CBSE Class 9 Science Sample Paper- Set 1

(2021 Question Paper Pattern)

Time - 3 Hours **Total Marks** – 80

General Instructions

(i) **The question paper comprises two sections, A and B. Students have to attempt both the sections.**
(ii) **All given questions are compulsory.**
(iii) **All the questions of section A and section B are to be attempted separately.**
(iv) **Questions 1 to 3 in section A are of one marks. These are to be answered in one word or in one sentence.**
(v) **Question numbers 4 to 6 in section A are two marks. These have to be answered in about 30 words each.**
(vi) **Questions 7 to 15 in section A are of three marks. These are to be answered in about 50 words.**
(vii) **Question number 16 to 21 in section A are of five marks. Question number 19, 20 and 21 have options.**
(viii) **Question number 22 to 30 in section B are multiple choice questions. Each question is of one mark. You are to select one appropriate response out of the four provided.**
(ix) **Question numbers 31 and 32 are of two marks each and are based on practical skill.**

SECTION- A

Find below the 1-mark questions

1. What is a solution?
2. Where do the lipids and proteins constituting the cell membrane get synthesised?
3. What is second law of motion?

Below given are the 2 marks questions

4. Which postulate of Dalton's atomic theory is the result of the law of conservation of mass?
5. Will advanced organisms be the same as complex organisms? Why?
6. You have a bag of cotton and an iron bar, each indicating a mass of 100 kg when measured on a weighing machine. In reality, one is heavier than other. Can you say

which one is heavier and why?

3 marks questions can be found below:

7. Write down the formulae of

(i) sodium oxide

(ii) aluminium chloride

(iii) sodium sulphide

8. What are the limitations of J.J.Thomson's model of the atom?

9. What type of mixtures are separated by the technique of crystallization?

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

11. What are the functions of areolar tissue?

12. Identify the kingdoms on the basis of the following features.

a. Multicellular eukaryotic autotrophic organisms
b. Heterotrophic eukaryotic organisms
c. Unicellular eukaryotic organism

13. A train starting from a railway station and moving with uniform acceleration attains a speed 40 km h^{-1} in 10 minutes. Find its acceleration.

14. A battery lights a bulb. Describe the energy changes involved in the process.

15. An automobile vehicle has a mass of 1500 kg. What must be the force between the vehicle and road if the vehicle is to be stopped with a negative acceleration of 1.7 ms^{-2}?

Find below, the 5 marks Questions

16. How will you separate a mixture containing kerosene and petrol (difference in their boiling points is more than 25°C), which are miscible with each other?

17. Define mitochondria.

18. State which of the following situations are possible and give an example for each of these:

(a) an object with a constant acceleration but with zero velocity

(b) an object moving with an acceleration but with uniform speed

(c) an object moving in a certain direction with an acceleration in the perpendicular direction

19. Give the names of the elements present in the following compounds.

(a) Quick lime

(b) Hydrogen bromide

(c) Baking powder

(d) Potassium sulphate.

OR

When 3.0g of carbon is burnt in 8.00 g of oxygen, 11.00 g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.00g of carbon is burnt in 50.00 g of oxygen? Which law of chemical combination will govern your answer?

20. How do substances like CO_2 and water move in and out of the cell? Discuss.

OR

Diagrammatically show the difference between the three types of muscle fibres.

21. What is the quantity which is measured by the area occupied below the velocity-time graph?

OR

Akhtar, Kiran, and Rahul were riding in a motorcar that was moving with a high velocity on an expressway when an insect hit the windshield and got stuck on the windscreen. Akhtar and Kiran started pondering over the situation. Kiran suggested that the insect suffered a greater change in momentum as compared to the change in momentum of the motorcar (because the change in the velocity of the insect was much more than that of the motorcar). Akhtar said that since the motorcar was moving with a larger velocity, it exerted a larger force on the insect. And as a result the insect died. Rahul while putting an entirely new explanation said that both the motorcar and the insect experienced the same force and a change in their momentum. Comment on these suggestions.

SECTION- B

Find below MCQs

22. Which of the following technique can be used for bringing genetical changes in plants.

(a) Tissue culture
(b) Asexual reproduction
(c) Gene manipulation
(d) All

23. Boiling point (°C) of Oxygen is ____

(a) -183

(b) -196

(c) – 186

(d) -200

24. The mass of an object is a measure of its inertia. Its SI unit is _____

(a) Kilogram(kg)

(b) m/s^2

(c) metre

(d) kg m s^{-1}.

25. The weight is a force acting vertically downwards; It_____

(a) has both magnitude and direction
(b) has no magnitude
(c) has no direction
(d) does not have any direction or magnitude

26. Plant tissues are of two main types_____

(a) merismatic and permanent
(b) epithelial and connective
(c) Muscular
(d) Nervous

27. _____ is the rate of change of velocity

(a) Acceleration
(b) Force
(c) Momentum
(d) Weight

28. Mass of the Earth = _____

(a) 5.98×10^{24}
(b) 6.78×10^{22}
(c) 4.72×10^{20}
(d) 7.36×10^{22}

29. Cells were first discovered in 1665 by _____
(a) Purkinje
(b) Robert Brown
(c) Robert Hooke
(d) Virchow

30. Aerated drinks like soda water is _____
(a) a liquid solution
(b) a gas in liquid solution
(c) a solid
(d) a gas

Short Answers- 2 marks Questions

31. What are the drawbacks of Rutherford's model of the atom?

32. An athlete completes one round of a circular track of diameter 200 m in 40 *s*. What will be the distance covered and the displacement at the end of 2 minutes 20 s?