Class IX Session 2025-26
Subject - Science
Sample Question Paper - 5

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. Which of the following statement/s is/are correct regarding the given cropping program?   **[1]**
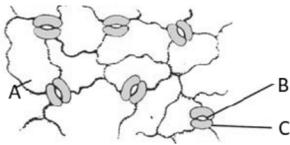

   a) It involves growing two or more crops simultaneously on the same piece of land.

   b) Both the availability of moisture and irrigation facilities decides the choice of the crop to be cultivated after one harvest and this cropping program reduces the need for fertilizers are correct.

   c) The availability of moisture and irrigation facilities decides the choice of the crop to be cultivated after one harvest.

   d) This cropping program reduces the need for fertilizers.

2. "Viruses are non-cellular organisms" - this statement is a: **[1]**

   a) False statement

   b) Partially false

   c) True statement

   d) Partially true

3. Match the following with the correct response: **[1]**

(a) Meristematic tissue	(i) Blood and bones
(b) Epidermal tissue	(ii) Divides rapidly
(c) Connective tissue	(iii) Conducts message
(d) Nervous tissue	(iv) The outer surface of plants

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

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

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

4. Find the incorrect statement: **[1]**

A. Root tips are permanent tissue.

B. Mycoplasma gallisepticum is the smallest cell among the unicellular organisms.

C. Acetabularia measures nearly 10 cm in height.

D. Tonoplast is the membrane surrounding the vacuole.

a) (D)   b) (A)

c) (C)   d) (B)

5. **Assertion (A)**: Vaccinations are given to farm animals.   **[1]**

Reason (R): Vaccinations protect the farm animals from a number of diseases caused due to virus and bacteria.

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

c) A is true but R is false.   d) A is false but R is true.

6. **Assertion (A):** Vascular or conductive tissue is a distinctive feature of complex plants.   **[1]**

Reason (R): Vascular tissue has made survival of complex plants possible in the terrestrial environments.

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

c) A is true but R is false.   d) A is false but R is true.

7. The most abundant material on the plant cell wall is: **[1]**

a) lipids   b) cellulose

c) wax   d) proteins

8. Those organs of the body like oral cavity, esophagus, etc., which are subjected to mechanical abrasions are lined   **[1]**
    by

a) stratified cuboidal epithelium   b) simple squamous epithelium

c) stratified squamous epithelium   d) simple columnar epithelium

9. Continuous use of fertilizers can destroy soil fertility because   **[1]**

a) organic matter is not replenished   b) microbes in the soil are harmed

c) both organic matter is not replenished and   d) soil becomes hard
   microbes in the soil are harmed

10. Enumerate the advantages of mixed farming.   **[2]**

11. If cells of onion peel and RBC are separately kept in hypotonic solution, what will happen to each of them?   **[2]**
    Explain.

OR

Name the cell organelle found in plant cells only. Write its types and function.

12. Write a short note on 'phellogen'.   **[2]**

13. Observe the given below diagram and answer the following questions: **[3]**

i. What does A represent in the given diagram? How does cell 'A' of root hairs cells help in water absorption?

ii. How does B in the given diagram help the plants?

iii. Out of A, B, and C cells in the above diagram, which cell helps in the closing and opening of the stomata? Write the name of the cell.

14. Differentiate between active and passive transport. **[3]**

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

Cropping pattern refers to the proportion of land under cultivation of different crops at different points of time. Intercropping is the practice of growing more than one crop on the same field at the same time in a definite row pattern. It is much superior to mixed cropping. Intercropping can incorporate crop rotation. The technique makes the farmers busy throughout the year. Productivity is increased. Soil erosion is prevented. Pests and weeds remain under control.

i. What is Inter-cropping? (1)

ii. Why intercropping is superior to all other means of cropping? (1)

iii. Which method of cropping prevents soil erosion by checking soil creep after harvesting a crop? (2)

OR

Modern cropping is based on machines from sowing to harvesting. Which is the best method of cropping for this? (2)

16. i. Describe the role played by the lysosomes. Why are they termed as suicidal bags? How do they perform their function? **[5]**

ii. What happens to the dry raisins, when placed in plain water for some time? State the reason for whatever is observed. What would happen if these raisins are then placed in concentrated salt solution?

OR

Write differences between animal tissue and plant tissue.

Section B

17. **Assertion (A):** The conversion of gas directly into solid is called condensation. **[1]**

Reason (R): Naphthalene leaves residue when kept open for some time.

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.

18. The chemical symbol for nitrogen gas is   **[1]**

    a) N   b) N_2

    c) N^+ d) Ni

19. Match the following with the correct response.   **[1]**

(a) A solution having a uniform composition	(i) Homogenous
(b) Solution with separate boundaries of various components	(ii) Chemical change
(c) New substances are formed	(iii) Heterogeneous
(d) Melting of ice	(iv) physical change

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

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

20. **Assertion (A):** An atom contains a positively charged center called the nucleus of the atom.   **[1]**

    Reason (R): The nucleus of an atom is 10,000 times bigger than the atom.

    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.

21. Four different experiments were conducted in the following ways: **[1]**

    i. 3 g of carbon was burnt in 8 g of oxygen to give 11 g of CO_2.

    ii. 1.2 g of carbon was burnt in air to give 4.2 g of CO_2.

    iii. 4.5 g of carbon was burnt in enough air to give 11 g of CO_2.

    iv. 4 g of carbon was burnt in oxygen to form 30.3 g of CO_2.

    Law of constant proportions is not illustrated in experiment(s).

    a) ii, iii and iv only   b) iv only

    c) i and iii only   d) i only

22. When water boils its temperature   **[1]**

    a) keeps on increasing as long as heating is continued.   b) remains constant

    c) may decreases or increases depending on the place where the experiment is being carried out.   d) keeps decreases then increases.

23. Boiling points of a few gases are given below: **[1]**

Gas	W	X	Y	Z
Boiling point (^{o}C)	-152	-246	-196	-183

    If liquid mixture of these gases is fractionally distilled, the order of gases distilling out from first to last is

    a) W, X, Y, Z   b) Z, X, Y, W

    c) X, Y, Z, W   d) Y, X, Z, W

24. Which of the following is a correct setup for absorbing the law of conservation of mass in a chemical reaction before the solution is mixed? **[1]**
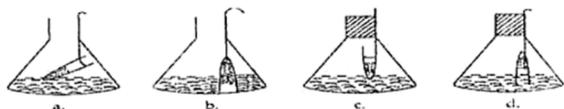
    a) d   b) a

    c) c   d) b

25. A compound is regarded as a pure substance while the mixture is not. Give reason. **[2]**

26. Write down the names of compounds represented by following formulae: **[3]**

   i. $Al_2(SO_4)_3$

   ii. $CaCl_2$

   iii. K_2SO_4

   iv. KNO_3

   v. $CaCO_3$

<div align="center">OR</div>

Dalton's atomic theory is contradicted by the formula of sucrose $C_{12}H_{22}O_{11}$. Justify the statement.

27. How does evaporation differ from vaporisation? **[3]**

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

Only certain special orbits known as discrete orbits of electrons are allowed inside the atom. While revolving in discrete orbits the electrons do not radiate energy. Neutrons are present in the nucleus of all atoms, except hydrogen. In general, a neutron is represented as 'n'. The mass of an atom is therefore given by the sum of the masses of protons and neutrons present in the nucleus. The maximum number of electrons present in a shell is given by the formula $2n^2$, where 'n' is the orbit number or energy level index, 1, 2, 3... Electrons are not accommodated in a given shell unless the inner shells are filled.
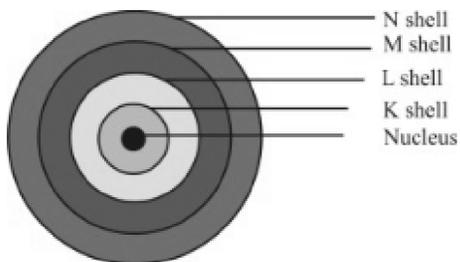
  i. Write the name of the sub-atomic particle discovered by J.Chadwick . What type of charge occurs on this particle ? In which part of an atom this particle is located? (1)

  ii. Identify the element in the following figure. (1)
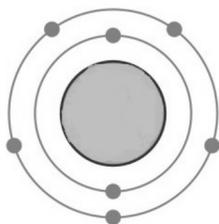
iii. What is the electronic configuration of phosphorus? (2)

   OR

   What is the maximum number of electrons that can be accommodated in M Shell of an atom? (2)

29. Classify each of the following as a physical or a chemical change. Give reasons.   **[5]**

   i. Drying of a shirt in the sun.

   ii. Rising of hot air over a radiator.

   iii. Burning of kerosene in a lantern.

   iv. Change in the colour of black tea on adding lemon juice to it.

   v. Churning of milk cream to get butter.

<div align="center">OR</div>

   i. Under which category of mixtures will you classify alloys and why?

   ii. Whether a solution is always liquid or not. Comment.

   iii. Can a solution be heterogeneous?

<div align="center">**Section C**</div>

30. If force, change in momentum and time are given by F, p and t respectively, then they are related by   **[1]**

   a) F = pt

   b) $Ft^2 = p$

   c) $F = \frac{P}{t}$

   d) $p = F^2t$

31. **Assertion (A):** No work is done when a woman carrying a load on her head, walks on a level road with a   **[1]**
uniform velocity.

   Reason (R): No work is done if force is perpendicular to the direction of displacement.

   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.

32. What is the use of the device shown in the given below image?   **[1]**
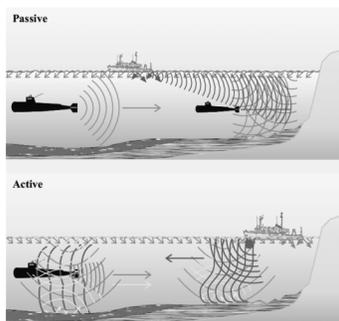
   a) The direction of underwater objects

   b) The distance of underwater objects

   c) All of these

   d) The speed of underwater objects

33. Why is the weight of an object on the moon $\frac{1}{6}$th its weight on the earth?   **[2]**

34. Explain why some of the leaves may fall from a tree, if we vigorously shake its branch.   **[2]**

<div align="center">OR</div>

   According to the third law of motion, when we push on an object, the object pushes back on us with an equal and
opposite force. If the object is a massive truck parked along the roadside, it will probably not move. A student

justifies this by answering that the two opposite and equal forces cancel each other. Comment on this logic and explain why the truck does not move.

35. A bus starting from rest moves with a uniform acceleration of 0.1 m s^{-2} for 2 minutes. Find: **[3]**

   a. the speed acquired.

   b. the distance travelled.

36. Reena's grandmother took her mother to a doctor as she was four months pregnant for ultrasonography. But she showed her interest in determining whether the child is a boy or a girl. The doctor was annoyed and refused to disclose the gender of the child. **[3]**

   a. What is ultrasonography?

   b. On what principle does it work?

   c. Why do you think the doctor refused to determine the gender of the child?

   d. What values are promoted by the doctor?

37. The velocity-time graph of a ball moving on the surface of a floor is shown in the figure. Find the force acting on the ball if the mass of the ball is 50 g. **[3]**
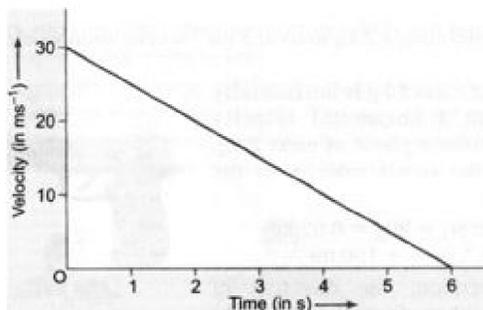
38. **Read the following text carefully and answer the questions that follow:** **[4]**

The force with which a planet attracts an object towards it is called the weight of the object on that planet. The weight of an object on the surface of the earth is W newton. The object is now taken to a planet whose mass is $\frac{1}{4}$ times the mass of earth and radius is $\frac{1}{8}$ times the radius of the earth. It is found that the weight of the object on the planet is different than the weight on the earth. g is the acceleration due to gravity on the earth.

   i. What is weight and how is it different from mass? (1)

  ii. Why is the weight of an object less on the moon than on earth? (1)

 iii. What is the value of acceleration due to gravity on the planet? (2)

   OR

   On what factors do the weights of an object depend? (2)

39.   i. State the law of conservation of energy. **[5]**

  ii. Illustrate the law of conservation of energy by discussing the energy changes which occur when we draw a pendulum bob to one side and allow it to oscillate.

<div align="center">OR</div>

  i. If the displacement of a body is zero, is it necessary that the distance covered by it is also zero?

  ii. A body starts to slide over a horizontal surface with an initial velocity of 0.7 m/s. due to friction, its velocity decreases at the rate 0.07 m/s^2. How much time will it take for the body to stop?