

POLICE DAV PUBLIC SCHOOL
HOLIDAYS HOMEWORK
SUBJECT SCIENCE
CLASS IX

CHOOSE THE CORRECT ANSWER BY GIVING SUITABLE REASON:

1. The flexibility of plasma membrane can be contributed to the presence of
(a) proteins (b) lipids (c) nucleic acids (d) both (a) and (b)
2. The cell wall of which out of these is not made up of cellulose?
(a) Bacteria (b) Hydrilla (c) Mango tree (d) Cactus
3. Which one of the following terms describes 'a nucleus without nuclear membrane'?
(a) Nucleolus (b) Primitive nucleus (c) Nucleoid (d) All of these
4. Swollen feet and ankle can be naturally cured by dipping them in salt water. Suggest the mechanism involved in this treatment.
(a) Diffusion (b) Osmosis (c) Plasmolysis (d) Deplasmolysis
5. The term 'Protoplasm' was coined by
(a) Purkinje (b) Robert Hooke (c) Virchow (d) Robert Brown
6. Seema visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing her experience with friend she got confused. Help her to identify the correct set of conditions
(a) Low pressure , low temperature (b) High temperature , low pressure
(c) Low temperature , high pressure (d) High temperature , high pressure
7. On converting 25°C , 38°C and 66°C to Kelvin scale , the correct sequence of temperature will be
(a) 298 K , 311 K and 339 K (b) 298 K , 300 K and 338 K
(c) 273 K , 278 K and 543 K (d) 298 K , 310 K and 338 K
8. 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 of water (d) Adding common salt to water
9. Crystals of KMnO_4 in water proves that
(a) KMnO_4 is of red colour (b) KMnO_4 is acidic in nature
(c) KMnO_4 is made up of millions of tiny particles (d) KMnO_4 is a reducing agent
10. A few substances are arranged in the increasing order of forces of attraction between their particles. Whivh one of the following represents a correct arrangement?
(a) Water , air , wind (b) Air , sugar , oil
(c) Oxygen , water , sugar (d) Salt , juice , air
11. If you move 5 km north, 5km east, 5km South, then your displacement is
A. 5km towards East B. 5km towards North
C. 5 km towards South D. Zero
12. A sprinter completes a round on a circular path of circumference 400m. What is his displacement?
A. 100m B. 200m C. Zero D. 400m
13. An athlete uniformly increases its speed from rest at the rate of 1metre per Second Square. The time taken tocomplete 200m race is
A. 14s B. 20s C. 5s D. 10s

14. A body moving from rest with uniform acceleration travels a distance x in first ' t ' seconds & travels a distance y with same acceleration in next ' $2t$ ' seconds then which relation is correct:
 A. $y = \frac{1}{2} X$ B. $y = 2X$ C. $y = 3x$ D. $y = 4x$
15. Acceleration of car in motion is 1.5m/s^2 . How much is the increase in velocity in 4 s?
 A. 6m/s B. 4m/s C. 2.66m/s D. 3m/s

VERY SHORT ANSWER TYPE QUESTIONS

16. Apart from gaseous exchange, how is diffusion important for organisms?
17. Give one significance of cytoplasm in a eukaryotic cell.
18. Which organelle constitutes the network of complex cellular membrane system in living cells?
19. Name the process by which unicellular freshwater organisms and most plant cells tend to gain water.
20. In which form is the DNA present in a cell when the cell is not dividing?
21. Which characteristic of a gas is used in supplying oxygen cylinders to hospitals?
22. Why does the temperature remain constant during sublimation?
23. Why a drop of dettol is evenly distributed in a bucket of water without the need of stirring?
24. Why do gases exert more pressure on the walls of container than the solids?
25. Water droplets are observed on the outer surface of glass tumbler containing ice cold water. Give reason.
26. When will you say a body is in (a). Uniform acceleration (b) Non-uniform acceleration
27. In a distance time graph. If A is origin, D is point on straight line graph and AO is time taken by a body to travel a distance of AC, then speed is expressed as _____
28. The velocity time graph of body is decreasing curved line, then it indicates uniform acceleration. (True/False)
29. The displacement covered by a second's hand of radius ' r ' in a clock after one revolution is _____
30. What does area under v-t graph represent?

ASSERTION – REASON

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R).

- (A) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - (B) If both Assertion and Reason are true but Reason is not the correct Explanation of Assertion.
 - (C) If Assertion is true but Reason is false.
 - (D) If Assertion is false, Reason is true.
 - (E) If both Assertion and Reason are false.
31. Assertion- Chromosomes are constituted by DNA and protein.
Reason- These are thread like structures present in nucleus.
 32. Assertion- Mitochondria are known as the powerhouse of a cell.
Reason – These generate energy (as ATP) for various cellular activities.
 33. Assertion- Rudolf Virchow proposed cell theory.
Reason – His cell theory states that all plants and animals are composed of cells.
 34. Assertion - Lysosomes are often called as suicidal bags of a cell.
Reason – Lysosomes contain hydrolytic enzymes capable of digesting cellular waste.
 35. Assertion- Robert Brown discovered nucleus.
Reason – Nucleoplasm and cytoplasm of a living cell together form the protoplasm.

36. Assertion – The smell of hot cooked food reaches us in seconds.
Reason – Rate of diffusion of solids is greater than that of gases.
37. Assertion – Naphthalene does not leave a residue when kept open for sometime.
Reason – The conversion of a gas directly into solid is called condensation.
38. Assertion – Liquids diffuse less easily as compared to gases.
Reason – Intermolecular forces are greater in gases.
39. Assertion- During Evaporation of liquids the temperature remains unaffected.
Reason –Kinetic energy of the molecules is directly proportional to temperature.
40. Assertion- There is no change in the temperature of a substance when it undergoes a change of state though it is still being heated.
Reason - The heat supplied is absorbed as latent heat of fusion or as latent heat of vapourisation.
41. (1)Assertion: When an object is accelerating, it is either speeding up or slowing down.
Reason: When an object moves in circular path with uniform speed, it accelerates.
42. (2) Assertion: If velocity of a particle at certain instant is zero then its acceleration must be 0 at that instant
Reason: When a particle is projected upward under gravity then at the top its velocity will be zero.
43. (3) Assertion: For a particle in state of motion, average velocity can be zero, but average speed cannot be zero.
Reason: For a particle in a state of motion, displacement can be zero but distance can never be zero.
44. (4) Assertion: A ball is thrown vertically upwards and air resistance is considered, Time of ascent is less than time of descent.
Reason: Air resistance always acts opposite to the velocity.
45. (5) Assertion: For an observer sitting in a train, the person sitting next to him appears at rest to him but for an observer standing outside, both the persons appear to be in motion to him
Reason: Rest and motion are relative terms.

PRACTICAL WORK:

Buy the practical file of “TOGETHER WITH” and write the practicals accordingly.

CHEMISTRY:-

- Determination of the melting point of ice and the boiling point of water.
- Preparation of a) true solution of common salt , sugar and alum.
b) a suspension of soil , chalk powder and fine sand in water.
c) a colloidal solution of starch in water and egg albumin / milk in water and distinguish between these on the basis of transparency , filtration and stability
- Separation of the components of a mixture of sand , common salt and ammonium chloride.
- Preparation of a) mixture b) compound
Using iron fillings and sulphur powder and distinguish between these on the basis of
i. appearance i.e., homogeneity and heterogeneity
ii. behaviour towards a magnet.
iii. behaviour towards carbon disulphide as a solvent
iv. effect of heat.
- Performing the following reactions and classifying them as physical or chemical changes :
i. iron with copper sulphate solution in water.
ii. Burning of magnesium in air.

iii. Zinc with dilute sulphuric acid

iv. Heating of copper sulphate.

v. Sodium sulphate with barium chloride in the form of their solutions in water.

BIOLOGY:-

1. Preparation of stained temporary mounts of (a) onion peel (b) human cheek cells and record observations and draw their labelled diagrams.
2. Identification of parenchyma, collenchymas and sclerenchyma tissues in plants. Striped, smooth and cardiac muscle fibres and nerve cells in animals, from prepared slides. Draw their labelled diagrams.

PHYSICS

NOTE: Also Write 4 practical in physics practical notebook.

Instructions for writing practical

1. All work on a blank page is to be done with pencil and on ruled page heading with black pen and blue gel pen for explanation

BLANK SHEET	RULED SHEET
Aim , Material required	Aim , Material ,Required
Diagram	Theory
Observation Table	Procedure
Result	Result , Precautions