A. Objective Questions

1. Write **true** or **false** for each statement :

   (a) The molecules of each substance are identical.

   (b) The inter-molecular forces are effective at all distances between the two molecules.

   (c) The molecules in a substance are in random motion.

   (d) In a gas, the molecules can move anywhere in space.

   (e) The liquids are less viscous than the gases.

   Ans. (a) F (b) F (c) T (d) T (e) F

2. Fill in the blanks :

   (a) All the molecules of a substance are .....

   (b) The inter-molecular spacing is ..... in solids ..... in liquids and ..... in gases.

   (c) The molecular motion in liquid and gas is in ..... path.

   (d) In a solid, the molecules ..... but they remain at their fixed positions.

   (e) The inter-molecular forces are the weakest in .....

   (f) A solid exerts pressure .....

   (g) The gases are ..... dense.

   (h) A solid is ..... rigid.

   Ans. (a) identical (b) least, more, still more (c) zig-zag (d) vibrate on either side (e) gases (f) downwards on its base (g) least (h) most

3. Select the correct alternative :

   (a) The diameter of a molecule is approximately

   (i) 1 cm (ii) 10 cm

   (iii) 10^{-10} m (iv) 1 m

   (b) The inter-molecular forces are strongest in

   (i) solids (ii) liquids

(iii) gases (iv) both (i) and (ii)

(c) The molecules

(i) in solid, liquid and gas, move freely anywhere.

(ii) in a solid, move freely within its boundary.

(iii) in a liquid, move within its boundary.

(iv) in a gas, move only within its boundary.

(d) The solids are

(i) more dense (ii) less dense

(iii) least dense (iv) highly compressible

(e) The inter-molecular forces in lqiuds are

(i) as strong as in solids

(ii) stronger than in solids

(iii) weaker than in solids

(iv) weaker than in gases

Ans. (a) (iii), (b) (i), (c) (iii), (d) (i), (e) (iii)

4. Match the following columns :

Column A	Column B
(a) A molecule is composed of	(i) does not exist free in nature.
(b) Ice, water and water vapour	(ii) can vibrate only up to about 10^{-10} m from their mean positions.
(c) An atom	(iii) atoms.
(d) Gases	(iv) are the three states of water.
(e) The molecules of a solid	(v) occupy space

Ans. (a)-(iii), (b)-(iv), (c)-(i), (d)-(v), (e)-(ii)

B. Short/Long answer questions

1. Define matter. What is its composition ?
2. Name the *three* states of matter.
3. What is a molecule ?
4. What is the