

Cell: The Unit of Life

1. Who is known as the father of modern cell theory?

- a) Robert Hooke
- b) Matthias Schleiden
- c) Theodor Schwann
- d) Rudolf Virchow

2. Which of the following is the smallest unit of life?

- a) Atom
- b) Molecule
- c) Cell
- d) Organ

3. Which of the following is a prokaryotic cell?

- a) Fungi
- b) Bacteria
- c) Algae
- d) Plants

4. The plasma membrane of a cell is composed of:

- a) Proteins only
- b) Lipids only
- c) Proteins and lipids
- d) Nucleic acids

5. Which organelle is known as the powerhouse of the cell?

- a) Nucleus
- b) Mitochondria
- c) Ribosome
- d) Golgi apparatus

6. The control center of the cell that contains genetic material is the:

- a) Endoplasmic reticulum
- b) Nucleus
- c) Golgi body
- d) Lysosome

7. Which of the following structures is found only in plant cells?

- a) Mitochondria
- b) Lysosome
- c) Cell wall
- d) Ribosome

8. The function of ribosomes is to:

- a) Produce energy
- b) Store nutrients
- c) Synthesize proteins
- d) Transport molecules

9. Which of the following organelles is involved in the modification and packaging of proteins?

- a) Endoplasmic reticulum
- b) Golgi apparatus
- c) Lysosome
- d) Ribosome

10. The cell wall in plants is mainly composed of:

- a) Chitin
- b) Cellulose
- c) Protein
- d) Lipid

11. Which of the following organelles is responsible for photosynthesis?

- a) Chloroplast
- b) Mitochondria
- c) Nucleus
- d) Ribosome

12. Lysosomes are known as the:

- a) Powerhouse of the cell
- b) Digestive bags of the cell
- c) Protein factories
- d) Control center

13. Which of the following is a doublemembrane-bound organelle?

- a) Ribosome
- b) Golgi apparatus
- c) Mitochondria
- d) Centriole

14. Which of the following is NOT found in prokaryotic cells?

- a) Plasma membrane
- b) Nucleus
- c) Ribosomes
- d) Cytoplasm

15. The smooth endoplasmic reticulum is primarily involved in the synthesis of:

- a) Carbohydrates
- b) Lipids
- c) Proteins
- d) Nucleic acids

16. Which of the following is involved in cell division in animal cells?

- a) Centrioles

- b) Ribosomes
- c) Mitochondria
- d) Endoplasmic reticulum

17. Which of the following organelles contains hydrolytic enzymes?

- a) Golgi apparatus
- b) Lysosomes
- c) Nucleus
- d) Ribosomes

18. The semi-fluid substance present inside the cell membrane but outside the nucleus is called:

- a) Nucleoplasm
- b) Cytoplasm
- c) Endoplasm
- d) Matrix

19. The smallest living cells without a definite nucleus are found in:

- a) Algae
- b) Bacteria
- c) Fungi
- d) Protozoa

20. In which part of the cell does aerobic respiration occur?

- a) Cytoplasm
- b) Ribosomes
- c) Nucleus
- d) Mitochondria

21. Which of the following is the function of the nucleolus?

- a) Protein synthesis

- b) DNA replication
- c) RNA synthesis
- d) Lipid metabolism

22. Which of the following is a major component of the cell membrane?

- a) Nucleic acids
- b) Phospholipids
- c) Proteins
- d) Carbohydrates

23. The structural and functional unit of life is the:

- a) Organism
- b) Tissue
- c) Cell
- d) Organ system

24. Which of the following is involved in the detoxification of drugs in liver cells?

- a) Lysosomes
- b) Rough endoplasmic reticulum
- c) Smooth endoplasmic reticulum
- d) Golgi apparatus

25. What is the function of peroxisomes?

- a) Lipid synthesis
- b) Break down hydrogen peroxide
- c) Protein modification
- d) Carbohydrate metabolism

26. Which of the following organelles stores calcium ions in muscle cells?

- a) Smooth endoplasmic reticulum
- b) Mitochondria

- c) Ribosomes
- d) Golgi apparatus

27. Which of the following is NOT a function of the plasma membrane?

- a) Selective permeability
- b) Structural support
- c) Enzyme production
- d) Signal transduction

28. The process by which a cell takes in large particles by engulfing them is known as:

- a) Phagocytosis
- b) Pinocytosis
- c) Exocytosis
- d) Diffusion

29. Which of the following cell structures is responsible for cell movement?

- a) Nucleus
- b) Mitochondria
- c) Flagella
- d) Golgi apparatus

30. Which of the following organelles is primarily involved in lipid synthesis?

- a) Rough endoplasmic reticulum
- b) Smooth endoplasmic reticulum
- c) Lysosome
- d) Ribosome

31. Which structure is responsible for maintaining cell shape and supporting cellular movement?

- a) Plasma membrane

- b) Cytoskeleton
- c) Endoplasmic reticulum
- d) Mitochondria

32. Which of the following organelles is involved in packaging and sorting proteins?

- a) Nucleus
- b) Golgi apparatus
- c) Ribosome
- d) Centriole

33. Which of the following organelles is absent in plant cells?

- a) Chloroplast
- b) Lysosome
- c) Nucleus
- d) Cell wall

34. Which of the following is NOT a component of the cytoskeleton?

- a) Microtubules
- b) Microfilaments
- c) Intermediate filaments
- d) Golgi bodies

35. Which of the following structures is involved in protein synthesis?

- a) Lysosome
- b) Ribosome
- c) Golgi apparatus
- d) Mitochondria

36. Which of the following organelles contain DNA?

- a) Golgi bodies
- b) Mitochondria

- c) Lysosomes
- d) Ribosomes

37. In which type of cell would you find a large central vacuole?

- a) Animal cell
- b) Plant cell
- c) Bacterial cell
- d) Fungal cell

38. Which organelle is responsible for the synthesis of ATP?

- a) Ribosomes
- b) Golgi bodies
- c) Mitochondria
- d) Chloroplasts

Which of the following is NOT a function of the smooth endoplasmic reticulum?

- a) Lipid metabolism
- b) Detoxification of chemicals
- c) Protein synthesis
- d) Storage of calcium

40. Which of the following components of the cytoskeleton is involved in chromosome movement during cell division?

- a) Microtubules
- b) Microfilaments
- c) Intermediate filaments
- d) Actin filaments

41. Which of the following is involved in the degradation of worn-out organelles?

- a) Nucleus

- b) Lysosome
- c) Ribosome
- d) Chloroplast

42. Which organelle is known as the "suicide bag" of the cell?

- a) Lysosome
- b) Ribosome
- c) Mitochondria
- d) Golgi apparatus

43. Which of the following structures is responsible for the synthesis of proteins and lipids?

- a) Golgi apparatus
- b) Endoplasmic reticulum
- c) Nucleus
- d) Cytoskeleton

44. Which of the following is a feature of all prokaryotic cells?

- a) Membrane-bound organelles
- b) Nucleus
- c) Circular DNA
- d) Chloroplasts

45. The process of removing waste material from the cell through vesicles is called:

- a) Phagocytosis
- b) Endocytosis
- c) Exocytosis
- d) Pinocytosis

46. Which of the following organelles is involved in the synthesis of secretory proteins?

- a) Smooth endoplasmic reticulum
- b) Rough endoplasmic reticulum
- c) Golgi bodies
- d) Ribosomes

47. Which of the following is NOT found in an animal cell?

- a) Mitochondria
- b) Chloroplast
- c) Endoplasmic reticulum
- d) Nucleus

48. Which of the following organelles is responsible for detoxifying alcohol and drugs?

- a) Smooth endoplasmic reticulum
- b) Lysosome
- c) Golgi apparatus
- d) Centriole

49. Which of the following structures regulates the passage of materials in and out of the cell?

- a) Nucleus
- b) Plasma membrane
- c) Mitochondria
- d) Golgi apparatus

50. Which of the following organelles is involved in the synthesis of ribosomes?

- a) Nucleolus
- b) Mitochondria
- c) Golgi apparatus
- d) Lysosome

Answer Key for Chapter 6 (Cell: The Unit of Life)

1	2	3	4	5
C	C	B	C	B
6	7	8	9	10
B	C	C	B	B
11	12	13	14	15
A	B	C	B	B
16	17	18	19	20
A	B	B	B	D
21	22	23	24	25
C	B	C	C	B
26	27	28	29	30
A	C	A	C	B
31	32	33	34	35
B	B	B	D	B
36	37	38	39	40
B	B	C	C	A
41	42	43	44	45
B	A	B	C	C
46	47	48	49	50
B	B	A	B	A

