ST. SOLDIER'S SCHOOL

UNIT TEST-1

Science

Class – IX

SET- 2

Time Allowed: 1.5 hours **Maximum Marks: 40**

Q1. Multiple choice questions: (1x6=6)

1. A student adds ink to water. The ink particles spread throughout the water. Which property of water allows other particles to diffuse in it ?
   a) fixed volume b) inability to compress c) intermolecular spaces d) ability to change shape

2. The melting point of four solid A,B,C,D are 380K, 54K, 290K and 1600K. The forces of attraction are in order of:
   a) A<B<C<D b) B<C<D<A c) B<C<A<D d) C<B<A<D

3. The organelle which contains powerful enzymes and are capable of digesting or breaking down all organic materials is:
   a) mitochondria b) golgi apparatus c) chloroplast d0 lysosomes

4. A cell loses water by osmosis when kept in a solution having low concentration of water than the cell. The given solution is:
   a) Hypertonic b) Hypotonic c) Isotonic d) Dilute

5. A body thrown vertically upwards reaches a maximum height h. It then returns to ground . The distance and the displacement travelled by the body respectively are:
   a) 2h, zero b) h, zero c) zero, h d) zero,2h

6. If a body moves with a uniform velocity, then the acceleration is equal to:
   a) zero b) finite c) infinite d) constant

Q2. Very Short Answers (2x5=10)

7. Give differences between distance and displacement .

8. A bus accelerates uniformly from 54km/hr to 72km/hr in 10 sec. Calculate its acceleration.

9. What do you mean by Plasmolysis. What happens to a cell when it is kept in a hypertonic solution?.

10. Explain each of the following observations:
    a) A solid naphthalene ball disappears without leaving any liquid.
    b) Your skin feels cold when a little alcohol is rubbed on it.

11. Why does the temperature of a substance remain constant during its melting point or boiling point?

Q3. Short answers (3x4=12marks)

12. Which cell organelle is called the power house of the cell? Explain why is it called so? How is this organelle able to make its own proteins?

13. a) How does the water kept in an earthen pot becomes cool in summer?

b) What is the physical state of water at i) 25°C ii) 0°C

14. Draw the diagram of an animal cell and label the parts that;
a) helps in protein synthesis b) helps in formation of lysosomes.

15. a) When will you say a body is in i) uniform acceleration ii) non - uniform acceleration.
b) What is the quantity which is measured by the area occupied below the velocity-time graph?

Q4. Case-Based Questions (3x4=12marks)

16. Matter is anything that occupies space and has mass. Matter is classified into solid, liquid and gas. In solid state, the particles are closely packed and have very strong forces of attraction, particles can only vibrate around fixed positions. In liquid state, particles are far apart with weak forces of attraction particles can move throughout the liquid. In gaseous state, particles are far apart with weak forces of attraction and are in constant state of random motion.

a) Why gas exerts pressure on the walls of the container?
b) Write two methods by which gases can be liquefied ?
c) Ice at 0°c is cooler than water at 0°c?

17. Vani has pain in her stomach along with loose motions. she was taken to the hospital by her mother. The doctor told the mother to get the stool of Vani tested in a pathology laboratory. Next day, in the report , it was found that she has severe infection caused by a bacteria called E.Coli. Based on the case study, answer the questions:

a) What are prokaryotes
b) What is a nucleoid?
c) Give two differences between prokaryotes and eukaryotes?
d) Draw a diagram of prokaryotic cell and label the cell wall, ribosomes and nucleoid.

18. The velocity time graph of an ascending passenger lift is given below.
a)What is the acceleration of the lift:
(i) during the first two seconds
(ii) between 2nd and 10th second
(iii) during the last 2 sec.
b) Calculate the displacement covered during the first 2 sec.