

Class IX Session 2025-26

Subject - Science

Sample Question Paper - 1

Time Allowed: 3 hours

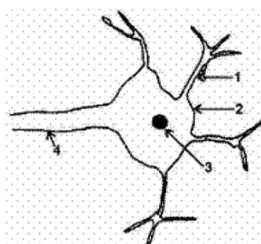
Maximum Marks: 80

General Instructions:

1. This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

Section A

1. The student were shown the slide of a nerve cell. They were asked to draw the diagram of the nerve cell. The correct sequence of the labeling 1, 2, 3, 4 is: [1]



- | | |
|--|--|
| <ol style="list-style-type: none"> a) Cilia, Nucleus, Dendrite, Cyton c) Dendron, Cyton, Nucleus, Axon | <ol style="list-style-type: none"> b) Axon, Nissl's granule, Dendrite, Cytoplasm d) Axon, Cytoplasm, Dendrite, Nucleus |
|--|--|
2. The cell sap in plant cells consists of: [1]

<ol style="list-style-type: none"> a) water only c) water + inorganic substances 	<ol style="list-style-type: none"> b) water + organic substances d) both (water only) and (water + inorganic substances)
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3. Match the following with the correct response: [1]

(a) Genes	(i) Loss of water by plant cells
(b) Diffusion	(ii) Gases
(c) Osmosis	(iii) Hereditary units
(d) Plasmolysis	(iv) Movement of water molecules

- | | |
|--|--|
| <ol style="list-style-type: none"> a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i) c) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii) | <ol style="list-style-type: none"> b) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv) d) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii) |
|--|--|
4. Choose the wrong statement: [1]
 - A. The nature of the matrix differs according to the function of the tissue

Answer the following questions:

- i. What is the main purpose of green manure?
- ii. Name any two plants which can be used for green manure.
- iii. What is the advantage of using biological manure?

13. **Read the following text carefully and answer the questions that follow:** [4]

Animal tissue has various types of epithelial tissue, connective tissue, muscular tissue, and nervous tissue and of tissue one of them is the connective tissue which consists of blood, bone, cartilage. Blood is the fluid matrix called plasma in which red blood cells, white blood cells, and platelet are suspended while bone form the framework that supports the body it also anchors the muscle and supports the main organ of the body. Two bones are connected by a ligament. cartilage is a solid matrix composed of sugar and protein.

- i. Name the tissue which connects muscle to a bone. (1)
- ii. Matrix of bone cells are composed of (1)
- iii. Two bones are connected by ligament how muscle connects to the bone? (2)

OR

Where the cartilage is found in the human body? (2)

14. What are cell organelles? Write the names of different cell organelles. [5]

OR

- i. Which process in meristematic tissue converts it to permanent tissue?
- ii. Which feature of meristematic tissue helps aquatic plants to maintain buoyancy in water?
- iii. Why epidermis of plants living in dry habitats is thicker?
- iv. Identify the following.
 - a. Living component of xylem
 - b. Dead element of phloem
- v. Which type of conducting tissues conduct water and minerals vertically?

Section B

15. Which of the two statements is true? [1]

Statement A: The temperature of the liquid becomes constant once it starts boiling.

Statement B: The pressure of air at sea level is 70 cm.

- | | |
|---------------------------|-----------------|
| a) Both A and B are false | b) Both A and B |
| c) Statement B | d) Statement A |

16. Which of the following statements is not true about H_2SO_4 ? [1]

- A. It is composed of 2 Hydrogen, 1 Sulphur, and 4 Oxygen atoms.
- B. Its relative molecular mass is 98.
- C. It is composed of one molecule of H_2 , one atom of S, and two molecules of O_2 .
- D. Its relative molecular mass is 108.

- | | |
|---------------|-----------------|
| a) B and C | b) All of these |
| c) A, B and D | d) C and D |

17. Fermentation of grapes is an example of [1]

- | | |
|--------------------|-------------------|
| a) Chemical change | b) Redox reaction |
|--------------------|-------------------|

c) Reversible change

d) Physical change

18. Match the following with the correct response:

[1]

(a) Discovery of subatomic particles	(i) Orbits
(b) Energy levels	(ii) Positively charged
(c) Universal particles	(iii) Electrons
(d) Canal rays	(iv) Discharge tube

a) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

b) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)

c) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)

d) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)

19. The number of molecules in $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ bonded by H-bond is

[1]

a) 5

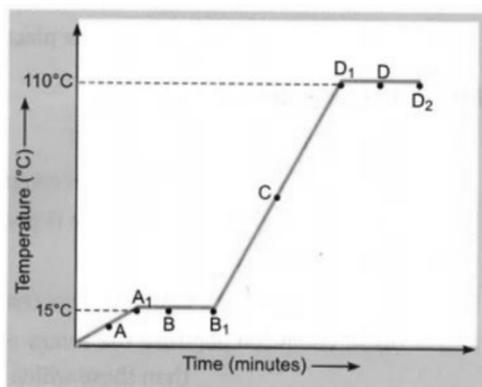
b) 3

c) 2

d) 1

20. The temperature-time graph given alongside shows the heating curve for pure wax.

[1]



What is the melting point of the substance?

a) 9°C

b) 110°C

c) 15°C

d) 90°C

21. Which one is a physical change?

[1]

a) Mixing NH_3 and HCl

b) Adding NaCl to water

c) Mixing $\text{BaSO}_4 + \text{NaCl}$

d) Burning magnesium in air

22. **Assertion (A):** We use names and symbols as stated by IUPAC.

[1]

Reason (R): Many symbols are the last letter or the last two letters of the name of the element.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

23. State the Postulates of Dalton Theory.

[2]

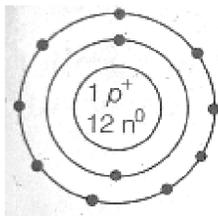
24. The solubility of sodium chloride in water increases with rise in temperature while that of lithium carbonate decreases. Give reason.

[3]

OR

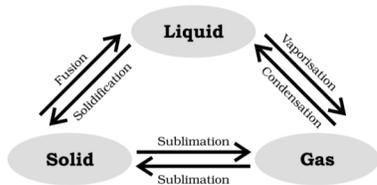
Differentiate between metals and non-metals based upon the various properties that they show.

25. Given below is the atomic structure of an atom of element ${}_{11}^{23}A$, according to Bohr's model of atom. [3]



- What is wrong with this structure of atom?
 - Draw a correct representation of this atom.
 - Write the chemical formula of the chloride of this element.
26. **Read the following text carefully and answer the questions that follow:** [4]

Matter around us exists in three different states—solid, liquid and gas. These states of matter arise due to the variation in the characteristics of the particles of matter. Solids have a tendency to maintain their shape when subjected to outside force. Solids may break under force but it is difficult to change their shape, so they are rigid. the difference in various states of matter is due to the difference in the distances between the constituent particles. Pressure and temperature determine the state of a substance, whether it will be solid, liquid or gas.



- write the properties of solid state of matter? (1)
- How does solid gets converted directly into gaseous states of matter? (1)
- What is vaporization? (2)

OR

Give an example from which we can say that gas can directly converted into solid state of matter? (2)

27. Complete the following table. [5]

Atomic Number	Mass Number	Number of Neutrons	Number of Protons	Number of Electrons	Name of the atomic Species
9	-	10	-	-	-
16	32	-	-	-	Sulphur
-	24	-	12	-	-
-	2	-	1	-	-
-	1	0	1	0	-

OR

Atomic number	Mass number	Number of neutrons	Number of protons	Number of electrons	Name of the atomic species
9	-	10	-	-	-
16	32	-	-	-	Sulphur
-	24	-	12	-	-
-	2	-	1	-	-

-	1	0	1	0	-
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Section C

28. The given image shows an effect of force that it can [1]

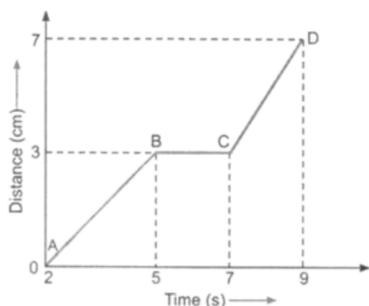


- a) Change the size of the object b) Move a stationary object
 c) Stop a moving object d) Change the shape of the object
29. Which of the following energy cannot be completely converted into other forms due to the transmission system? [1]
- a) Nuclear energy b) Solar energy
 c) Heat energy d) Mechanical energy
30. Which of the following is a false statement? [1]
- A. The body can have a constant velocity and still have a varying speed.
 B. The body can have zero velocity and still be accelerated.
 C. The body can have a constant speed and still have varying velocity
 D. The direction of the velocity of a body can change when its acceleration is constant.
- a) (A) b) (B)
 c) (D) d) (C)
31. Upthrust depends on: [1]
- a) dipped volume of the body immersed b) density of the liquid
 c) both density of the liquid and dipped volume of the body immersed. d) volume of the liquid
32. **Assertion (A):** The velocity of sound in hydrogen gas is less than the velocity of sound in oxygen gas. [1]
Reason (R): The density of oxygen is more than the density of hydrogen.
- a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is not the correct explanation of A.
 c) A is true but R is false. d) A is false but R is true.
33. A hockey ball of mass 200 g travelling at 10 ms^{-1} is struck by a hockey stick so as to return it along its original path with a velocity at 5 ms^{-1} . Calculate the magnitude of change of momentum occurred in the motion of the hockey ball by the force applied by the hockey stick. [2]
34. The kinetic energy of an object of mass m moving with a velocity of 5 ms^{-1} is 25 J. What will be its kinetic energy when its velocity is doubled? What will be its kinetic energy when its velocity is increased to three times? [2]

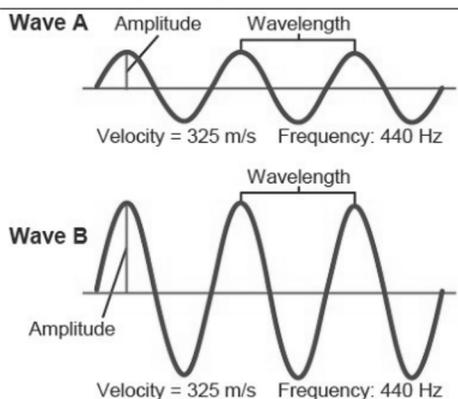
OR

An engine can pump 30,000 litres of water a vertical height of 45 metres in 10 minutes. Calculate the work done by the machine and its power. [$g = 9.8 \text{ m/s}^2$; Density of water = 10^3 kg/m^3 , 1000 litre = 1 m^3].

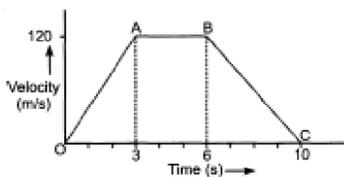
35. The graph given below shows the positions of a body at different times. Calculate the speed of the body as it moves from [3]
- A to B
 - B to C
 - C to D



36. Observe the given figure and answer the following questions: [3]

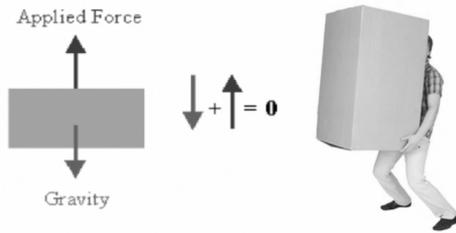


- Identify the characteristics of the two graphs as shown above in the given figure.
 - What is the relationship between the velocity of sound, its wavelength, and frequency?
 - What is the term for the magnitude of the maximum disturbance in the medium on either side of the mean value?
 - Give the unit of frequency?
37. The velocity-time graph of an object of mass $m = 50 \text{ g}$ is shown in the figure. Observe the graph carefully and answer the following questions. [3]
- Calculate the force on the object in time interval 0 to 3 s.
 - Calculate the force on the object in the time interval 6 to 10 s.
 - Is there any time interval in which no force acts on the object? Justify your answer.



38. Read the following text carefully and answer the questions that follow: [4]
- Work is done **whenever a force moves something over a distance**. You can calculate the energy transferred, or work done, by multiplying the force by the distance moved in the direction of the force. Energy transferred =

work done = force \times distance moved in the direction of the force.



Four men lift a 250 kg box to a height of 1 m and hold it without raising or lowering it.

- i. Define work done. (1)
- ii. How much work is done by the men in lifting the box? (1)
- iii. How much work do they do in just holding it? (2)

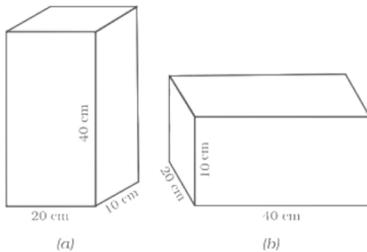
OR

Why do they get tired while holding it? ($g = 10 \text{ ms}^{-2}$) (2)

39.
 - i. Suppose the mass of the earth somehow increases by 10% without any change in its size. What would happen to your weight? [5]
 - ii. Suppose the radius of the earth becomes twice of its present radius without any change in its mass. What will happen to your weight?

OR

A block of wood is kept on a tabletop. The mass of the wooden block is 5 kg and its dimensions are 40 cm \times 20 cm \times 10 cm. Find the pressure exerted by the wooden block on the table top if it is made to lie on the table top with its sides of dimensions



- i. 20 cm \times 10 cm and
- ii. 40 cm \times 20 cm.