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BIOLOGY

BOOKS - NCERT BIOLOGY (ENGLISH)

CELL : THE UNIT OF LIFE

Very Short Answer Type Questions

1. What is the significance of vacuole in a plant cell?

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Short Answer Type Questions

1. Discuss briefly the role of nucleolus in the cells actively involved in protein synthesis.

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Long Answer Type Questions

1. What structural and functional attributes must a cell have to be called a living cell ?

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Others

1. A common characteristic feature of plant sieve tube cells and most of mammalian erythrocytes is

A. absence of mitochondria

B. presence of cell wall

C. presence of haemoglobin

D. absence of nucleus

Answer:

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2. Select one which is not true for ribosome

A. Made up of two sub-units

B. Form polysome

C. may attach to mRNA

D. Have no role in protein synthesis

Answer:

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3. Which one of these is not a eukaryote ?

A. Euglena

B. Anabaena

C. Spirogyra

D. Agaricus

Answer:

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4. Which of the following stains is not used for staining chromosomes ?

A. Basic fuschsin

B. Safranin

C. Methylene blue

D. Carmine

Answer:

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5. Different cells have different sizes. Arrange the following cells in an ascending order of their size. Choose the correct option among the followings

i. Mycoplasma, ii. Ostrich eggs

iii. Human RBC, iv. Bacteria

A. I, IV, III, II

B. I, II, III, IV

C. II, I, III, IV

D. III, II, I, IV

Answer:

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6. Which of the following features is common to prokaryotes and rnany eukaryotes?

A. Chromatin meterial present

B. Cell wall present

C. Nuclear membrane present

D. Membrane bound sub-cellular organelles present

Answer: B

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7. Who proposed the fluid mosaic model of plasma membrane ?

A. Camillo Golgi

B. Schleiden and Schwann

C. Singer and Nicolson

D. Robert Brown

Answer:

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8. Which of the following options is true for a secretory cell ?

A. Golgi apparatus is absent

B. Rough Endoplasmic Reticulum (RER) is easily observed in the cell.

C. Only Smooth Endoplasmic Reticulum (SER) is present.

D. Secretory granules are formed in nucleus.

Answer:

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9. What is a tonoplast

A. Outer membrane of mitochondria

B. Inner membrane of chloroplast

C. Membrane boundary of the vacuole of plant cells

D. Cell membrane of a plant cell

Answer:

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10. Which of the following is not true of a eukaryotic cell

A. Cell wall is made up of peptidoglycans

B. It has 80S type of ribosome present in the cytoplasm

C. Mitochondria contain circular DNA

D. Membrane bound organelles are present

Answer: A

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11. Which of the following statements is not true for plasma membrane

A. It is present in both plant and animal cell

B. Lipid is present as a bilayer in it

C. Proteins are present integrated as well as loosely associated with the lipid bilayer

D. Carbohydrate is never found in it

Answer:

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12. Plastid differs from mitochondria on the basis of one of the following features. Mark the right answer

A. Presence of two layers of membrane

B. Presence of ribosome

C. Presence of thylakoids

D. Presence of DNA

Answer:

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13. Which of the following is not a function of cytoskeleton in a cell ?

A. Intracellular transport

B. Maintendnce of cell shape and structure

C. Support of the organelle

D. Cell motility

Answer:

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14. The stain used to visualise mitochondria is

A. fast green

B. safranin

C. acetocarmine

D. janus green

Answer:

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15. What does 'S' refer in a 70S and 80S ribosome?

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16. Mention a single membrane bound organelle which is rich in hydrolytic enzymes.

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17. What are gas vacuoles ? State their functions.

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18. What is the function of a polysome? (Gk. Poly = many, Soma= body).

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19. What is the feature of a metacentric chromosome?

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20. What is referred to as satellite chromosome?

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21. Explain the association of carbohydrate to the plasma membrane and its significance.

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22. Comment on the cartwheel structure of centriole.

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23. Briefly describe the cell theory.

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24. Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER).

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25. Give the biochemical composition of plasma membrane. How are liPid molecules arranged in the membrane?

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

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27. What are histones? What are their functions?

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28. Briefly give the contributions of the following scientists in formulating the cell theory

(a) Rudolf Virchow

(b) Schleiden and Schwann

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29. Is extragenomic DNA present in prokaryotes and eukaryotes? If yes, indicate their location in both the types of organisms.

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30. Structure and function are correlatable in living organisms. Can you justify this by taking plasma membrane as an example?

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31. Eukaryotic cells have organelles which may

(a) not be bound by a membrane

(b) bound by a single membrane

(c) bound by a double membrane

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32. The genomic content of the nucleus is constant for a given species where as the extrachromosomal DNA is found to be variable among the members of a population. Explain.

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33. Justify the statement, 'Mitochondria are power houses of the cell'.

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34. Is there a species specific or region specific type of plastids? How does one distinguish one from the other?

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35. Write the functions of the following

(a) Centromere (b) Cell wall

(c) Smooth ER (d) Golgi apparatus

(e) Centrioles

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36. Are the different types of plastids interchangeable? If yes, give examples where they are getting converted from one type to another.

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