CBSE

FUNDAMENTAL UNIT OF LIFE WS 3

Class 09 - Science

1. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) Mitochondria	(i) Helps in cell division in the animal cell
(b) Golgi apparatus	(ii) Sites of cellular respiration
(c) Centrosome	(iii) Produces vacuoles
(d) Vacuoles	(iv) Helps to maintain the osmotic pressure in a cell

2. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) Active Transport	(i) Outward transport of substances by means of carrier molecules
(b) Pinocytosis	(ii) Inward transport of substances in solid form
(c) Exocytosis	(iii) Movement of any substance through the cell membrane that requires energy
(d) Phagocytosis	(iv) Inward transport of substances in fluid form

3. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) Plasma Membrane	(i) Plays a crucial role in detoxifying many poisons and drugs
(b) Nucleus	(ii) Allows or permits the entry and exit of some materials in and out of the cell
(c) Endoplasmic reticulum	(iii) Serve as the intracellular digestive system
(d) Lysosomes	(iv) Controls all the metabolic activities of the cell

4. Match the following Column A with Column B: **[2]**

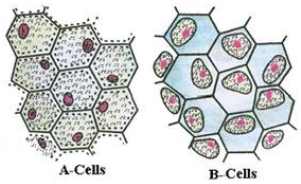
Column A	Column B
(a) Golgi Apparatus	(i) Cell theory
(b) Virchow	(ii) Cell
(c) Robert Brown	(iii) Camillo Golgi
(d) Robert Hooke	(iv) Nucleus

5. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) Nucleoid	(i) Eukaryotic cells
(b) Nucleus	(ii) Plant cells

(c) Plasma membrane	(iii) Prokaryotic cells
(d) Plastids	(iv) Fluid Mosaic Model

6. What happens when cell is placed in - **[2]**
   (a) Hypertonic solution
   (b) Hypotonic solution
   (c) Isotonic solution
7. What is the importance of nucleus? **[2]**
8. Draw the structure of mitochondria. **[2]**
9. **[2]**



   a. Identify A and B cells.
   b. What will happen if B cells are kept in hypotonic solution?
   c. What will happen if A cells are kept in hypertonic solution?

10. What is the main function of each of the following organelles ?(a) Golgi bodies (b) Vacuole **[2]**
11. Do you agree "A cell is a building unit of an organism". If yes, explain why. **[2]**
12. How are chromatin, chromatid and chromosomes related to each other? **[2]**
13. Name the organelle of the cell, which has membrane-bound sac filled with power full digestive enzymes. Write its any function in the cells. **[2]**
14. If you are provided with some vegetables to cook, you generally add salt into the vegetables. After adding salt, vegetables release water. Why? **[2]**
15. What would happen if the plasma membrane ruptures or breaks down? **[2]**
16. Why is endocytosis found in animals only? **[2]**
17. If cells of onion peel and RBC are separately kept in hypotonic solution, what will happen to each of them? Explain. **[2]**
18. Draw a neat diagram of plant cell and label any three parts which differentiate it from an animal cell. **[2]**
19. Define plasmolysis. **[2]**
20. Write short note on nucleus. **[2]**
21. Write an activity describing the process of osmosis. **[2]**
22. Illustrate only a plant cell as seen under electron microscope. How is it different from animal cell? **[2]**
23. What is ATP? Write its full form. **[2]**
24. Draw a plant cell and label the parts - **[2]**
    a. Synthesize food
    b. produce energy
    c. The storehouse of organic substances like protein, organic acids
    d. Packages material coming from the endoplasmic reticulum
    e. Determine the function and development of the cell.
25. What is the function of cellulose in a plant cell? **[2]**
26. How do substances like CO_2 and water move in and out of the cell? Discuss. **[2]**
27. Differentiate between rough and smooth endoplasmic reticulum. How is the endoplasmic reticulum important **[2]**

for membrane biogenesis?

28. If cell of onion peel and RBC are separately placed in hypotonic solution, what among the following will take place? Explain the reason. **[2]**

i. Both the cells will swell

ii. RBC will burst early while cells of onion peel will resist bursting to some extent

iii. Both a and b are correct

iv. RBC and onion peel cells will behave similarly

29. Can you name the two organelles we have studied that contain their own genetic material? **[2]**

30. Why is the plasma membrane called a selectively permeable membrane? **[2]**

31. How does fungi and bacteria can withstand much greater changes in the surrounding medium than animal cells? **[2]**

32. Why is plasma membrane called selectively permeable membrane? **[2]**

33. What will happen if chloroplast is taken out of the cell and illuminated? **[2]**

34. How do substances like CO_2 and water move into and out of the cell ? Discuss. **[2]**

35. Briefly describe three important parts of cell. **[2]**

36. What would happen to the life of a cell if there was no Golgi apparatus? **[2]**

37. If you are provided with some vegetables to cook, we generally add salt to the vegetables during cooking process. After adding salt, vegetables releases water. What mechanism is responsible for this? **[2]**

38. Why are lysosomes also known as scavengers of the cells? **[2]**

39. The cells which do not possess a well-defined nucleus. These cells are primitive without having membrane-bound organelles. **[2]**

40. Why is the Golgi apparatus called the secretary organelle of the cell? **[2]**

41. Why are lysosomes called 'suicidal bags? **[2]**

42. Which organelle is known as the powerhouse of the cell? Why? **[2]**

43. Why do plant cells possess large-sized vacuole? **[2]**

44. Why does the skin of your fingers shrinks when you wash clothes for a long time? **[2]**

45. Where are proteins synthesised inside the cell ? **[2]**

46. What is the role of ribosmes and golgi body? **[2]**

47. Where do the lipids and proteins constituting the cell membrane get synthesised? **[2]**

48. Name the following (a) Suicide bag of the cell (b) Kitchen of a cell. **[2]**

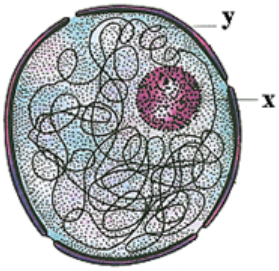
49. Where will you find more number of ribosomes-in cancer cells or in fat cells? **[2]**

50. What is the main function of each of the following organelles? **[2]**

(a) Ribosome

(b) Cell wall.

51. **[2]**



a. Identify the above figure.

b. Label X and Y.

c. What is the function of X?

52. If the organisation of a cell is destroyed due to some physical or chemical influence, what will happen? **[2]**

53. What is osmosis? **[2]**

54. How does an Amoeba obtain its food? **[2]**

55. Name the cell organelle found in plant cells only. Write its types and function. **[2]**

56. A solution of 3% glucose and a solution of 8% glucose are kept in a trough separated by a semipermeable membrane. What will you observe after 1 hour? **[2]**

57. Which type of cell division is required for growth and repair of body and which type is involved in formation of gametes? **[2]**

58. What are lysosomes, peroxisomes and centrosome and write their functions? **[2]**

59. Why is cell called structural and functional unit of life? **[2]**

60. Why are lysosomes known as suicide bags? **[2]**

61. Which type of ribosomes are found in prokaryotes and eukaryotes? **[2]**

62. What would happen if the plasma membrane ruptures or breaks down. **[2]**

63. Draw a labelled diagram of mitochondria. write the functions of mitochondria. **[2]**

64. What are the colours absorbed by plants? The green light of the sunlight is blocked. How will the phytosynthesis be affected? **[2]**

65. What is cytosol and cytoskeleton? **[2]**