

SARASWATI



HEAD OFFICE

208, CD, LOCAL SHOPPING CENTER
AGGARWAL SHOPPING PLAZA,

BRANCH -1

AYODHYA CHOWK SEC -3
ROHINI

BRANCH -2

DC CHOWK SEC- 9, ROHINI

9TH & 10TH MATHS / SCIENCE
11TH & 12TH – PHYSICS / CHEMISTRY / MATHS / BIOLOGY
EXCLUSIVE BATCH FOR NEET / JEE ASPIRANTS
Ph no. 9696 500 500 / 9696 400 400

Ch- 8 Cell : The Unit of Life

(1 marks)

1. Which of the following is not correct?

- (a) Robert Brown discovered the cell.
- (b) Schleiden and Schwann formulated cell theory.
- (c) Virchow explained that cells are formed from pre-existing cells.
- (d) A unicellular organism carries out its life activities with a single cell.

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2. New cells generate from

- (a) bacterial fermentation
- (b) regeneration of old cells
- (c) pre-existing cells
- (d) abiotic materials.

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3. Which of the following is correct?

- (a) Cells of all living organisms have a nucleus.
- (b) Both animal and plant cells have a well- defined cell wall.
- (c) In prokaryotes, there are no membrane- bound organelles.
- (d) Cells are formed de novo from abiotic materials.

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4. Why are mitochondria/chloroplasts not considered with the endomembrane system?

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5. Name the single membrane-bound cell organelle, which is rich in hydrolytic enzymes.

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6. Why are enzymes of lysosomes called acid hydrolases?

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7. Why are mitochondria called the powerhouse of the cell?

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8. Why are mitochondria called 'semiautonomous organelles'?

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9. Cell is the basic unit of life. Discuss in brief.

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10. Why is it considered that the content of nucleolus is continuous with that of nucleoplasm?

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11. What is referred to as satellite chromo- some?

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12. Apart from the nucleus, which of the two cell organelles have independent DNA?

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13. Give one difference between acrocentric and telocentric chromosomes.

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14. What is the feature of a metacentric chromosome?

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15. Expand PPLO.

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2 MARKS

15. Multicellular organisms have division of labour. Explain.

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16. What are plasmids? Describe their role in bacteria.

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17. Give any two differences between prokaryotic and eukaryotic cells.

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18. Given below are the pairs of cell organelles and their functions. Which out of these is not a matching pair and why?

(i) Mitochondria: Produce cellular energy in the form of ATP.

(ii) Golgi apparatus: Site of formation of glycoproteins and glycolipids.

(iii) Smooth endoplasmic reticulum: The major site for synthesis of lipid.

(iv) Centrosome: Trap light energy for photosynthesis.

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19. Chloroplasts show division of labour. Justify.

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20. What are nuclear pores? State their function.

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21. What are histones? What are their functions?

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3 marks

22. Name the persons who proposed the cell theory. State the two salient features of this theory.

Or

Who proposed the cell theory? Give the main points of this theory as understood today.

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23. What are the characteristics of prokaryotic cells?

24. What is a mesosome in a prokaryotic cell? Mention the functions that it performs?

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25. How do neutral solutes move across the plasma membrane? Can the polar molecules also move across it in the same way? If not, then how are these transported across the membrane?

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26. Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their functions. Comment.

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27. Describe the structure of one cell organelle, which is considered as a semiautonomous organelle and also called the powerhouse of the cell.

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28. 3.16 Match the following:

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| (i) Cristae | (a) Flat membranous sacs in stroma. |
| (ii) Cisternae | (b) Infoldings in mitochondria. |
| (iii) Thylakoids | (c) Disc-shaped sacs in Golgi apparatus. |

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29. Who proposed the fluid mosaic model of plasma membrane? Describe the fluid mosaic model of plasma membrane with the help of a labelled diagram.

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30. What is a centromere? How does the position of centromere form the basis of classification of chromosomes? Support your answer with a diagram showing the position of centromere on different types of chromosomes.

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31. Draw a diagram of an animal cell and label any ten parts in it.

32. What are inclusion bodies? Name the four type of them.

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33. Draw a neat diagram of a plant cell and label any six parts characteristic of it.

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5 marks

34. Cells are classified on the basis of presence or absence of membrane-bound nucleus and other cell organelles into prokaryotic and eukaryotic cells.

in answering the following questions.

- (a) What is passive transport?
- (b) What type of transport is facilitated diffusion?
- (c) What is osmosis?
- (d) What value do you learn from this?

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37. The detailed structure of the cell membrane was studied only after the discovery of electron microscope. Meanwhile, chemical studies and biochemical investigations reveal that cell membrane has not only proteins and lipids, but also some carbohydrates.

- (a) What are integral proteins in the membrane?
- (b) What are peripheral proteins?
- (c) What is meant by fluidity of membranes?

What is its importance in cell functions?

- (d) What value/moral do you get from the fluidity of membranes?

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38. 5. While each of the membrane-bound organelles in eukaryotic cells is distinct in terms of structure and function(s), some of them are considered together as an endomembrane system.

(a) Name the cell organelles included in the endomembrane system.

(b) Why are they called so?

(c) Are mitochondria included in this system? Why?

(d) What value is shown by these?

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