



BIOLOGY

BOOKS - CAMBRIDGE BIOLOGY (KANNADA ENGLISH)

THE FUNDAMENTAL UNIT OF LIFE

Question Hour

1. Who dicovered cells and how ?



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2. Name the structural and functional unit of an organism.



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3. How do substance like CO_2 and water move in and out of the cell ? Discuss.



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4. Why is the plasma membrane called a selectively permeable membrane ?



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5. Fill in the gaps in the following table illustrating differences between prokaryotic and eukaryotic cells.

Prokaryotic Cell	Eukaryotic Cell
1. Size : Generally small(1-10 μm) $1\ \mu\text{m} = 10^{-6}\ \text{m}^2$.	1. Size : Generally large (5-100 μm)
2. Nuclear region : and is known as	2. Nuclear region : Well – defined and surrounded by a nuclear membrane.
3. Chromosome :single	3. More than one chromosome
4. Membrane – bound cell organelles are absent	

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6. Can you name the two organelles we have studied that contain their own genetic material?



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7. If the organization of a cell is destroyed due to some physical or chemical influence what will happen ?



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8. Why are lysosomes known as suicide bags ?



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9. Where are proteins synthesized inside the cell ?



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Exercise

1. Make a comparison and write down ways in which plant cell are different from animal cells .



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2. How is a prokaryotic cell different form a eukaryotic cell ?



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3. What would happen if the plasma membrane ruptures or breaks down ?



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4. What would happen to the life of a cell if there was no golgi apparatus ?



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5. Why are mitochondria called " power houses of the cell"?



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6. Where do the lipids and proteins constituting the cell membrane get synthesized ?

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7. How does an Amoeba obtain its food ?

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8. What is osmosis ?

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9. Carry out the following osmosis experiment. Take four peeled potato halves and scoop each one out to make potato cups one of these potato cups should be made from a boiled potato. Put each potato cup in a tray containing water . Now

(a) Keep cup A empty

(b) Put one teaspoon sugar in cup B

(c) Put one teaspoon sugar in the boiled potato cup

D. Keep these for two hours . Then observe the four potato cups and answer the following : M

(i) Explain why water gathers in the hollowed portion of B and C .

(ii) Why is potato A necessary for the experiment .

(iii) Explain why water does not gather in the hollowed out portions of A and D.



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Additional Questions Choose The Correct Answer

1. Mitochondria are found

A. In all type of living cells

B. only in animal cells

C. Only a plant cells

D. In eukaryote cells only

Answer: D



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2. Who discovered the first living cell.

A. Robert Hooke

B. Leeuwenhock

C. Durkinje

D. Robert Brown

Answer: B



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3. Which of the following can be made into crystal.

A. A bacterium

B. An Ameoba

C. A Virus

D. A Sperm

Answer: C



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4. The main constituent of cell wall is

A. Starch

B. Cellulose

C. Protein

D. None of these

Answer: B



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5. Which organelle is the power house of the cell.

A. Plastide

B. Mitochondria

C. Golgi

D. Calcium

Answer: B



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6. Chromosomes are made up of nucleic acid and ____

.

A. Phosphorus

B. Protein

C. Sugar

D. Calcium

Answer: B



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7. Which organelle is considered as a suicide bage of the cell.

A. Centrosome

B. mesosome

C. Lysosomes

D. Chromosome

Answer: C



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8. Plastids which are responsible for giving colours to fruits and flowers are

A. Chloroplasts

B. Leucoplasts

C. Protoplasts

D. Chromoplasts.

Answer: D



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9. Which of the following organelle is present in onion cells but not in human cheek cells.

A. Cell wall

B. Cytoplasm

C. Nucleus

D. Plasma membrane

Answer: A



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10. Which cell organelle plays a crucial role in detoxifying many poisons and drugs .

- A. Golgi apparatus
- B. Lysosomes
- C. Smooth endoplasmic reticulum
- D. Vacuoles

Answer: C



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Additional Questions Fill In The Blanks

1. The largest cell in the human body is ___

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2. The cell theory was proposed by ____

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3. A plant cell differ from an animal cell in the absence of ___



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4. Centrosome is found in ____



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5. Ribosomes are the centre for ____



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Additional Questions Answer The Following

1. What are cell organelles ?



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2. What is plasma membrane ? What are their functions ?



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3. Define osmosis. In what ways it is different from diffusion?



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4. Write one function of each - Ribosomes, vacuole, lysosomes, plastids.



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5. Name the two nucleic acid present in the cell and their functions.



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6. What are the advantage of multicellu - larity ?



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7. What is cellulose and its functions.



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8. Name a cell that lacks membrane. Where is it prepared.



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9. What are the factors which restrict the size of the cell ?



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10. Write down the main functions of cell wall.



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Additional Questions Match The Following

1.

A

1) Smooth endoplasmic reticulum

2) Lysosome

3) Nucleoid

4) Food Vacuoles

5) Chromatin material & Nucleolus

B

a) Amoeba

b) Nucleus

c) Bacteria

d) Detoxification

e) Suicide bag



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Unit Test Fill In The Blanks

1. Who discovered the first living cell _____



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2. Centrosome is found in ____



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Unit Test Answer The Following

1. Write the difference between plant cell and animal cell ?



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2. Why are mitochondria called "power houses of the cell"?



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3. Write one function of each - Ribosomes, vacuole, lysosomes, plastids.



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4. Write down the main functions of cell wall.



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