Unit-4 Semiconductor Devices

1. Differences between Intrinsic and Extrinsic semiconductors (Short answer question)
2. Why do we need filters in rectifiers (Short answer question)
3. Draw symbols of n-channel and p-channel MOSFET (Short answer question)
4. Explain Current- Voltage characteristics of a PN Junction Diode\*\*\*
5. Explain Half wave rectifier (Efficiency derivation, Ripple factor value & with capacitor filter operation)
6. Explain Full wave rectifier with filter (Efficiency derivation, Ripple factor value & with capacitor filter operation )\*\*\*
7. How is Zener Diode used as a voltage regulator
8. Explain the Structure and Operation of N-channel and P-channel MOSFET (i)Enhancement(ii)Depletion\*\*
9. Explain how is a MOSFET used as a switch and Amplifier \*\*

Unit-5 Operational Amplifiers

1. Define Op-amp & draw its symbol (Short answer question)

Applications of Op-amp (Short answer question)

Voltage follower (Short answer question)

1. List out the ideal characteristics of opamp (given at the introduction of opamp) and draw the block diagram\*\*
2. Explain inverting amplifier & Non inverting amplifier? \*\*\*\*

(In the notes these two are discussed twice you need to write inverting & non inverting with feed back

i.e circuit with feedback resistance(Rf)) Explain

1. summing amplifier
2. averaging amplifier
3. Difference amplifier – **with two Op-amps** (which gives the difference of two inputs)
4. Single Op-amp Difference amplifier (which gives the difference of two inputs)