1. A crystalline solid has

(a) an ordered structure (b) low KE
(c) only vibrational energy (d) rotational energy

2. A solid having irregular arrangement of molecules is called

(a) polymeric (b) ideal
(c) amorphous (d) crystalline

3. Molecules of a solid possess

(a) polymeric structure (b) ideal arrangement
(c) rotatory motion (d) translational motion

4. Array of points representing atoms, ions or molecules of a crystal arranged at different sites in a three-dimensional space is called

(a) crystal lattice (b) solid
(c) substance (d) compound

5. Force applied on a unit area of a crystal is called

(a) stress (b) strain
(c) flexibility (d) elasticity

6. SI unit of stress is

(a) $N\text{-}m^{-2}$ (b) N
(c) dynes m^{-1} (d) N x m

7. A stress that changes one dimension only is called

(a) compressive stress (b) compressive stress
(c) linear stress (d) linear strain

8. Strain is the ratio of

(a) $\frac{\text{Force}}{\text{Area}}$ (b) force x area

(c) $\frac{\text{Force}}{\text{Length}}$ (d) $\frac{\text{Change in length}}{\text{Original length}}$

9. The ratio of volumetric stress to volumetric strain is called

(a) Shear modulus (b) Bulk modulus
(c) Young's modulus (d) Shear strain

10. SI unit of stress is same as that of

(a) force (b) momentum
(c) pressure (d) length

11. The dimension of strain is

(a) dimensionless (b) [L]
(c) $[L^{-1}]$ (d) $[LT^{-1}]$

12. Crystals are classified into

(a) infinite groups (b) seven groups
(c) four groups (d) three groups

13. The maximum stress that a body can withstand is called

(a) elastic stress (b) plastic stress
(c) UTS (d) permanent stress

14. NaCl has

(a) cubical structure (b) trigonal structure
(c) tetragonal structure (d) Hexagonal structure

15. Which one of the following statements is correct?

(a) Iron is less elastic than rubber
(b) Iron is more elastic than rubber
(c) Water is less elastic than air
(d) Water is equally elastic as air

16. A substance that undergoes a temporary deformation is called

(a) ductile (b) brittle
(c) ceramic (d) organic

17. Glass is treated as solid liquid because it

(a) is beautiful and hard
(b) is hard and has arranged molecules

(c) is transparent
(d) has irregularly arranged molecules

18. Solids with high value of conductivity are called

(a) semiconductors (b) insulators
(c) conductors (d) non-metals

19. Conductivity of insulator is of the order of

(a) $10^{7}(\Omega\text{-m})^{-1}$ (b) 10^{-6} to 10^{-4} $(\Omega\text{-m})^{-1}$
(c) 10^{-10} to 10^{-20} $(\Omega\text{-m})^{-1}$ (d) infinite

20. The conduction band lies

(a) below valence band (b) above the valence band
(c) inside the valence band (d) may be anywhere

21. A doped semi conductor is called

(a) P type (b) N type
(c) extrinsic (d) intrinsic

22. A pure semi conductor is called

(a) N type (b) P type
(c) intrinsic (d) extrinsic

23. A trivalent impurity is usually called

(a) acceptor (b) donor
(c) rectifier (d) transistor

24. Choose the correct answer:

(a) An elastic deformation is reversible
(b) An elastic deformation is irreversible
(c) A plastic deformation is reversible
(d) A plastic deformation is neither reversible nor irreversible

25. The stress σ required to fracture a solid is $\sigma = k\left(\frac{\gamma E}{d}\right)^{1/2}$ where k is a dimensionless constant, E is Young's modulus and d is the distance between the planes of atoms separated in fracture. The quantity γ must be

(a) energy per unit area (b) energy
(c) force per unit area (d) force

26. Crystalline solids have

(a) a short range order
(b) a long range order
(c) weak bonds for nearest neighours
(d) none of these

27. The amorphous solids have

(a) a short range order
(b) a long range order
(c) neither short nor long range order
(d) regular structure

28. Choose the correct statement:

(a) Conductors have no free electrons acting as charge carrier
(b) Conductors have a few free electrons acting as charge carriers
(c) Conductors have large free electrons acting as charge carriers
(d) Insulators have large free electrons acting as charge carriers

29. Which one of the followings is / are a semiconductor?

(a) carbon (b) phosphorous
(c) silicon (d) all of these

30. Electric conduction in a semi conductor takes place due to the movement of

(a) electrons (b) protons
(c) holes (d) both electrons and holes

31. On increasing the temperature of a semiconductor

(a) the number of charge carriers will increase
(b) the number of charge carriers will decrease
(c) the average drift speed will increase
(d) the resistance of the semiconductor will increase

32. To make a p-type semi conductor, pure silicon should be doped with the atoms of

(a) Germanium (b) Phosphorous
(c) Antimony (d) Boron

33. Choose the correct answer:

(a) p-type semiconductor is positively charged
(b) p-type semiconductor is negatively charged
(c) n-type semi conductor is negatively charged
(d) p-type semi conductor is uncharged

34. The electrical resistivity of pure germanium can be decreased by

(a) decreasing the temperature only
(b) doping with donor impurities only
(c) doping with acceptor impurities only
(d) doping with either donor or acceptor impurities

35. A semi conductor is doped with an acceptor impurity. Then the

(a) electron concentration will increase
(b) hole concentration will increase
(c) electron concentration will decrease
(d) hole concentration will decrease

36. Which of the following substances is / are diamagnetic?

(a) zinc (b) copper
(c) silver (d) all of these

37. The magnetization as well as demagnetization of

(a) steel is easy
(b) soft iron is difficult
(c). steel is difficult
(d) both soft iron and steel is difficult

38. A permanent magnet must have

(a) high retentivity (b) low retentivity
(c) low coercive force (d) low Curie's temperature

39. A paramagnetic material is placed in a magnetic field. The magnetization is increased if the

(a) temperature is increased (b) temperature is decreased
(c) magnetic field is reversed (d) none of these

40. The loop area of the hysteresis curve is

(a) greater for soft iron than for steel
(b) greater for steel than for soft iron.
(c) equal for both steel and soft iron
(d) zero for soft iron.

Key to Test Chapter 17

1	**a**	21	**c**
2	**c**	22	**c**
3	**d**	23	**a**
4	**a**	24	**b**
5	**a**	25	**a**
6	**a**	26	**b**
7	**c**	27	**a**
8	**d**	28	**c**
9	**b**	29	**d**
10	**c**	30	**d**
11	**a**	31	**a**
12	**b**	32	**d**
13	**c**	33	**d**
14	**a**	34	**d**
15	**b**	35	**b**
16	**c**	36	**d**
17	**b**	37	**c**
18	**c**	38	**a**
19	**c**	39	**b**
20	**b**	40	**b**