

Science

Final Exam 2023

Practice Test Paper No. 1

Class 9th

Time: 3 h

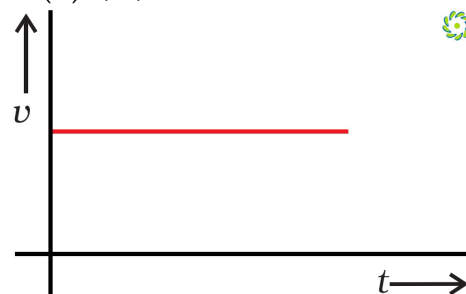
Marks: 80

Section	A	B	C	D	E
Q. No.	1 – 20	21 – 26	27 – 33	34 – 36	37 – 39
Marks	1	2	3	5	4
Type	MCQ	V. S. A. Type	S. A. Type	L. A. Type	Case Study Based

Section A

- The outermost covering of plant cell is called
 - Plasma membrane
 - Cell wall
 - Tonoplast
 - Nuclear membrane
- Ram was asked to select a simple permanent tissue which makes the plant hard and stiff and consisting of dead cells. He selected:
 - Xylem
 - Cork
 - Sclerenchyma
 - Collenchyma
- What happens to the gravitational force between two bodies if their masses are doubled:
 - Force is doubled
 - force becomes 4 times
 - Force becomes half
 - No change
- Carbohydrates are mainly stored in plants as
 - Glycogen
 - Starch
 - Sucrose
 - Glucose
- Which of the following statements are true for pure substances?
 - Pure substances contain only one kind of particles.
 - Pure substances may be compounds or mixtures.
 - Pure substances have the same composition throughout.
 - Pure substances have fixed melting and boiling points.
 - (i) and (ii)
 - (i) and (iii)
 - (iii) and (iv)
 - (ii), (iii) and (iv)
- Which of the following statement is always correct?
 - An atom has equal number of electrons and protons.
 - An atom has equal number of electrons and neutrons.
 - An atom has equal number of protons and neutrons.
 - An atom has equal number of electrons, protons and neutrons.
- In which of the following cases of motions, the distance moved and the magnitude of displacement are equal?
 - If the car is moving on straight road
 - If the car is moving in circular path
 - The pendulum is moving to and fro
 - The earth is revolving around the Sun
- The forces of action and reaction cannot cancel each other because
 - they are unequal
 - they act in the same direction
 - they act upon different bodies
 - none of these
- A car is accelerated on a levelled road and attains a velocity 4 times of its initial velocity. In this process the potential energy of the car :
 - does not change
 - becomes twice that of initial

- (c) becomes 4 times that of initial (d) becomes 16 times that of initial
10. The distance between two consecutive crests in a wave train produced in a string is 25 cm. If two complete waves pass through a point per second, the speed of the wave is :
 (a) 50 cm/s (b) 12.5 cm/s (c) 25 cm (d) 75 cm/s
11. Which of the following tissues has dead cells?
 (a) Parenchyma (b) Sclerenchyma (c) Collenchyma (d) Epithelial tissue
12. Which one is not a source of carbohydrate?
 (a) Rice (b) Millets (c) Sorghum (d) Gram
13. Choose the correct statement of the following
 (a) conversion of solid into vapours without passing through the liquid state is called vapourisation.
 (b) conversion of vapours into solid without passing through the liquid state is called sublimation.
 (c) conversion of vapours into solid without passing through the liquid state is called freezing.
 (d) conversion of solid into liquid is called sublimation.
14. Which condition out of the following will increase the evaporation of water?
 (a) Increase in temperature of water (b) Decrease in temperature of water
 (c) Less exposed surface area of water (d) Adding common salt to water
15. Which of the following are physical changes?
 (i) Melting of iron metal (ii) Rusting of iron
 (iii) Bending of an iron rod (iv) Drawing a wire of iron metal
 (a) (i), (ii) and (iii) (b) (i), (ii) and (iv) (c) (i), (iii) and (iv) (d) (ii), (iii) and (iv)
16. Tincture of iodine has antiseptic properties. This solution is made by dissolving
 (a) iodine in potassium iodide (b) iodine in vaseline
 (c) iodine in water (d) iodine in alcohol
17. The chemical symbol for nitrogen gas is
 (a) Ni (b) N₂ (c) N⁺ (d) N
18. Which of the following represents a correct chemical formula?
 (a) CaCl (b) NH₄OH (c) NaSO₄ (d) NaS
19. Which of the following correctly represent the electronic distribution in the Mg atom?
 (a) 3, 8, 1 (b) 2, 8, 2 (c) 1, 8, 3 (d) 8, 2, 2
20. From the given $v - t$ graph, it can be inferred that the object is
 (a) in uniform motion
 (b) at rest
 (c) in non-uniform motion
 (d) moving with uniform acceleration



Section B

21. When 3.0 g of carbon is burnt in 8.0 g of oxygen, 11.0 g carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.0 g of carbon is burnt in 50.00 g of oxygen? Which law of chemical combination will govern your answer?
22. Write the difference between transverse wave and longitudinal wave.
23. Write two advantages of organic farming.

24. According to Newton's law of gravitation, the apple and the earth experience equal and opposite forces due to gravitation. But it is the apple that falls towards the earth and not vice-versa. Why?
25. How much work is done when a force of 2 N moves a body through a distance of 3 m in its direction?
26. (i) What is the value of boiling point of water on Kelvin scale of temperature?
(ii) Which produces more severe burns, boiling water or steam? Why?

Section C

27. What happens to the Gravitational force between two objects if:
(a) the mass of one object is doubled.
(b) the distance between the objects is doubled.
(c) the masses of one object is doubled and of the other object is halved.
Give reason in each case.
28. Calculate the masses of cane sugar and water required to prepare 200 g of 15% mass by mass solution of cane sugar in water.
29. The velocity of a body moving in a straight line is increased by applying a constant force F , for some distance in the direction of the motion. Prove that the increase in the kinetic energy of the body is equal to the work done by the force on the body.
30. Draw a neat diagram for a plant cell. Label the following parts in the diagram:
(i) Cell wall (ii) Nucleus (iii) Chloroplast (iv) Vacuoles
31. Write one function of each of the following tissues and also name the chemicals present in them.
(a) Sclerenchyma (b) Collenchyma (c) Cork cells
32. Account for the following:
(i) For any physical state, the temperature remains constant during the change of state.
(ii) Water, in an earthen pot becomes cool in summer.
(iii) We are able to sip hot tea more easily from a saucer rather than a cup.
33. Using a SONAR device sound pulses are emitted at the surface. These pulses after being reflected from the bottom are detected. If the time interval from the emission to the detection of the sound pulses is 2.6 seconds, find the depth of water. Speed of sound in ocean water is 1530 m/s.

Section D

34. A body moves with a velocity of 2 m/s for 5 s, and then its velocity increases uniformly to 10 m/s in next 5 s. There after its velocity begins to decrease at a uniform rate until it comes to rest after 5 s.
(a) Plot velocity-time graph for the motion of the body.
(b) From the graph find the total distance covered by the body between 2 s and 12 s.
35. (a) State law of inertia. Give one example from daily life where we observe the effect of inertia.
(b) A bullet of mass 10 g travelling horizontally with a velocity of 150 ms^{-1} strikes a stationary wooden block and comes to rest in 0.03 s. Calculate the distance of penetration of the bullet into the block. Also calculate the magnitude of the force exerted by the wooden block on the bullet.

36. (a) Define atomic number and mass number of an element.
(b) One atom of an element contains 8 protons and 8 neutrons. Find:
(i) number of electrons, (ii) atomic number, (iii) mass number.

Section E

37. Compare any four properties of true solution, colloid and suspension in a tabular form.
38. Differentiate between tendons and ligaments.
39. (i) List the main postulates of Bohr's atomic model.
(ii) Write the distribution of electrons in calcium (At. No. = 20).
(iii) Explain how electrons are distributed in different orbits. (Bohr-Bury Scheme)



Words of Wisdom

Challenges are what make life interesting and overcoming them is what makes life meaningful.

- Joshua J. Marine

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