

## Metallurgical Engineering Physics of Metals MCQ Questions

1. With the increase of interatomic bond strength of substance, their
  - a. Melting and boiling points decreases
  - b. Melting point increases
  - c. Boiling point increases
  - d. Boiling and melting point increases

Ans: D

2. Which mechanism of diffusion in solids is confirmed by Kirkendall effect?
  - a. Interstitial mechanism
  - b. Vacancy mechanism
  - c. Two atom, interchange mechanism
  - d. Four atoms, ring interchange mechanism

As: B

3. \_\_\_\_\_ method is used for determining the phase composition of alloys and the relative of atoms in metals.
  - a. Powder
  - b. Bragg's
  - c. Rotating crystal
  - d. Sommerfeld's

Ans: c

4. Mixed ionic covalent bonds are normally found in the
  - a. High strength metals
  - b. Semi conductors
  - c. Thermal insulators
  - d. High electrical conductors

Ans: B

5. With increase in temperature of the metal, which of the following decreases?
  - a. Thermal oscillation of ions in lattice

- b. Frequency of collisions between the valence electrons and ions
- c. Free time between collisions
- d. Electrical resistivity

Ans: C

6. The unit of co-efficient of diffusion is
- a.  $\text{sec/m}^2$
  - b.  $\text{m}^2/\text{sec}$
  - c.  $\text{m}^2\text{sec}$
  - d.  $\text{m}^3/\text{sec}$

Ans: B

7. Bragg's law is related to the
- a. Energy level of an atom
  - b. Reflection of X-ray within a crystal
  - c. Degenerate energy systems
  - d. Stereographic projection

Ans: B

8. On being heated up from  $0^\circ\text{K}$ , the electrical resistivity of a metal
- a. Increases
  - b. Decreases
  - c. Remains unchanged
  - d. May increase or decrease; depends on the metal

Ans: A

9. The so called 'dielectric' materials are
- a. Semiconductors
  - b. Super conductors
  - c. Insulators
  - d. Normal conductors

Ans: C

10. Lattice constant of fcc or bcc is equal to the length of the

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- a. Line having the highest linear density
- b. Line having the lowest linear density
- c. Cube edge
- d. Body diagonal

Ans: C

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