



# DELHI PUBLIC SCHOOL, CHANDIGARH

Periodic Test - III, Session 2023-24

Class: IX, Subject: Science (Set 1)

Time: 1:30 min

Aashita

MM: 40/40

### General Instructions:

1. Write question number, sub part number very carefully.
2. Do your paper section wise.
3. All questions are compulsory.
4. Section A-Questions 1 to 10 carry 1 marks each.
5. Section B-Questions 11 to 13 carry 2 marks each.
6. Section C-Questions 14 to 18 carry 3 marks each.
7. Section D-Question 19 carries 5 marks.
8. Section E - Question 20 carries 4 marks
9. Draw neat diagrams wherever necessary.

### Section A

1. There are 4 balls A, B, C and D which displace 10ml, 12ml, 24ml, 20ml of water when dipped in a beaker containing water. The loss in weight will be maximum for
 

a) A	b) B
<del>c) C</del>	d) D
2. The formula to find the work done is
 

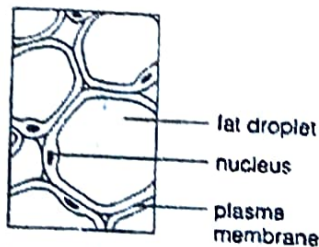
a) $W = F+s$	<del>b) <math>W = Fs</math></del>
c) $W = F-s$	d) $W = F/s$
3. Atomic radius is measured in..... x
 

a) Kg	b) cm
c) Mm	d) nm
4. The molecule having an atomicity of 4 is:
 

<del>a) Sulphate molecule</del>	b) Methane molecule
c) Ozone molecule	<del>d) Phosphorus molecule</del>
5. Absorption and secretion occur in the inner lining of the intestine to absorb the digested food materials. What type of epithelial cells are responsible for that?
 

a) Stratified squamous epithelium	b) Spindle fibres
<del>c) Columnar epithelium</del>	d) Cuboidal epithelium
6. Tissue in which fats are stored in human body

- a) cuboidal epithelium
- b) cartilage
- ~~c) adipose tissue~~
- d) bones



Fat storing tissue

7. Which one is not a source of carbohydrate?
 

a) Rice	<del>b) Gram</del>
<del>c) Millets</del>	d) Wheat

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (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.
- (e) Both assertion and reason are wrong.

8. **Assertion:** When the force retards the motion of a body, the work done is negative. (b)  
**Reason :** Work done depends on angle between force and displacement.

9. **Assertion:** In the molecular formula  $Ca_3(PO_4)_2$ , the valencies of calcium and phosphate ions are 2 and 3 respectively. (a) or (d)  
**Reason:** While writing the formula of a compound the valencies of its constituents are criss crossed.

10. **Assertion:** Epithelial tissue is protective tissue in animal body.  
**Reason:** Bone is a type of epithelial tissue. (c)

**Section-B**

11. Give two points of differences between a cation and anion. + -
12. a) Bone is a strong and nonflexible tissue. Cathode Anode What would be the advantage of these properties for bone functions? Frame



$KCl_2$  ig

Bone tissue

b) Give the difference between tendon and ligament based on their location. B to B

13. What are rabi crops? Give two ways in which they are different from kharif crops.

**Section-C**

14. Define Buoyant Force. What is the direction in which this force acts? Why is it easier to swim in sea water than in fresh water? eg -

15. Define Work. Give one example each of (a) negative work (b) zero work. object thrown vertically upwards

144  
22  
176  
342

16. a) Write the chemical formula of (i) calcium sulphate  $CaSO_4$  (ii) magnesium carbonate  $MgCO_3$

b) Calculate the molecular masses of (i)  $C_{12}H_{22}O_{11}$  (ii)  $CH_4$  →  $12 \times 12 + 1 \times 22 + 16 \times 11$   
 [At. Mass of O=16u, C= 12u, H=1u]  $12 \times 12 + 1 \times 22 + 16 \times 11$   
 $= 144 + 22 + 176$   
 $= 342u$

17. a) Draw neat well labelled diagram of smooth muscle.  $= 16u$   
 b) Give one function of smooth muscle.

18. a) Give the difference between green manure and vermicompost.  
 b) What is hybridization? List two types of hybridization.

$$\begin{array}{r}
 5.4 + 6.0 = 11.4 \text{ g} \\
 2.2 + 1.0 + 8.2 = 11.4 \text{ g}
 \end{array}$$

mass of an atom

- Section-D**
- (i) In a reaction, 5.4g of sodium carbonate reacted with 6g of ethanoic acid. The products were 2.2g of carbon dioxide, 1.0g of water and 8.2 g of sodium ethanoate. Show that these observations are in agreement with the law of conservation of mass.
  - (ii) Define valency. *Sulphate Sulphate*
  - (iii) Give an example each of a triatomic and tetraatomic molecule of compound. ✓

**Section-E**

The force acting on an object perpendicular to the surface is called thrust. When you stand on loose sand, the force, that is, the weight of your body is acting on an area equal to area of your feet. When you lie down then the same force acts on an area equal to the contact area of your whole body, which is larger than the area of your feet. Thus, the effects of forces of the same magnitude on different areas are different. In the above cases, thrust is the same. But effects are different. Therefore the effect of thrust depends on the area on which it acts. The effect of thrust on sand is larger while standing than while lying. The thrust on unit area is called pressure.

- (i) a) We have two different areas A and B. where  $A < B$ . What is the relation between pressure on A ( $P_A$ ) and pressure on B ( $P_B$ ), if the same thrust is applied on both surfaces.
- b) What is the SI unit of thrust? *N Pascal (Pa)*
- (ii) Pressure of 10 Pascals is exerted on a surface by an object with surface area  $20\text{cm}^2$ . Calculate the value of thrust exerted by it.

$$P = \frac{T}{A} \\
 10 = \frac{T}{20} \\
 10 \times 20 = T$$