Chapter 1

The Solid State

(Assertion and Reason Questions)

Directions: These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following four responses.

(a) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.

(b) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.

(c) If the Assertion is correct but Reason is incorrect.

(d) If both the Assertion and Reason are incorrect.

Q.1. Assertion : Graphite is an example of tetragonal crystal system. **Reason :** For a tetragonal system, $a = b \neq c$, $\alpha = \beta = 90^{\circ}$, $\gamma = 120^{\circ}$.

Q.2. Assertion : No compound has both Schottky and Frenkel defects. **Reason :** Both defects change the density of the solid.

Q.3. Assertion : Stability of a crystal is reflected in the magnitude of its melting. **Reason :** The stability of a crystal depends upon the strength of the interparticle attractive force.

Q.4. Assertion : Due to Frenkel defect, there is no effect on the density of the crystalline solid.

Reason : In Frenkel defect, no cation or anion leaves the crystal.

Q.5. Assertion : On heating ferromagnetic or ferrimagnetic substances, they become paramagnetic.

Reason : The electrons change their spin on heating.

Q.6. Assertion : In close packing of spheres, a tetrahedral void is surrounded by four spheres whereas an octahedral void is surrounded by six spheres.Reason : A tetrahedral void has a tetrahedral shape whereas an octahedral void has an octahedral shape.

-X-X-X-

ANSWER KEY

Q.1 :(d)	Q.2 :(d)	Q.3 : (a)	Q.4 : (a)
Q.5 : (a)	Q.6 : (c)		