A&DE

IMPORTANT QUESTIONS

UNIT :1

1.Explain about reverse saturation current of a PN junction diode with its VI-characteristics.

2. Determine thermal voltage VT at room temperature. Define static Resistance and Dynamic Resistance of a diode.

3. Explain the operation with near diagram of i) Half wave rectifier and ii) Full wave rectifier iii) Capacitor filter

4. Explain the operation of a Zener diode in forward bias and reverse bias with the help of a neat diagram.

5. Explain about 1. Tunnel diode 2. Photo Diode 3.LED.

6. Explain about clippers and clampers.

UNIT2:

1. Draw, derive and explain the input and output characteristics of a transistor in CE configuration.
2. Draw, derive and explain the input and output characteristics of a transistor in CB configuration.
3. Draw, derive and explain the input and output characteristics of a transistor in CC configuration.
4. Compare CB,CC and CE configurations.
5. Explain the working of NPN and PNP transistor.
6. Explain how transistor can be used as an Amplifier.
7. Explain the applications of BJT.
8. Reduce the relation between I_C,I_B and I_{CEO} in a BJT.

UNIT3:

1. Explain the construction, working and operating characteristics of N-Channel JFET's with relevant diagrams.
2. Draw the circuit diagram of common source FET amplifier and give the design steps to find the component values used in the circuit.
3. i)Explain all logic gates with symbols and truth tables

   ii)explain any two De – Morgan's laws

4. Write short notes on DTL, TTL, HTL gates.
5. Compare JFET and MOSFET.
6. Why NAND and NOR called universal Gates?
7. Compare BJT and FET.

UNIT IV:

1. Convert the following expression to standarad canonical form

   i) f = xz'+ x'z to canonical SOP
   ii) F = (A+B)C' to canonical POS.

2.Express the Boolean function F=AB+ A'C in a product of max terms forms.

3. Explain about Encoder and Decoder.

4. explain in Detail about Half adder and Full Adder.

5. Explain in detail about Parity encoder.

6. Explain in detail about Magnitude Comparator.

UNIT V:

1. Distinguish between Combinational logic and Sequential Logic.
2. Explain about Synchronous and Asynchronous Sequential Circuits.
3. Explain about JK Flip Flop with Truth table.
4. Explain about SR Flip Flop with Truth table.
5. Explain about T Flip Flop with Truth table.
6. Explain about D Flip Flop with Truth table.
7. Explain about All Conversions of Flip Flops with Truth tables.
8. Explain about mealy model and Moore's model.
9. Explain about Ripple counter and Ring Counters.
10. Compare RAM , ROM, PROM and EPROM.