chromosome

___ 10. Krystal observes a cell under the microscope. She identifies it as a green plant cell and not a human cheek cell because of the presence of a

- (1.) nucleus (2.) cell membrane
- (3.) lysosome (4.) cell wall
- (5.) mitochondrion

___ 11. Which structure is found ONLY in animal cells?

- (1.) cell wall (2.) vacuoles
- (3.) centrioles (4.) chloroplasts
- (5.) ribosomes

___ 12. The organelle most closely associated with the manufacture of proteins within the cell is the

- (1.) ribosome (2.) lysosome
- (3.) nucleolus (4.) cell wall

___ 13. Which structure chiefly functions in intracellular transport?

- (1.) vacuole (2.) mitochondrion
- (3.) Golgi apparatus (4.) endoplasmic reticulum
- (5.) nucleolus

___ 14. Amanda is viewing cells using a light microscope. In her observations, she views a nucleus and a cell wall. Which additional organelle is she most likely to observe using the light microscope in this observation?

- (1.) ribosome (2.) cilia
- (3.) lysosome (4.) chloroplast
- (5.) endoplasmic reticulum

___ 15. The cell wall is

- (1.) selectively permeable
- (2.) contains cellulose
- (3.) living
- (4.) the structure that pumps out excess water from cells
- (5.) a hardened cell membrane

___ 16. While studying a cell with the electron microscope, a scientist notes the following: numerous ribosomes, a well-developed endoplasmic reticulum, chloroplasts, and a cell wall. Which organism is most likely the source of this cell?

- (1.) a fungus (2.) an animal
- (3.) a bacterium (4.) a plant
- (5.) a virus

___ 17. The cell's primary site of ATP production is the

- (1.) mitochondria (2.) lysosomes
- (3.) nucleus (4.) nucleolus
- (5.) vacuoles

___ 18. Cells involved with reabsorption of themselves, such as those in the tail of a tadpole, would most likely contain many

- (1.) chloroplasts (2.) lysosomes
- (3.) nuclei (4.) chromosomes
- (5.) Golgi bodies

___ 19. Which structure chiefly functions in intracellular transport?

- (1.) vacuole (2.) mitochondrion
- (3.) Golgi apparatus (4.) endoplasmic reticulum
- (5.) nucleolus

___ 20. Cyanide, a metabolic poison, interferes with the cellular aerobic production of ATP. Which cell organelle does cyanide most directly influence first in this situation?

- (1.) nucleus (2.) lysosome
- (3.) mitochondria (4.) ribosomes
- (5.) endoplasmic reticula

___ 21. Which structure chiefly functions in intracellular transport?

- (1.) vacuole (2.) Golgi apparatus
- (3.) endoplasmic reticulum (4.) nucleolus

___ 22. The structure surrounding and selectively regulating the flow of materials from the control center of the cell is the

- (1.) vacuole (2.) nuclear membrane
- (3.) cell membrane (4.) lysosome
- (5.) nucleolus

___ 23. Which is NOT part of the cell theory?

- (1.) Cells vary in size but have the same shape.
- (2.) All organisms are made of one or more cells.
- (3.) All cells carry on their own life activities.
- (4.) New cells arise only from other living cells.

___ 24. Mitochondria, ribosomes/ and vacuoles are examples of

- (1.) tissues (2.) cells
- (3.) organs (4.) organelles

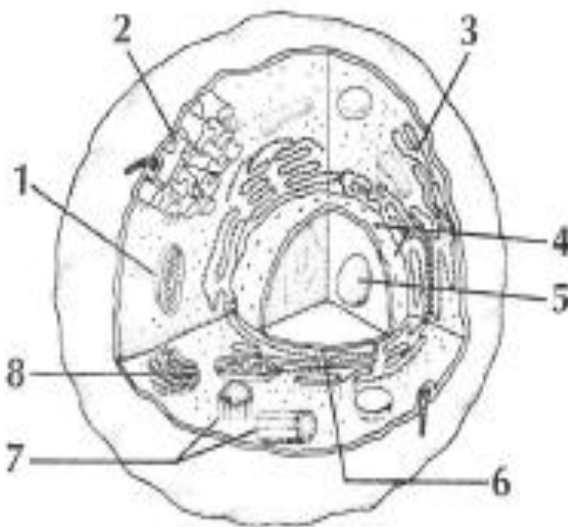
___ 25. Which of the following organisms possess prokaryotic cells?

- (1.) ameba (2.) bacteria
- (3.) fungi (4.) Humans

___ 26. A cell with 96% concentration of water molecules and 4% concentration of dissolved substances is placed in a hypertonic solution. The water molecule concentration of the solution could be

- (1.) 100% (2.) 96%
- (3.) 98% (4.) 94%

Questions 27-29 refer to the diagram below.



___ 27. composed of DNA, RNA, and protein and is the site of ribosome formation

___ 28. site of cellular respiration

___ 29. Specializes in modifying, sorting and packaging of proteins for secretion

___ 30. A solution that has the same concentration of dissolved substances as a living cell is called

- (1.) homogenous (2.) hypertonic
- (3.) isotonic (4.) hypotonic

___ 31. The watery material lying within the cell between the cell membrane and the nucleus is the

- (1.) chloroplast (2.) cytoplasm
- (3.) endoplasmic reticulum (4.) plastid

___ 32. Cells that use a great amount of energy usually contain numerous

- (1.) lysosomes (2.) vacuoles
- (3.) ribosomes (4.) mitochondria

___ 33. Robert Hooke was the first scientist to use the term

- (1.) cell (2.) nucleus
- (3.) microscope (4.) protoplasm

___ 34. As the surface area of a cell increases in size, the volume of the cell

- (1.) increases relatively more than the surface area
- (2.) increases about the same as the surface area
- (3.) decreases
- (4.) does not change

___ 35. The cell wall

- (1.) is found in animal cells
- (2.) is not found in bacteria
- (3.) lies inside the cell membrane
- (4.) has small openings

___ 36. Lamellae / grana, and stroma are closely associated with the

- (1.) chloroplast (2.) mitochondria
- (3.) nucleus (4.) cell membrane

___ 37. Endosymbiosis refers to the
(1.) selective permeability of the cell membrane
(2.) origin of the eukaryotic cell
(3.) function of an organelle in the cytoplasm
(4.) osmotic pressure in a solution

___ 38. Who was the first person to identify and see cells?
(1.) Anton van Leeuwenhoek (2.) Robert Hooke
(3.) Matthias Schleiden (4.) Rudolf Virchow

___ 39. The work of Schleiden and Schwann can be summarized by saying that
(1.) all plants are made of cells.
(2.) all animals are made of cells.
(3.) plants and animals have specialized cells.
(4.) all plants and animals are made of cells.

___ 40. Which of the following is NOT a principle of the cell theory?
(1.) Cells are the basic units of life.
(2.) All living things are made of cells.
(3.) Very few cells reproduce.
(4.) All cells are produced by existing cells.

___ 41. Which cell structure contains the cell's genetic material and controls the cell's activities?
(1.) organelle (2.) nucleus
(3.) cell envelope (4.) cytoplasm

___ 42. Which structure contains the other?
(1.) nucleus; cytoplasm
(2.) nucleus: genetic material
(3.) cell membrane: cell wall
(4.) prokaryote: organelles

___ 43. Which of the following contains a nucleus?
(1.) prokaryotes (2.) bacteria
(3.) eukaryotes (4.) organelles

___ 44. Eukaryotes usually contain
(1.) a nucleus. (2.) specialized organelles.
(3.) genetic material. (4.) all the above

___ 45. The main function of the cell wall is to
(1.) support and protect the cell.
(2.) store DNA.
(3.) direct the activities of the cell.
(4.) help the cell move.

___ 46. Unlike the cell membrane, the cell wall is
(1.) found in all organisms.
(2.) composed of a lipid bilayer.
(3.) a flexible barrier.
(4.) made of tough fibers.

___ 47. You won't find a cell wall in which of these kinds of organisms?
(1.) plants (2.) animals
(3.) fungi (4.) none of the above

___ 48. Which of the following is a function of the nucleus?
(1.) stores DNA
(2.) controls most of the cell's processes
(3.) contains the information needed to make proteins
(4.) all of the above

___ 49. Which of the following is NOT found in the nucleus?
(1.) cytoplasm (2.) nucleolus
(3.) chromatin (4.) DNA

___ 50. Which of the following statements explains why the nucleus is important to cells?

- (1.) Only eukaryotes have nuclei.
- (2.) Only prokaryotes have nuclei.
- (3.) The nucleus contains coded instructions for making proteins.
- (4.) The nucleus is surrounded by a nuclear envelope.

___ 51. Which of the following is NOT a function of the cytoskeleton?

- (1.) helps the cell maintain its shape
- (2.) helps the cell move
- (3.) prevents chromosomes from separating
- (4.) helps organelles within the cell move

___ 52. Which organelle makes proteins using coded instructions that come from the nucleus?

- (1.) Golgi apparatus (2.) mitochondrion
- (3.) vacuole (4.) ribosome

___ 53. Which organelles help provide cells with energy?

- (1.) mitochondria and chloroplasts
- (2.) rough endoplasmic reticulum
- (3.) smooth endoplasmic reticulum
- (4.) Golgi apparatus and ribosomes

___ 54. Which organelle would you expect to find in plant cells but not animal cells?

- (1.) ribosome (2.) mitochondrion
- (3.) chloroplast (4.) smooth endoplasmic reticulum

___ 55. Which of the following structures serves as the cell's boundary from its environment?

- (1.) mitochondrion (2.) cell membrane
- (3.) chloroplast (4.) channel proteins

___ 56. The cell membrane contains channels and pumps that help move materials from one side to the other. What are these channels and pumps made of?

- (1.) carbohydrates (2.) lipids
- (3.) bilipids (4.) proteins

___ 57. Diffusion is the movement of molecules from

- (1.) an area of low concentration to an area of high concentration.
- (2.) an area of high concentration to an area of low concentration.
- (3.) an area of equilibrium to an area of high concentration.
- (4.) all of the above

___ 58. Diffusion occurs because

- (1.) molecules constantly move and collide with each other.
- (2.) the concentration of a solution is never the same throughout a solution.
- (3.) the concentration of a solution is always the same throughout a solution.
- (4.) molecules never move or collide with each other.

___ 59. When the concentration of molecules on both sides of a membrane is the same, the molecules will

- (1.) move across the membrane to the outside of the cell.
- (2.) stop moving across the membrane.
- (3.) move across the membrane in both directions.
- (4.) move across the membrane to the inside of the cell.

___ 60. Which of the following is an example of an organ?

- (1.) heart (2.) epithelial tissue
- (3.) digestive system (4.) nerve cell

