CHEMISTRY
MATTER IN OUR SURROUNDINGS

1. Give one word for the following
   a. The force of attraction between the particles
   b. The rigid form of matter
   c. A solid which can be compressed easily
   d. The tendency to flow and change shape
   e. Mixing of substances on their own

2. Give the full form of CNG and LPG. What is common between the two? Give explanation for the same.

3. Draw a diagram to show the arrangement of particles in a solid, a liquid and a gas.
   What can be interpreted from the distance between the constituent particles?

4. Draw a flow diagram showing the Interconversion of states of matter. Label the diagram properly.

5. Which characteristic of matter is exhibited by these phenomenons?
   Brownian motion   and   diffusion

6. Give reason

   a. Particles of potassium permanganate spread easily in water kept at room Temperature but not in very cold water.

   b. It is difficult to cut the stream of water.

   c. Fragrance of perfume spreads very fast.

   d. A gas fills the vessel in which it ice kept.

7. What is the physical state of water at 25°C and 0°C?

8. What are the two main ways of changing the physical states of matter?

9. Why does the temperature not change when ice melts to form water?

10. What is meant by the following statement-?
    The latent heat of fusion of ice is 3.34×10^5 J/Kg.

PHYSICS

CHAPTER – MOTION

1) Under what conditions is the magnitude of average velocity of an object equal to its average speed?

2) What can you say about motion of an object whose distance time graph is a straight line parallel to the time axis?

3) What is the quantity which is measured by the area occupied below velocity-time graph?

4) Draw a velocity –time graph of a stone thrown vertically upwards and then coming downwards after attaining the maximum height.

5) What is the numerical ratio of average velocity to average speed of an object when it is moving along a straight path?

6) What can you say about motion of an object if its speed-time graph is a straight line parallel to the time axis?

7) Kiara hired a taxi and noted the initial reading of its odometer as 24803 km. After the journey, she noted the final reading of the odometer as 25118 km. If the journey took 4 hours 40 minutes, calculate the average speed of the taxi during the entire journey.

8) A marble rolling on a smooth floor has an initial velocity of 0.4m/s. If the floor offers a retardation of .02m/s², calculate the time it will take to come to rest.

9) At a certain instant, an auto driver is driving at a speed of 30 km/h. Then he uniformly accelerates the auto after 2.5 minutes, the speed of auto becomes 60 km/h. What is the average speed of the auto? What is the value of uniform acceleration during the given interval of time?

10) A train 100m long is to cross a river of bridge of length 800m. What time will it take to cross the bridge? The train moves with a constant velocity of 36km/h.

BIOLOGY
FUNDAMENTAL UNIT OF LIFE: CELL

Q1: What for ATP stands for? Which organelle is the power plant of eukaryotic cell. Write in brief its function

Q2: Differentiate between diffusion and osmosis.

Q3: Why lysosomes are known as suicidal bags?

Q4: How do substances like CO_2 and H_2O move in and out of the cell?

Q5: Why is plasma membrane known as selectively permeable membrane?

Q6: What do you understand by semi autonomous bodies? Give examples also

Q7: Put a drop of blood in three type of liquids:
- Pure water
- Salt solution
- Water containing 5M glucose and 0.9% Nacl
- What will happen to the blood drop and why? Explain your answer

Q8: Why is endocytosis found in animals only?

Q9: If you are provided with some vegetables to cook, you generally add salt