

**Q1. A crystal diode has .....**

1. one pn junction
2. two pn junctions
3. three pn junctions
4. none of the above

**Answer : 1**

**Q2. A crystal diode has forward resistance of the order of .....**

1.  $k\Omega$
2.  $\Omega$
3.  $M\Omega$
4. none of the above

**Answer : 2**

**Q3. If the arrow of crystal diode symbol is positive w.r.t. bar, then diode is ..... biased.**

1. forward
2. reverse
3. either forward or reverse
4. none of the above

**Answer : 1**

**Q4. The reverse current in a diode is of the order of .....**

1. kA
2. mA
3.  $\mu A$
4. A

**Answer : 3**

**Q5. The forward voltage drop across a silicon diode is about .....**

1. 2.5 V
2. 3 V
3. 10 V
4. 0.7 V

**Answer : 4**

**Q6. A crystal diode is used as .....**

1. an amplifier
2. a rectifier
3. an oscillator
4. a voltage regulator

**Answer : 2**

**Q7. The d.c. resistance of a crystal diode is ..... its a.c. resistance**

1. the same as
2. more than
3. less than
4. none of the above

**Answer : 3**

**Q8. An ideal crystal diode is one which behaves as a perfect ..... when forward biased.**

1. conductor
2. insulator
3. resistance material
4. none of the above

**Answer : 1**

**Q9. The ratio of reverse resistance and forward resistance of a germanium crystal diode is about .....**

1. 1 : 1
2. 100 : 1
3. 1000 : 1
4. 40,000 : 1

**Answer : 4**

**Q 10. The leakage current in a crystal diode is due to .....**

1. minority carriers
2. majority carriers
3. junction capacitance
4. none of the above

**Answer :1**

**Q11. If the temperature of a crystal diode increases, then leakage current .....**

1. remains the same
2. decreases
3. increases
4. becomes zero

**Answer :3**

**Q12. The PIV rating of a crystal diode is ..... that of equivalent vacuum diode**

1. the same as
2. lower than
3. more than
4. none of the above

**Answer :2**

**Q13. If the doping level of a crystal diode is increased, the breakdown voltage.....**

1. remains the same
2. is increased
3. is decreased
4. none of the above

**Answer :3**

**Q14. The knee voltage of a crystal diode is approximately equal to .....**

1. applied voltage
2. breakdown voltage
3. forward voltage
4. barrier potential

**Answer :4**

**Q15. When the graph between current through and voltage across a device is a straight line, the device is referred to as .....**

1. linear
2. active
3. nonlinear
4. passive

**Answer :1**

**Q16. When the crystal current diode current is large, the bias is .....**

1. forward
2. inverse
3. poor
4. reverse

**Answer :1**

**Q17. A crystal diode is a ..... device**

1. non-linear
2. bilateral
3. linear
4. none of the above

**Answer :1**

**Q18. A crystal diode utilises ..... characteristic for rectification**

1. reverse
2. forward
3. forward or reverse
4. none of the above

**Answer :2**

**Q19. When a crystal diode is used as a rectifier, the most important consideration is .....**

1. forward characteristic
2. doping level
3. reverse characteristic
4. PIC rating

**Answer :4**

**Q20. If the doping level in a crystal diode is increased, the width of depletion layer.....**

1. remains the same
2. is decreased
3. in increased
4. none of the above

**Answer :3**

**Q21. A zener diode has .....**

1. one pn junction
2. two pn junctions
3. three pn junctions
4. none of the above

**Answer :1**

**Q22. A zener diode is used as .....**

1. an amplifier
2. a voltage regulator
3. a rectifier

4. a multivibrator

**Answer :2**

**Q23. The doping level in a zener diode is ..... that of a crystal diode**

1. the same as
2. less than
3. more than
4. none of the above

**Answer :3**

**Q24. A zener diode is always ..... connected.**

1. reverse
2. forward
3. either reverse or forward
4. none of the above

**Answer :1**

**Q25. A zener diode utilizes ..... characteristics for its operation.**

1. forward
2. reverse
3. both forward and reverse
4. none of the above

**Answer :2**

**Q26. In the breakdown region, a zener diode behaves like a ..... source.**

1. constant voltage
2. constant current
3. constant resistance
4. none of the above

**Answer :1**

**27. A zener diode is destroyed if it.....**

1. is forward biased
2. is reverse biased
3. carrier more than rated current
4. none of the above

**Answer :3**

**Q28. A series resistance is connected in the zener circuit to.....**

1. properly reverse bias the zener
2. protect the zener
3. properly forward bias the zener
4. none of the above

**Answer :2**

**A29. A zener diode is ..... device**

1. a non-linear
2. a linear
3. an amplifying
4. none of the above

**Answer :1**

**Q30. A zener diode has ..... breakdown voltage**

1. undefined
2. sharp
3. zero
4. none of the above

**Answer :2**

**Q31. .... rectifier has the lowest forward resistance**

1. solid state
2. vacuum tube
3. gas tube
4. none of the above

**Answer :1**

**Q32. Mains a.c. power is converted into d.c. power for .....**

1. lighting purposes
2. heaters
3. using in electronic equipment

4. none of the above

**Answer :3**

**Q33. The disadvantage of a half-wave rectifier is that the.....**

1. components are expensive
2. diodes must have a higher power rating
3. output is difficult to filter
4. none of the above

**Answer :3**

**Q34. If the a.c. input to a half-wave rectifier is an r.m.s value of  $400/\sqrt{2}$  volts, then diode PIV rating is .....**

1.  $400/\sqrt{2}$  V
2. 400 V
3.  $400 \times \sqrt{2}$  V
4. none of the above

**Answer :2**

**Q35. The ripple factor of a half-wave rectifier is .....**

1. 2
2. 1.21
3. 2.5
4. 0.48

**Answer :2**

**Q36. There is a need of transformer for .....**

1. half-wave rectifier
2. centre-tap full-wave rectifier
3. bridge full-wave rectifier
4. none of the above

**Answer :2**

**Q37. The PIV rating of each diode in a bridge rectifier is ..... that of the equivalent centre-tap rectifier**

1. one-half
2. the same as
3. twice
4. four times

**Answer :1**

**Q38. For the same secondary voltage, the output voltage from a centre-tap rectifier is ..... than that of bridge rectifier**

1. twice
2. thrice
3. four time
4. one-half

**Answer :4**

**Q39. If the PIV rating of a diode is exceeded, .....**

1. the diode conducts poorly
2. the diode is destroyed
3. the diode behaves like a zener diode
4. none of the above

**Answer :2**

**Q40. A 10 V power supply would use ..... as filter capacitor.**

1. paper capacitor
2. mica capacitor
3. electrolytic capacitor
4. air capacitor

**Answer :3**

**Q41. A 1,000 V power supply would use ..... as a filter capacitor**

1. paper capacitor
2. air capacitor
3. mica capacitor
4. electrolytic capacitor

**Answer :1**

**Q42. The ..... filter circuit results in the best voltage regulation**

1. choke input
2. capacitor input
3. resistance input
4. none of the above

**Answer :1**

**Q43. A half-wave rectifier has an input voltage of 240 V r.m.s. If the step-down transformer has a turns ratio of 8:1, what is the peak load voltage? Ignore diode drop.**

1. 27.5 V
2. 86.5 V
3. 30 V



4. 42.5 V

**Answer :4**

**Q44. The maximum efficiency of a half-wave rectifier is .....**

1. 40.6 %
2. 81.2 %
3. 50 %
4. 25 %

**Answer :1**

**Q45. The most widely used rectifier is .....**

1. half-wave rectifier
2. centre-tap full-wave rectifier
3. bridge full-wave rectifier
4. none of the above

**Answer :3**