

**St. Arnold's English medium school meghnagar**

**Test - 1**

**Sub. - Science**

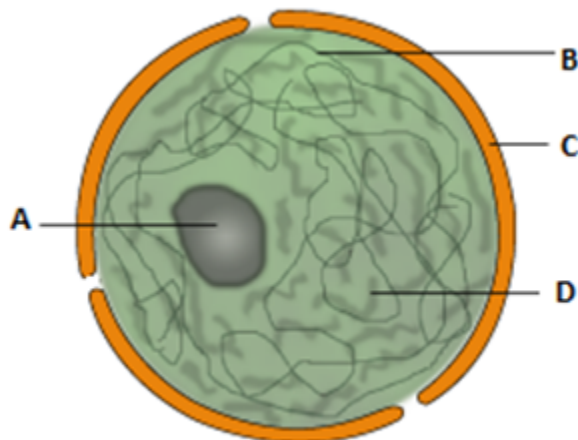
**Class- 9th**

**Topic - Fundamental unit of life**

**Marks : 30**

**Q.I Tick the correct option (1×5 =5)**

1. The nucleus controls all the activities of the cell and acts as a site of DNA material and protein synthesis. It is composed of some components which all together give the nucleus its functionality. Here is shown a figure of nucleus with some of its components labeled as A, B, C and D. can you name these components correctly?



**Structure of Nucleus**

- (a) A – Nucleons; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm
- (b) A – Nucleus; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm
- (c) A – Nucleolus; B – Chromatin; C – Nuclear membrane; D – Nucleoplasm
- (d) A – Nucleolus; B – Chromatin; C – Nuclear membrane; D – Nuclear wall

**2. You must have observed that a fruit when unripe is green but it becomes beautifully coloured when ripe. According to you what is the reason behind this colour change.**

- (a) Chloroplasts change to chromoplasts
- (b) Chromoplasts change to chromosomes
- (c) Chloroplasts change to chromosomes
- (d) Chromoplasts change to chloroplasts

**3. Rahul's mother was going to make pickle. For this she cut the vegetables into small pieces and put them in the sun for few hours. Rahul was observing all her activities very curiously and asked his mother if why she had put the salted vegetables in the sun. among the following what might be the most appropriate answer for his question?**

- (a) So that the pickle may get extra flavour.
- (b) So that the cut vegetables may absorb the vitamin d as a nutrient from the sun rays.
- (c) So that the vegetables may lose all the water by diffusion and evaporation and become dry.
- (d) So that the salt may get evenly and properly absorbed by the vegetables.

**4. The process of plasmolysis in plant cell is defined as:**

- (a) Breakdown of plasma membrane in hypotonic solution.
- (b) Shrinkage of cytoplasm in hypertonic medium.
- (c) Shrinkage of Nucleoplasm.
- (d) None of these.

**5. Mitochondria are the sites of respiration in the cell. They oxidize carbohydrates and fats present in the cell to produce carbon dioxide, water and a lot of energy. The energy so released is stored in the form of ATP molecules. Since mitochondria in the cell are used to synthesize energy so, they are also called:**

- (a) Energy currency of the cell
- (b) Energy generator of the cell
- (c) Kitchen of the cell
- (d) Power house of the cell

**Q.2 Short answer type questions;**

**(2×5=10)**

1. Who discovered cells and how?

.

2. Why are lysosomes known as suicide bags?

3. What is osmosis?

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

5. Name two cell organelles present in an animal cell.

**Q.3 long answer type questions.**

**(3×5=15)**

1. How do substances like CO<sub>2</sub> and water move in and out of the cell? Discuss.

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

3. Which organelle is known as the powerhouse of the cell? Why?

4. Differentiate between prokaryotic and eukaryotic cells.

5. Why is the cell called the structural and functional unit of life?