**SUBJECT-BASIC ELECTRONICS-I QUESTION BANK**

**CLASS-FIRST YEAR (AT/WT/RAC)**

**Q1.MCQ**

1. The reverse current in a diode is of the order of ……………….

1. kA

2. mA

3.μA

4. A

2. The forward voltage drop across a silicon diode is about …………………

1.2.5 V

2.3 V

3.10 V

4.0.7 V

3. A zener diode is used as …………….

1. An amplifier

2. A voltage regulator

3. A rectifier

4. A multivibrator

4. A zener diode is always ………… connected.

1. Reverse

2. Forward

3. Either reverse or forward

4. None of the above

5. A zener diode is …………………. device

1. A non-linear

2. A linear

3. An amplifying

4. None of the above

6. A zener diode has ………….. breakdown voltage

1. Undefined

2. Sharp

3. Zero

4. None of the above

7. ……………. rectifier has the lowest forward resistance

1. Solid state

2. Vacuum tube

3. Gas tube

4. None of the above

8. Mains a.c. power is converrted into d.c. power for ……………..

1. Lighting purposes

2. Heaters

3. using in electronic equipment

4. None of the above

9. 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

10. 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

11. A semiconductor is formed by ……… bonds.

1. Covalent

2. Electrovalent

3. Co-ordinate

4. None of the above

12. A semiconductor has ………… temperature coefficient of resistance.

1. Positive

2. Zero

3. Negative

4. None of the above

13. The most commonly used semiconductor is ………..

1. Germanium

2. Silicon

3. Carbon

4. Sulphur

14. A semiconductor has generally ……………… valence electrons.

1.2

2.3

3.6

4.4

15. A filter in which capacitor connected from rectifier output to ground is called

1. Resistor input filter

2. Resistor output filter

3. Capacitor output filter

4. Capacitor input filter

16. Filters are implemented with

1. Resistor

2. Capacitor

3. Inductor

4. Diode

 17. In P-N-P transistor, base will be of

1. P material

2. N material

3. Either of the above

4. None of the above

18. The majority carriers in the base of an NPN germanium transistor are

 1. Impurity ions

 2. Holes

 3. Electrons

 4. Electron-hole pairs

19. The majority carriers in case of NPN silicon transistor are

 1. Electrons

 2. Electron-hole pairs

 3. Holes

 4. Impurity ions

 20. FETs have similar properties to

 1. Thermionic valves

 2. NPN transistor

 3. PNP transistor

 4. None of the above

21. Another name for Zener diode is ………… diode

 1. Breakdown

 2. Voltage

 3. Power

 4. Current

**Q2.Explain in detail 10 Marks**

1. What is semiconductor? Explain in detail Extrinsic and Intrinsic semiconductor.
2. Explain P-N Junction diode with V-I Characteristics.
3. Explain in detail Zener diode with V-I Characteristics.
4. Explain in detail BJT.
5. Explain in detail MOSFET.
6. Explain in detail FET
7. Explain with neat block diagram SMPS.
8. What is filter? Explain in detail It’s types.
9. Explain in detail Transformer.
10. Explain in detail Rectifier.

**Q3 Explain in short 5marks**

1. Explain p type semiconductor.

2. Explain N type semiconductor.

3. Explain Intrinsic semiconductor.

4. Explain LED.

5. Explain Photodiode.

6. Explain relation between alpha and beta(α&β).

7. Explain Enhancement type MOSFET.

8. Explain PI filter.

9. Explain Half wave rectifier.

10. Explain Voltage doubler.

11. Explain series regulator.

12.Explain shunt regulator.

13.Explain Voltage multiplier.

14.Explain SMPS block diagram.

15.Explain Bridge rectifier.

**Q4.Short note 5 Marks**

1. LED

2. Varactor diode.

3. Voltage Multiplier.

4.78xx

5. UJT

6. NPN Transistor

7. PNP Transistor.

8. LC filter

9. Photodiode

10. Half wave rectifier

11. CC configuration

12. PN Junction diode

13. SMPS