**Engineering Assistants Question Papers in Doordarshan and AIR:**

26. Lamps used for street lighting are connected in
(a) parallel
(b) series and parallel both
(c) series
(d) none of the above
Ans:a

27. A. C. can be measured with the help of:
(a) moving coil galvanometer
(b) hot wire ammeter
(c) tangent galvanometer
(d) galvanometer
Ans:b

28.A p-n junction is said to be forward biased, when
(a) the positive pole of the battery is joined to the p-semiconductor and negative pole to the nsemiconductor
(b) the positive pole of the battery is joined to the n-semiconductor and negative pole of the
battery is joined to the p-semiconductor
(c) the positive pole of the battery is connected to n- semiconductor and p- semiconductor
(d) a mechanical force is applied in the forward direction
Ans :a

29. At absolute zero, Si acts as ?
(a) non-metal
(b) metal
(c) insulator
(d) none of these
Ans :a

30. When N-type semiconductor is heated ?
(a) number of electrons increases while that of holes decreases
(b) number of holes increases while that of electrons decreases
(c) number of electrons and holes remain same
(d) number of electron and holes increases equally.
Ans :d

31. Radiowaves of constant amplitude can be generated with
(a) FET
(b) filter
(c) rectifier
(d) oscillator
Ans :d

32. In a common base amplifier the phase difference between the input signal voltage and the
output
voltage is ?
(a) 0
(b) pi/4
(c)pi/2
(d) p
Ans :d

33. When a triode is used as an amplifier the phase difference between the input signal voltage
and the output is ?
(a) 0
(b)pi
(c) pi/2
(d)pi/4
Ans :b

34. The depletion layer in the P-N junction region is
caused by?
(a) drift of holes
(b) diffusion of charge carriers
(c) migration of impurity ions
(d) drift of electrons
Ans: b

35. The following truth table corresponds to which Logic gate
A B Output
0 0 0
0 1 1
1 0 1
1 1 1
(a)NAND
(b) OR
(c)AND
(d) XOR
Ans :b

36. To use a transistor as an amplifier
(a) The emitter base junction is forward biased and the base collector junction is reversed biased
(b) no bias voltage is required
(c) both junction are forward biased
(d) both junctions are reversed biased.
Ans :a

37. Which one of the following is the weakest kind of the bonding in solids
(a) ionic
(b) metallic
(c) Vander Walls
(d) covalent
Ans :c

38.For amplification by a triode, the signal to be amplified is given to
(a) the cathode
(b) the grid
(c) the glass-envelope
(d) the anode
Ans :b

39. A piece of copper and other of germanium are cooled from the room temperature to 80K,
then
(a) resistance of each will increase
(b) resistance of copper will decrease
(c) the resistance of copper will increase while that of germanium will decrease
(d) the resistance of copper will decrease while that of germanium will increase
Ans:d

40. Diamond is very hard because ?
(a) it is covalent solid
(b) it has large cohesive energy
(c) high melting point
(d) insoluble in all solvents
Ans:b

41. The part of the transistor which is heavily doped to produce large number of majority carriers
is
(a) emitter
(b) base
(c) collector
(d) any of the above depending upon the nature of transistor
Ans:a

42. An Oscillator is nothing but an amplifier with
(a) positive, feedback
(b) negative feedback
(c)large gain
(d) no feedback
Ans:a

43. When a P-N junction diode is reverse biased the flow of current across the junction is mainly
due
to
(a) diffusion of charge
(b) drift charges
(c) depends on the nature o material
(d) both drift and diffusion of charges
Ans:b

44. Which of the following gates corresponds to the truth table given below?
A B Output
1 1 0
0 1 1
1 0 1
0 0 1
(a) NAND
(b) OR
(c) AND
(d) XOR
Ans:a

45. Which of the following, when added as an impurity, into the silicon, produces n-type semi
conductor
(a)Phosphorous
(b) Aluminium
(c)Magnesium
(d) both ‘b’ and ‘c’
Ans:a

46. The current gain for a transistor working as common-base amplifier is 0.96. If the emitter
current is 7.2 mA, then the base current is
(a)0.29mA
(b)0.35mA
(c)0.39 mA
(d) 0.43 mA
Ans:a

47. When a n-p-n transistor is used as an amplifier then ?
(a) the electrons flow from emitter to collector
(b) the holes flow from emitter to collector
(c) the electrons flow from collector to emitter
(d) the electrons flow from battery to emitter
Ans:a

48. When arsenic is added as an impurity to silicon, the resulting material is?
(a) n-type semiconductor
(b) p-type semiconductor
(c) n-type conductor
(d) Insulator
Ans:a

49. To obtain a p-type germanium semiconductor,it must be doped with ?
(a)arsenic
(b)antimony
(c)indium
(d)phosphorus
Ans:a

50. A semi-conducting device is connected in a series circuit with a battery and a resistance. A
current is found to pass through the circuit. If the polarity of the battery is reversed, the current
drops to almost zero. The device may be
(a) A p-n junction
(b) An intrinsic semi-conductor
(c) A p-type semi-conductor
(d) An n-type semi-conductor
Ans:a