Multiple Choice Questions' Bank:

1. Electrical conductivity of insulators is the range _____.

(a) $10^{-10}(\Omega\text{-mm})^{-1}$ (b) $10^{-10}(\Omega\text{-cm})^{-1}$ (c) $10^{-10}(\Omega\text{-m})^{-1}$ (d) $10^{-8}(\Omega\text{-m})^{-1}$

2. Units for electric field strength

(a) A/cm^2 (b) mho/meter (c) $cm^2/V.s$ (d) V/cm

3. Energy band gap size for semiconductors is in the range _____ eV.

(a)1-2 (b) 2-3 (c) 3-4 (d) > 4

4. Energy band gap size for insulators is in the range _____ eV.

(a)1-2 (b) 2-3 (c) 3-4 (d) > 4

5. Flow of electrons is affected by the following

(a) Thermal vibrations(b) Impurity atoms (c) Crystal defects (d) all

6. Not a super conductive metallic element

(a) Fe (b) Al (c) Ti (d) W

7. Fermi energy level for intrinsic semiconductors lies

(a) At middle of the band gap (b) Close to conduction band
(c) Close to valence band (d) None

8. Fermi energy level for *p*-type extrinsic semiconductors lies

(a) At middle of the band gap (b) Close to conduction band
(c) Close to valence band (d) None

9. Fermi energy level for *n*-type extrinsic semiconductors lies

(a) At middle of the band gap (b) Close to conduction band
(c) Close to valence band (d) None

10. Not an example for intrinsic semiconductor

(a) Si (b) Al (c) Ge (d) Sn

11. In intrinsic semiconductors, number of electrons _____ number of holes.

(a) Equal (b) Greater than (c) Less than (d) Can not define

12. In *n*-type semiconductors, number of holes _____ number of electrons.

(a) Equal (b) Greater than (c) Less than (d) Can not define

13. In *p*-type semiconductors, number of holes _____ number of electrons.

(a) Equal (b) Greater than (c) Less than (d) Twice

14. Mobility of holes is _____ mobility of electrons in intrinsic semiconductors.

(a) Equal (b) Greater than (c) Less than (d) Can not define

15. Fermi level for extrinsic semiconductor depends on

(a) Donor element (b) Impurity concentration (c) Temperature (d) All

16. Value of dielectric constant for a material _____.

(a) Equal to 1 (b) Greater than 1 (c) Less than 1 (d) Zero.

17. High dielectric constant material is must for _____.

(a) Insulation of wires (b) Generators (c) Switch bases (d) Generators.

18. Dielectric constant for most polymers lies in the range of _____.

(a) 1-3 (b) 2-5 (c) 4-7 (d) 6-10.

19. Example for piezo-electric material

(a) Rochelle salt (b) Lead zirconate (c) Potassium niobate (d) Barium Titanium oxide

20. Example for ferro-electric material

(a) Potassium niobate (b) Lead titanate (c) Lead zirconate (d) quartz

Answers:

1. a

2. c
3. b
4. c
5. d
6. b
7. c
8. b
9. b
10. a
11. c
12. d
13. a
14. d
15. d
16. a
17. a
18. c
19. b
20. b