**Physical electronics**

1. What is intrinsic semiconductor and explain the formation extrinsic semiconductors through doping?
2. Write the applications of P-N junction.
3. Define the word depletion layer?
4. Explain n-type semiconductor.
5. Explain P-type semiconductor.
6. Explain the formation of p-n junction
7. What is direct band gap semiconductor?
8. Write applications of photo diode
9. Explain the structure and mechanism of LED’s
10. What is barrier potential?
11. What is Reverse saturation current?
12. What is the total current at the junction of pn junction diode?
13. Give the diode current equation?
14. Write the application of pn diode
15. Explain the operation of PN junction under reverse bias condition with its characteristics. (10) 6.Expl
16. Why an ordinary transistor is called bipolar?
17. Draw the characteristics of CE configuration.
18. Among CE, CB, CC which one is most popular. Why?
19. Define current amplification factor
20. Explain the operation of NPN and PNP transistors
21. Explain the input and output characteristics of a transistor in CB configuration.
22. 22-Draw the circuit diagram of a NPN transistor CE configuration and the input and output characteristics. Also define its operating regions.
23. Define Doping.
24. What do you understand by extrinsic semiconductor?
25. What are the two types of extrinsic semiconductors?
26. What is meant by unbiased PN junction?
27. What is meant by depletion layer in unbiased PN junction?
28. Define forward static and dynamic resistances of diode.
29. Define diffusion capacitance and transition capacitance.
30. Draw the V-I characteristics of PN junction Diode.
31. Write down the expression for Diode Current.
32. Write any two differences between Zener breakdown and Avalanche
33. What is meant by Zener diode?
34. Draw the V-I characteristics of Zener diode.
35. List the applications of Zener Diode.
36. Define the ripple factor for a half-wave and full-wave rectifier.
37. Compare the performance of half-wave rectifier and full-wave rectifier
38. What is transistor? Give its circuit symbol.
39. In a transistor operating in the active region although the collector junction is reverse biased the collector current is quite large. Explain.
40. What is reverse saturation current?
41. Define α and β. 5. What is meant by punch through effect?
42. If the base current in a transistor is 30 micro amps when the emitter