

## Sample Question Paper

SCIENCE

Class – IX

Term – I

Time: 3 hrs.

MM: 90

**GENERAL INSTRUCTIONS:**

- i) *The question paper comprises of two sections, A and B, You are to attempt both the sections.*
- ii) *All questions are compulsory.*
- iii) *There is no overall choice. However internal choice has been provided in all the five questions of five marks category. Only one option in such questions is to be attempted.*
- iv) *All questions of section A and all questions of section B are to be attempted separately.*
- v) *Questions numbers 1 to 3 in section A are one mark questions. These are to be answered in one word or one sentence.*
- vi) *Question numbers 4 to 7 are two marks, to be answered in about 30 words each.*
- vii) *Question numbers 8 to 19 are three mark questions, to be answered in about 50 words each.*
- viii) *Questions numbers 20 to 24 are five mark questions, to be answered in about 70 words each.*
- ix) *Question number 25 to 42 in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to choose one most appropriate response out of the four provided to you.*

## SECTION - A

1. A rubber band changes its shape on stretching. Is it a solid?
2. Why is the cell called the structural and functional unit of life?
3. What does the odometer of an automobile measure?
4. How can plant cells withstand much greater changes in the surrounding medium than the animal cells?
5. List in tabular form any two differences between homogeneous and heterogeneous mixtures.
6. List four reasons to support that water is a compound and not a mixture.
7. A man weighs 600N on the surface of earth. What would be his mass and weight on the surface of moon? (take of  $g_{\text{earth}} = 10\text{m/s}^2$ )
8. The brakes applied to a car produce an acceleration of  $7\text{ m/s}^2$  in the opposite direction to motion. If the car takes 4 seconds to stop after the application of brakes, calculate the distance, it travels during this time.
9. Give the location and functions of the following tissues:
  - (a) Cartilage
  - (b) Areolar tissue
  - (c) Adipose tissue
10. Give reasons:
  - (a) A sponge can be pressed easily; still it is called a solid.
  - (b) Water vapours have more energy than water at same temperature.
  - (c) Naphthalene balls disappear with time without leaving any solid.
11. Derive the relation between force and acceleration. Define one unit of force.
12. (a) State the dispersed phase and dispersion medium of smoke.
  - (b) Describe a method to separate a mixture of two miscible liquids having boiling point difference of  $30^\circ\text{C}$ .
13. State differences between mixed cropping and intercropping with examples.

14. Consider the following details. Can you interpret the type of motion shown by car A and car B? Show calculations.

Car-A

Time in seconds	0	5	10	15	20	25	30	35
Distance covered in meters	0	10	20	30	40	50	60	70

Car-B

Time in seconds	0	5	10	15	20	25	30	35
Distance covered in meters	0	5	15	20	30	60	65	75

15. Derive graphically the equation for position-time relation for an object travelling a distance 's' in time 't' under uniform acceleration.
16. What will happen if:
- Ribosomes are removed from the cell,
  - Golgi apparatus is removed from the cell,
  - Plasma membrane ruptures?
17. State the law of inertia. Why do we fall in the forward direction if a moving bus stops suddenly and fall backward direction if it suddenly accelerates from rest?
18. (a) Draw the adipose connective tissue.
- (b) Mention one region in the body where this tissue is present and state one function of this tissue.
19. Prove that if a body is thrown vertically upward, the time of ascent is equal to the time of decent.
20. Compare in tabular form, the properties of solids, liquids and gases with respect to:
- Shape
  - Volume
  - Compressibility
  - Diffusion
  - Fluidity or Rigidity

21. (a) Account for the following:

- (i) Hydrogen is considered as an element.
- (ii) Water is regarded as compound.

(b) What is the physical state of water at (i) 250°C (ii) 100°C ?

OR

(a) How are sol, solution and suspension different from each other?

(b) Which of the following is chemical change? Justify.

- (i) Rusting of iron
- (ii) Mixing of iron fillings and sand
- (iii) Cooking of food
- (iv) Freezing of water

22. How can crop variety improvement methods come to the rescue of farmers facing repeated crop failures? Describe three factors for which they could do crop improvement.

OR

A poultry farmer wants to increase his broiler production. Explain three management practices he must follow to enhance the yield.

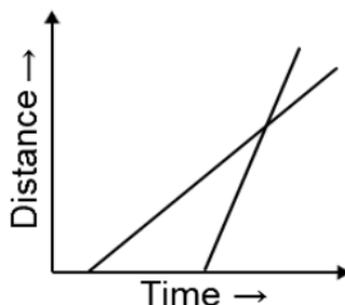
In what ways is the daily food requirement of broilers different from those of egg layers?

23. (a) State one similarity and one difference between evaporation and boiling.

(b) List four factors which affect the rate of evaporation.

(c) Describe an activity to show that water vapour is present in air.

24. The graph below represents the distance-time graph of two cars A and B. which car is moving with a greater speed when both are moving and why?



Define uniform acceleration. Derive the following equations considering uniform acceleration:

a)  $S = ut + \frac{1}{2} at^2$

b)  $V^2 = u^2 + 2as$

## SECTION - B

25. X is a mixture of iron fillings and sulphur and Y is a product obtained by heating the mixture X and crushing it to a fine powder. On bringing a magnet over both X and Y, Simran observed that:
- X and Y both are attracted.
  - X is attracted while Y is not.
  - Y is attracted while X is not.
  - Both X and Y are not attracted.
26. On observing onion peel slide under low power of compound microscope the structures clearly seen are:
- Cell wall, cell membrane, nucleus, cytoplasm
  - Nucleus, cell membrane, vacuole, chromosomes
  - Cell wall, cell membrane, nucleus, plastids
  - Cell wall, cell membrane, cytoplasm, mitochondria
27. Two students prepared mixtures in water by taking sugar, sand, chalk powder and starch respectively, in four different test tubes. After stirring, the mixture that appeared clear and transparent was that of
- Starch and water
  - Chalk powder and water
  - Sand and water
  - Sugar and water
28. The colour of sodium chloride and ammonium chloride respectively is –
- Yellow and white
  - White and yellow
  - Both are white
  - Grey and yellow
29. In an experiment to separate the components of a mixture of sand, common salt and ammonium chloride, the component which will be removed by filtration is
- Sand
  - Common salt
  - Ammonium chloride
  - None of these
30. A permanent slide shows thin walled isodiametric cells with a large vacuole. The slide contains:
- Parenchymal cells
  - Nerve cells
  - Sclerenchyma cells
  - Collenchyma cells

- 31.** Common salt and sand can be separated by:
- Filtration
  - Crystallization
  - Sedimentation and decantation
  - First dissolving in water, then by filtration and followed by crystallization.
- 32.** Animal cells are commonly stained with:
- Methylene blue
  - Acetocarmine
  - Safranin
  - Iodine solution
- 33.** Rahul mixed starch with water, boiled the mixture well and stirred it. He observed that –
- Starch floats on the surface of water
  - Starch settles down at the bottom
  - Starch forms a translucent mixture
  - Starch forms a transparent mixture
- 34.** When iron nails are placed in copper-sulphate solution, after 10 minutes, its blue colour disappears and the solution appears
- Reddish brown
  - Blue
  - Light blue
  - Greenish
- 35.** Which of the following sublimates on heating:
- Iodine
  - Camphor
  - Naphthalene
  - All of these
- 36.** Which of the following has the largest inertia?
- A pin
  - An ink pot
  - Your physics text book
  - Your body
- 37.** Girt Is formed in some fruits due to
- Sclereids
  - Parenchyma
  - Fibres
  - Collenchyma

- 38.** Given below are the four methods of testing the presence of metanil yellow in a given sample of arhar dal. The correct method is:
- (a) 5g of dal is added to 5g of metanil yellow.
  - (b) 5g of dal is added to 5mL of water and 2 drops of conc. HCl.
  - (c) 5g of boiled dal is added to 5mL of water.
  - (d) 5g of boiled dal is added to 5g of metanil yellow.
- 39.** A student soaked 10g raisins in 15mL of distilled water in two beakers A and B. He maintained beaker A at 20°C and beaker B at 40°C. after an hour, the percentage of water absorbed will be:
- (a) Same in beaker A and B
  - (b) More in A than in B
  - (c) More in B than in A
  - (d) Twice as much in B as in A
- 40.** Divya, Priya, Raj and Jaya were asked to select a plant material which would not give blue black colour with iodine solution. Who did not select the right material?
- (a) Divya selected maize grains
  - (b) Priya selected ground nut seeds
  - (c) Raj selected wheat grains
  - (d) Jaya selected potato
- 41.** In the preparation of temporary mount of onion peel which of the following is not used:
- (a) Water
  - (b) Glycerine
  - (c) Safranin
  - (d) Alcohol
- 42.** A student takes some water in a beaker and heats it over a flame for determining its boiling point. He keeps on taking its temperature reading. He observes that the temperature of the water
- (a) Keeps on increasing regularly
  - (b) Keeps on increasing irregularly
  - (c) First increases slowly, then decreases rapidly and eventually becomes constant
  - (d) First increases gradually and then becomes constant