

## **Holiday Homework**

***Session 2022-23***

***Class-IX***

***BIOLOGY***

### **SECTION- A**

Prepare a model of plant cell and animal cell using common household items like grains and pulses etc.

### **SECTION- B**

Consider a cell like your school. Each part of the cell (school) has responsibilities that must be done and certain organelles (people) to do them. Identify the functions of the following parts of the cell then identify which person does the same job.

First one is done as an example to follow:

S. N.	ORGANELLE	FUNCTION	Part of School that has a similar function
1.	Cell Membrane	Controls what goes in and out of the cell	Front office
2.	Mitochondria		
3.	Nucleus		
4.	Ribosome		
5.	Cytoplasm		
6.	Golgi Body		
7.	Cell Wall (only in plant cell)		

-

## SECTION- C

### WORKSHEET

1. Why is nucleus called as the control centre of the cell?
2. What happens to the vegetables after adding salt?
3. Who stated that cells arise from pre-existing cells ?
4. Why are lysosomes called as scavengers of the cell?
5. Give differences between eukaryotic and prokaryotic cell?
6. State the types and functions of endoplasmic reticulum.
7. Why mitochondria and plastids are called as semi- autonomous organelle?
8. How is osmosis different from diffusion?
9. Why mitochondria is called as the power house of the cell?
10. Why mitosis is useful to animals and plants?
11. Why do dry raisins placed in water swell up?
12. Draw a well labeled diagram of animal cell and label the parts that carry out the following functions:
  - a) Respiration b) Secretion
  - c) Protein Synthesis d) Transport of materials
13. Draw a well labeled diagram of plant cell and label the parts that carry out the following functions:

- a) Photosynthesis
- b) Storage of excess pigments and cell sap
- c) Gives structural strength and rigidity
- d) Controls all the functions of the cell

14. What is the advantage of having deeply folded membrane in mitochondria?

15. If you are provided with some vegetables to cook. You generally add salt into the vegetables during cooking process. After adding salt, vegetables release water. Explain the mechanism is responsible for this?

## Chemistry

### SECTION-D

The first 20 elements of the periodic table have been tabulated below, along with their symbols and atomic numbers. Memorise them and write in chemistry note book.

Atomic Number	Element	Symbol
1	Hydrogen	H

2	Helium	He
3 Lithium Li		
4 Beryllium Be		
5 Boron B		
6 Carbon C		

7	Nitrogen	N
---	----------	---

8	Oxygen	O
9 FluorineF		
10	Neon	Ne
11 Sodium Na		
12	Magnesium	Mg
13	Aluminium	Al
14	Silicon	Si
15	Phosphorus	P
16 SulfurS		
17	Chlorine	Cl
18	Argon	Ar
19	Potassium	K
20	Calcium	Ca

## SECTION-E

Prepare a project report on various samples of a) a mixture b) a compound, c) an element

(metal and non-metal), (3 of each category) highlighting the main characteristic features

of element, compound and mixtures.

## SECTION-F

### Assignment

**Question 1.** Define element, compound and mixture.

**Question 2.** What are pure substance? Give two examples of metals.

**Question 3.** What are metals? Given two examples of metals.

**Question 4.** Is brass a mixture or a compound?

**Question 5.** Define homogeneous and heterogeneous mixtures.

**Question 6.** Classify the following into elements, compounds and mixtures.

a. Sodium

b. Soil

c. Sugar solution

d. Silver

e. Calcium carbonate

f. Tin

**Question 7.** Classify each of the following as a homogeneous or heterogeneous mixture.

Soda water, wood, air, soil, vinegar

**Question 8.** Classify the following elements as metal, nonmetal, or metalloid: aluminum, fluorine, gallium, phosphorus, krypton, tellurium, thorium, barium and strontium.

**Question 9.** Given the names of the elements present in the following compounds:

a. Quicklime

b. Hydrogen bromide

c.Baking soda

d.Potassium sulphate

**Question 10** Name two elements which are in liquid state at room temperature?

#### **SECTION-G**

**Students will draw concept map of L- IS MATTER AROUND US PURE on A4 Size sheet.**

**NOTE-DO SECTIONS B,C,D,E AND F IN SCRAP BOOK.**