Lakhmir Singh Solutions For Class 8 Science Chapter 8

1. Which instrument was essential for the study of cells?

Answer

Microscope was the instrument was essential for the study of cells.

2. What is the basic similarity among all the living organisms (plants and animals)?

Answer

The basic similarity among all the living organisms (plants and animals) is that these are made up of cells.

3. Name the scientist who observed a thin slice of cork through a microscope and coined the term ‘cell’.

Answer

Robert Hooke in 1665 observed a thin slice of cork through a microscope and coined the team ‘cell’.

4. Name the outermost layer of an animal cell.

Answer

The outermost layer of an animal cell is the plasma membrane.

5. Which part of the cell contains organelles?

Answer

The part of the cell that contains organelles is cytoplasm.

6. Name any two organelles present in a cell.

Answer

Mitochondria and cytoplasm are the two organelles present in a cell.

7. Which part of a cell carries out respiration?

Answer

The part of a cell that carries out respiration is the mitochondria.

8. What are the units of inheritance in living organisms?

Answer

Genes are the units of inheritance in living organisms

9. Which is the largest floating body generally in the center of a cell?

Answer

The largest floating body generally in the center of a cell is the nucleus.

10. What is the function of the nucleus in a cell?

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Answer

The function of the nucleus in a cell is to control the activities of the cell. It is called the master or director of the cell.

11. What do the chloroplasts contain?

Answer

Chloroplasts contain the photosynthetic pigment called chlorophyll.

12. What kind of cells are surrounded by a cell wall?

Answer

Cell walls are surrounded by the plant cells.

13. What sort of cells do not have a cell wall around them?

Answer

Animal cells do not have cell walls around them.

14. Name the layer which is outside the cell membrane of a plant cell.

Answer

The layer that is outside the cell membrane of a plant cell is called the cell wall.

15. How is the outside of a plant cell different from that of an animal cell?

Answer

The additional membrane called a cell wall outside the cell membrane around the plant cells makes it different from animal cells.

16. Name the organelle of a plant cell where photosynthesis takes place.

Answer

Photosynthesis takes place in chloroplasts organelle of the plant cell.

17. Which part of a plant cell protects outside of the cell?

Answer

The cell wall present in the outer layer protects outside of the cell.

18. Which part of the plant cell releases energy from food?

Answer

Mitochondria releases energy from food in the plant cell.

19. What causes the red color in tomatoes?

Answer

Colored plastids called chromoplasts causes the red color in tomatoes.

20. Which part of the two has a large vacuole: a plant cell or an animal cell?

Answer

The plant cell has a large vacuole.

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21. Name any two parts which are present in a plant cell but not in an animal cell.

Answer

The cell wall and plastid are present in plant cells but not in animal cells.

22. Which cells transmit messages between the brain and other parts of the body?

Answer

The nerve cell transmits messages between the brain and other parts of the body.

23. Which cells in the human body can contract (and relax)?

Answer

The muscle cells in the human body can contract (and relax).

24. Name the spindle-shaped cells present in the human body.

Answer

The spindle-shaped cells present in the human body are called muscle cells.

25. State an important characteristic of muscle cells.

Answer

The muscle cells are spindle in shape and are pointed at both the ends.

26. Name a single cell (other than Ameoba cell) which can change its shape.

Answer

White blood cells (WBC) present in our body can change its shape.

27. Name one 'single-cell' which behaves like a complete organism.

Answer

Amoeba is a single-celled organism that behaves like a complete organism

28. Name one cell which can be seen easily with a naked eye and one cell which can be seen only through a microscape.

Answer

Cell which can be seen through the naked eye is the bird's egg whereas the cell which can be seen through a microscope is the bacterial cells.

29. State whether the following statements are true or false

(a) Unicellular organisms have a one-celled body.

(b) Muscle cells are branched.

(c) Amoeba has an irregular shape.

(d) All the cells in our body are alike.

(e) A hen's egg is a group of cells.

(f) The basic living unit of an organism is an organ.

Answer

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(a) True

(b) False

(c) True

(d) False

(e) False

(f) False

30. Name the smallest unit of life.

Answer

Cell is the smallest unit of life.

31. What is a 'cell' in biology?

Answer

Cell is the smallest, structural and functional unit of life.

32. (a) What are the basic parts of all the cells?

(b) What parts are present only in plant cells?

Answer

(a) The basic parts of all the cells are cell membrane, cytoplasm, and nucleus.

(b) The parts present only in plant cells are cell wall, chloroplasts, and large vacuole.

33. What controls the flow of substance in and out of a cell?

Answer

Plasma membrane controls the flow of a substance in and out of the cell.

34. Which part of a cell controls all the activities of the cell?

Answer

The center of the cell, the nucleus controls all the activities of the cell.

35. Name the animal cell which is long and has thread-like branches.

Answer

The nerve cell is long and has thread-like branches.

36. What is the function of chloroplasts in a plant cell?

Answer

Chloroplasts help in the synthesis of food by the process of photosynthesis.

37. Name an organism that has no definite shape, and it keeps on changing its shape.

Answer

An organism that has no definite shape and it keeps on changing its shape is amoeba.

38. Name one cell in the human body which is spherical in shape.

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Answer

The cell in the human body which is spherical in shape is the red blood cells (RBC).

39. Which organism has the smallest cell?

Answer

Bacteria mycoplasma has the smallest cell. Its size is around 0.1 micrometers.

40. Name the biggest cell?

Answer

The largest cell is the egg of an ostrich. Its size is around 170mm x 130mm.

41. Name two animal organs and two plant organs.

Answer

Organs present in animals are: Stomach, heart, lungs, brain, etc.

Organs present in plants are: Stem, leaf, roots, etc.

42. Name two plant organ which is responsible for:

(a) making of food.

(b) absorption of water and minerals.

Answer

(a) Leaves are responsible for preparation of food by the process of photosynthesis.

(b) Roots help in the absorption of water and minerals from the soil.

43. Which of the two does not have a true nucleus: prokaryotic cell or eukaryotic cell?

Answer

Prokaryotic cells do not have a true nucleus.

44. Name one prokaryotic cell and one eukaryotic cell.

Answer

Prokaryotic cell: Bacteria cell

Eukaryotic cell: Human cell

45. Fill in the blanks with suitable words:

(a) Cells were first observed in cork by _____ in 1665.

(b) What is brick to a house is _____ To an organism.

(c) The cytoplasm and nucleus make up the_____

(d) The shape and size of a cell is related to its_____

(e) The bacteria cells are_____ to _____micrometer in length.

(f) The smallest unit of life is a _____

(g) Tissues make up _____

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(h) Organ systems make up an _____

(i) Cells make up _____

(j) Organs make up _____

Answer

(a) Cells were first observed in cork by Robert Hooke in 1665.

(b) What is brick to a house is cells to an organism.

(c) The cytoplasm and nucleus make up the protoplasm.

(d) The shape and size of a cell is related to its function.

(e) The bacteria cells are 0.2 to 10 micrometers in length.

(f) The smallest unit of life is a cell.

(g) Tissues make up organs.

(h) Organ systems make up an organism.

(i) Cells make up tissues.

(j) Organs make up organ systems.

Short Answer Type Questions

46. Why are plant and animal specimens usually stained with dyes before observing them through a microscope? Name one stain (or dye) used for this purpose.

Answer

The plant and animal specimens usually stained with dyes before observing them through a microscope because the various parts of the cell are colorless and are difficult to distinguish. Hence a wide variety of stains are used to identify the cells and its parts. Dilute iodine solution, methylene blue are some of the stains used for this purpose.

47. What is a tissue? Give two examples of tissues.

Answer

The tissues can be defined as a group of cells with similar shape and function are termed as tissues. They form a cellular organizational level intermediate between the cells and the organ system. Connective Tissue, Muscle Tissue, Nervous Tissue, Epithelial Tissue are the different types of tissues.

48. What is an organ? Give two examples of organs.

Answer

Organs are formed by combining the functional groups of multiple tissues. Examples: Heat, Lungs, etc.

49. What is an organ system?

(a) Give two examples of organ systems in animals.

(b) Name the two main organ systems in plants.

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Answer

A group of closely related organs that work together for a specific purpose for a particular organism is called an organ system.

(a) The digestive system and respiratory system are examples of organ systems in animals.

(b) The root system and the shoot system are the two main organ systems in plants.

50. Which of the following are plant organs and which are animal organs?

Brain, Leaf, Lungs, Roots, Stem, Kidneys, Flower, Heart

Answer

Plant organs	Animal Organs
Leaf	Brain
Roots	Lungs
Stem	Kidneys
Flower	Heart

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