

INTERNATIONAL INDIAN SCHOOL, RIYADH.
SAI WORKSHEET-2015-16
SUBJECT: BIOLOGY STD: IX

CHAPTER-3 THE FUNDAMENTAL UNIT OF LIFE

Answer the following:

- 1. Where are chromosomes located? What are they composed of? What is chromatin material and how does it change just before the cell divides?**
- 2. Give a scientific reason for the following:**
 - (a) Inner membrane of mitochondria is deeply folded.**
 - (b) Mitochondria are able to make some of their proteins.**
- 3. How does the bone matrix differ from the matrix of cartilage?**
- 4. Preetha was observing live cells of onion in the biology laboratory and she observed cell wall, cytoplasm and nucleus clearly. Suddenly her friend who was doing chemistry experiment spilled a few drops of salt water on the slide. After some time Preetha observed the slide and found some changes. (a) What would have been the change in the live cells of onion peel after adding salt water? (b) Name the type of process.**
- 5. In which form does the mitochondria release energy? Write its full form.**
 - (b) The inner membrane of mitochondria is deeply folded. What is the advantage of these folds?**
- 6. A plant cell is placed in a hypotonic solution. What will happen? Will the cell burst? Why or why not?**

7. What are the different types of endoplasmic reticulum? Write the functions of each.

8. What does DNA molecule contain? In which form is the DNA present in a cell when the cell is not dividing.

9. Categorise the cells on the basis of presence or absence of nuclear membrane.

10. What are the main functions of each of the following cell components?

(a) Plasma membrane (b) cell wall (c) nucleolus (d) lysosomes

(e) chloroplast

10. Name a cell organelle found only in a plant cell. Name its type. Write its functions.

11. Distinguish between hypotonic, hypertonic and isotonic solution.

12. If cells of onion peel and RBC are separately kept in hypotonic solution, what among the following takes place? Explain the reason for your answer. (a) Both the cells will swell. (b) RBC will burst easily while cells of onion peel will resist the bursting to some extent. (c) a and b are correct. (d) RBC and onion peel cells will behave similarly.

13. Why mitochondria called the power house of the cell? Give three similarities and one difference between mitochondria and plastid.

14. Draw a plant cell and label the parts which (a) determines the function and development of the cell. (b) packages materials coming from the ER. (c) provides resistance to microbes to withstand hypotonic external media without bursting. (d) is site for many biochemical reactions necessary to sustain life. (e) is a fluid contained inside the nucleus.
