UNIT-4

1. classify the materials based on energy band diagram
2. Explain in detail of intrinsic semiconductors
3. Explain the given clippers
   a. series positive clipper
   b. shunt negative clipper
   c. slicer
4. Explain in detail about extrinsic semiconductors
5. Draw the V-I characteristics PN junction diode in forward bias and explain
6. Explain zener diode and how zener acts as a regulator
7. Explain pn junction diode reverse bias and compare avalanche and zener break down
8. Qunatitavely explain the operation full wave center tapped and bridge rectifier
9. Distinguish between drift and diffusion currents in semi conductor
10. state law of mass action and diode current equation

UNIT-5

1. Explain the operation of NPN &PNP transistors
2. Draw the circuit of a transistor in CE configuration of BJT and sketch the Input/output characteristics indicate the active, saturation and cutoff
3. What is base width modulation?
4. Draw the circuit of a transistor in CB configuration of BJT and sketch the Input/ output characteristics
5. Explain the op-amp with block diagram
6. Explain how transistor can be used as an amplifier
7. Explain the op-amp with negative feedback
8. what are the characteristics of an ideal op-amp
9. what are different modes of transistor and explain.
10. Derive the relation between α, β and γ and explain how leakage currents in CB & CE configurations are related.