IMPORTANT QUESTIONS – ANALOG ELECTRONICS

SECTION-A

1. Draw the circuit diagram of Bridge rectifier and drive the equation for:
   (i) Ripple factor (ii) Efficiency
   (iii) DC Current (iv) Form Factor
   (v) PIV
2. Explain briefly drift and diffusion current.
3. Write briefly about principle and working of Varactor diode.
4. Explain briefly transition and diffusion capacitance.
5. What is ideal diode? List its characteristics.
6. What is principle and working of Tunnel diode? Draw its characteristics curve.
7. Write briefly about principle and working of Schottky diode.
8. Explain Half wave rectifier and compare its output waveform with full wave rectifier.

SECTION-B

9. Explain bias stability with respect to variation in Isc, Vbe and Vce.
10. Draw the diagram of CE configuration amplifier and explain its working.
11. Discuss working of Darlington pair small signal amplifier.
12. Draw the diagram and explain characteristics of BJT.
13. Discuss hybrid π-model for transistor at high frequencies.
14. Why feedback is necessary in amplifiers?
15. Discuss selection of operation point for BJT.
16. Compare difference configurations of modes in BJT and list applications of each.

SECTION-C

17. Discuss and draw the diagram of cascaded amplifier circuit and explain its working principle. Also derive the equation for gain, impedance and bandwidth.
18. Explain properties of negative feedback amplifiers.
19. Discuss impedance consideration for various configurations of multistage amplifiers.
20. Why feedback is necessary in amplifiers?
21. Write a short note on shunt series feedback amplifier.
22. Explain the working of A class Amplifier with the help of block diagram.
23. What is difference between negative and positive feedback? Explain in detail.

SECTION-D

24. Write short notes on the following:
    (i) Biasing of FET (ii) Thyristor (iii) UJT
25. Differentiate between BJT and FET and list various applications of FET.
26. Explain working of depletion type MOSFET.
27. Discuss working principle of SCR.
28. Explain working of enhancement type MOSFET and explain its construction in detail.