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Semiconductor Theory MCQ

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Q1. A semiconductor is formed by _____ bonds.

- **A. Covalent**
- **B.** Electrovalent
- **C.** Co-ordinate
- **D.** None of the above

Q2. The term bias in electronics usually means _____.

- **A.** the value of ac voltage in the signal.
- **B.** the condition of current through a pn junction.
- **C. the value of dc voltages for the device to operate properly.**
- **D.** the status of the diode.

Q3. Under normal conditions a diode conducts current when it is __.

- **A.** reverse biased
- **B. forward biased**
- **C.** avalanched
- **D.** saturated

Q4. At room temperature, an intrinsic silicon crystal acts approximately as _____.

- **A.** A battery
- **B.** A conductor
- **C. An insulator**

- **D.** A piece of copper wire

Q5. With forward bias to a pn junction , the width of depletion layer _____.

- **A. decreases**
- **B.** increases
- **C.** Remains the same
- **D.** None of the above

Q6. When the temperature of an extrinsic semiconductor is increased, the pronounced effect is on _____.

- **A.** Junction capacitance
- **B. Minority carriers**
- **C.** Majority carriers
- **D.** None of the above

Q7. A pn junction acts as a _____.

- **A.** Controlled switch
- **B.** Bidirectional switch
- **C. Unidirectional switch**
- **D.** None of the above

Q8. A hole in a semiconductor is defined as _____.

- **A.** A free electron
- **B. The incomplete part of an electron**
- **C.** pair bond A free proton
- **D.** A free neutron

Q9. A trivalent impurity has _____ valence electrons.

- **A.** 4
- **B.** 5
- **C.** 6
- **D. 3**

Q10. An n-type semiconductor is ____.

- **A.** Positively charged
- **B.** Negatively charged
- **C. Electrically neutral**
- **D.** None of the above

Q11. A pentavalent impurity has _____ Valence electrons.

- **A.** 3
- **B. 5**
- **C.** 4
- **D.** 6

Q12. Addition of pentavalent impurity to a semiconductor creates many _____.

- **A. Free electrons**
- **B.** Holes
- **C.** Bound electrons
- **D.** Valence electrons

Q13. When a pentavalent impurity is added to a pure semiconductor, it becomes _____.

- **A.** An insulator
- **B.** An intrinsic semiconductor
- **C.** p-type semiconductor
- **D. n-type semiconductor**

Q14. The strength of a semiconductor crystal comes from _____.

- **A.** Forces between nuclei
- **B.** Forces between protons
- **C. Electron-pair bonds**
- **D.** None of the above

Q15. When a pure semiconductor is heated, its resistance ____.

- **A.** Goes up
- **B. Goes down**
- **C.** Remains the same
- **D.** Can’t say

Q16. A semiconductor has generally _____ valence electrons.

- **A.** 2
- **B.** 3
- **C.** 6
- **D. 4**

Q17. The most commanly used semiconductor is _____.

- **A.** Germanium
- **B. Silicon**
- **C.** Carbon
- **D.** Sulphur

Q18. As per theory of semiconductor, semiconductor in its pure form is called as _____.

- **A. intrinsic semiconductor.**
- **B.** undoped semiconductors
- **C.** multi semiconductors
- **D.** None of the above

Q19. undoped semiconductors is aslo known as _____.

- **A. i-type semiconductors**
- **B.** v-type semiconductors
- **C.** u-type semiconductors
- **D.** None of the above

Q20. in a semiconductor current conduction is due to _____.

- **A. both holes and electrons**
- **B.** only proton
- **C.** only newtron

- **D.** None of the above