**Q1. A semiconductor is formed by ……… bonds.**

1. Covalent
2. Electrovalent
3. Co-ordinate
4. None of the above

**Answer : 1**

**Q2. A semiconductor has ………… temperature coefficient of resistance.**

1. Positive
2. Zero
3. Negative
4. None of the above

**Answer : 3**

**Q3. The most commonly used semiconductor is ………..**

1. Germanium
2. Silicon
3. Carbon
4. Sulphur

**Answer : 2**

**Q4. A semiconductor has generally ……………… valence electrons.**

1. 2
2. 3
3. 6
4. 4

**Answer : 4**

**Q5. The resistivity of pure germanium under standard conditions is about ……….**

1. 6 x 104
2. Ω cm
3. 60
4. Ω cm
5. 3 x 106
6. Ω cm
7. 6 x 10-4
8. Ω cm

**Answer : 2**

**Q6. The resistivity of a pure silicon is about ……………**

1. 100 Ω cm
2. 6000 Ω cm
3. 3 x 105 Ω m
4. 6 x 10-8 Ω cm

**Answer : 2**

**Q7. When a pure semiconductor is heated, its resistance …………..**

1. Goes up
2. Goes down
3. Remains the same
4. Can’t say

**Answer : 2**

**Q8. The strength of a semiconductor crystal comes from ……..**

1. Forces between nuclei
2. Forces between protons
3. Electron-pair bonds
4. None of the above

**Answer : 3**

**Q9. When a pentavalent impurity is added to a pure semiconductor, it becomes ………**

1. An insulator
2. An intrinsic semiconductor
3. p-type semiconductor
4. n-type semiconductor

**Answer : 4**

**Q10. Addition of pentavalent impurity to a semiconductor creates many ……..**

1. Free electrons
2. Holes
3. Valence electrons
4. Bound electrons

**Answer : 1**

**Q11. A pentavalent impurity has ………. Valence electrons**

1. 3
2. 5
3. 4
4. 6

**Answer : 2**

**A12. An n-type semiconductor is ………**

1. Positively charged
2. Negatively charged
3. Electrically neutral
4. None of the above

**Answer : 3**

**Q13. A trivalent impurity has ….. valence electrons**

1. 4
2. 5
3. 6
4. 3

**Answer : 4**

**A14. Addition of trivalent impurity to a semiconductor creates many ……..**

1. Holes
2. Free electrons
3. Valence electrons
4. Bound electrons

**Answer : 1**

**Q15. A hole in a semiconductor is defined as …………….**

1. A free electron
2. The incomplete part of an electron pair bond
3. A free proton
4. A free neutron

**Answer : 2**

**Q16. The impurity level in an extrinsic semiconductor is about ….. of pure semiconductor.**

1. 10 atoms for 108 atoms
2. 1 atom for 108 atoms
3. 1 atom for 104 atoms
4. 1 atom for 100 atoms

**Answer : 2**

**Q17. As the doping to a pure semiconductor increases, the bulk resistance of the semiconductor** ………..

1. Remains the same
2. Increases
3. Decreases
4. None of the above

**Answer : 3**

**Q18. A hole and electron in close proximity would tend to ……….**

1. Repel each other
2. Attract each other
3. Have no effect on each other
4. None of the above

**Answer : 2**

**Q19. In a semiconductor, current conduction is due to ……..**

1. Only holes
2. Only free electrons
3. Holes and free electrons
4. None of the above

**Answer : 3**

**Q20. The random motion of holes and free electrons due to thermal agitation is called ……….**

1. Diffusion
2. Pressure
3. Ionisation
4. None of the above

**Answer : 1**

**Q21. A forward biased pn junction diode has a resistance of the order of**

1. Ω
2. kΩ
3. MΩ
4. None of the above

**Answer : 1**

**Q22. The battery connections required to forward bias a pn junction are ……**

1. +ve terminal to p and –ve terminal to n
2. -ve terminal to p and +ve terminal to n
3. -ve terminal to p and –ve terminal to n
4. None of the above

**Answer : 1**

**Q23. The barrier voltage at a pn junction for germanium is about ………**

1. 5 V
2. 3 V
3. Zero
4. 3 V

**Answer : 4**

**Q24. In the depletion region of a pn junction, there is a shortage of ……..**

1. Acceptor ions
2. Holes and electrons
3. Donor ions
4. None of the above

**Answer : 2**

**Q25. A reverse bias pn junction has …………**

1. Very narrow depletion layer
2. Almost no current
3. Very low resistance
4. Large current flow

**Answer : 2**

**Q26. A pn junction acts as a ……….**

1. Controlled switch
2. Bidirectional switch
3. Unidirectional switch
4. None of the above

**Answer : 3**

**Q27. A reverse biased pn junction has resistance of the order of**

1. Ω
2. kΩ
3. MΩ
4. None of the above

**Answer : 3**

**Q28. The leakage current across a pn junction is due to …………..**

1. Minority carriers
2. Majority carriers
3. Junction capacitance
4. None of the above

**Answer : 1**

**Q29. When the temperature of an extrinsic semiconductor is increased, the pronounced effect is on……**

1. Junction capacitance
2. Minority carriers
3. Majority carriers
4. None of the above

**Answer : 2**

**Q30. With forward bias to a pn junction , the width of depletion layer ………**

1. Decreases
2. Increases
3. Remains the same
4. None of the above

**Answer : 1**

**Q31.  The leakage current in a pn junction is of the order of**

1. Aa
2. mA
3. kA
4. µA

**Answer : 4**

**Q32. In an intrinsic semiconductor, the number of free electrons ………**

1. Equals the number of holes
2. Is greater than the number of holes
3. Is less than the number of holes
4. None of the above

**Answer : 1**

**Q33. At room temperature, an intrinsic semiconductor has ……….**

1. Many holes only
2. A few free electrons and holes
3. Many free electrons only
4. No holes or free electrons

**Answer : 2**

**Q34. At absolute temperature, an intrinsic semiconductor has ……….**

1. A few free electrons
2. Many holes
3. Many free electrons
4. No holes or free electrons

**Answer : 4**

**Q35. At room temperature, an intrinsic silicon crystal acts approximately as ……**

1. A battery
2. A conductor
3. An insulator
4. A piece of copper wire

**Answer : 3**

**Q36. Under normal conditions a diode conducts current when it is ……………**

1. reverse biased
2. forward biased
3. avalanched
4. saturated

**Answer : 2**

**Q37. The term bias in electronics usually means ……….**

1. the value of ac voltage in the signal.
2. the condition of current through a pn junction.
3. the value of dc voltages for the device to operate properly.
4. the status of the diode.

**Answer : 3**