

SCIENCE (IX) (2019-20)

SAMPLE PAPER

SECTION A-PHYSICS

1. Fill in the blanks:

(i) The value of g at moon isof value of g at earth.

(ii) Relative density hasunits.

(iii) Propulsion of rocket is based onlaw.

(iv) Larger the, larger is the inertia.

(v) Tides in the sea are due toforce.

2. A body is moving with a uniform speed of 5 m/s. Calculate the amount of force acting on it. Is it possible for an object to have zero velocity but still be accelerated? If yes give an example. (2)

3. Define relative density. Write its S.I unit.

The relative density of silver is 10.8 find the density of silver in S.I unit. (2)

4. What is acceleration? How is circular motion Accelerated. (2)

5. State Newton's 2nd law of motion and derive its mathematical expression. (3)

6. An object is dropped from the top of a tower reaches the ground in 5 sec. Calculate:-

a) The velocity with which it will strike the ground b) The height of the tower. (3)

7. State the law of conservation of linear momentum. A girl of mass 30 Kg with a velocity 10 m/s jumps on a stationary car of mass 5 Kg. Find the velocity with which she and cart start moving after she jumps on it. ($g=10\text{m/s}^2$) (5)

OR

During first half of journey a body travels with a speed of 40 Km/h and in the next half it travels with the speed of 20 Km/h. Calculate the average speed of the whole journey.(5)

8. What will be the effect on force of gravitation if (i) masses of both the objects is doubled and distance between them is halved. (ii) Distance between them is tripled and the mass of one object is also tripled.

If both masses are halved, what should be the change in the distance between them so that the force between them remains same. (5)

CHEMISTRY

1. How does spreading of wet clothes quicken their drying? Explain.
2. When a solid melts, its temperature remains constant, so where does the heat energy go? What is the name given to this heat?
3. Give reason:
 - (a) Steam produces more severe burns as compared to boiling water.
 - (b) Temperature of a liquid does not change when it boils.
4. (a) Why path of light is not visible in a solution when a beam of light is passed through it?
(b) Classify each of the following as solution, colloid or suspension:
 - (i) a mixture whose particles are big enough to scatter to beam of light passing through it.
 - (ii) a mixture whose particles settle down when it is left undisturbed.
5. Differentiate between compound and mixture. (any 2 Points)
6. A solution contains 55 g of sugar dissolved in 670 g of water . Calculate the concentration of this solution?
7. Differentiate between homogeneous and heterogeneous mixtures with example.
8. Air is a mixture or compound? Prove with two points.
9. A gas exerts pressure on the walls of the container. Give reason.
10. When the crystal of potassium permanganate is placed at the bottom of a beaker containing water, the water slowly turns purple. Why?
11. Convert the following temperatures to the Kelvin scale.
 - (a) 65°C
 - (b) 323°C
12. Give reason to justify that gases have high compressibility .
13. What is sublimation? Explain an experiment to demonstrate the sublimation of ammonium chloride with the help of diagram.
14. The smell of hot sizzling food reaches you several meters away, but to get the smell from cold food you have to go close. Give reason.
15. Calculate the molecular mass of the following molecules
 - a. H_2CO_3

b. CaCO_3

c. K_2CO_3

(atomic masses of C=12, O= 16, H =1, Ca = 40, K = 39)

BIOLOGY

1. Genes are present in the _____.
2. Name two organelles having their own genetic material.
3. Name the types of meristematic tissue.
4. Write differences between mitosis and meiosis.
5. Write differences between Prokaryotic and Eukaryotic cell.
6. What are the functions of Lysosomes.
7. Match the following:

a. Ribosomes	1. Control room of the cell
b. Lysosomes	2. Protein factory of the cell
c. Nucleus	3. Kitchen of the cell
d. Chloroplast	4. Suicidal bag of the cell
8. Xylem transports _____ and Phloem transports _____.
9. Name the types of muscles
10. Name the components of blood.
11. What is an impulse?
12. Where is sclerenchymatissue present?
13. What is the function of lateral meristem?
14. Write a note on nucleus.