

34031 – Electronic Devices & Circuits

1. Semiconductor and Diodes

Part – A

1. Give the Classification of Semiconductors?
2. Give Some Applications of Rectifier?
3. What is Rectifier & name the types of Rectifier?
4. What is an extrinsic Semiconductor & its types?
5. Write the Applications of PN Junction Diode?
6. Define drift Current & diffusion Current?
7. What is Filter & list the types of Filter?
8. Write Applications of Zener Diode?
9. Draw the VI Characteristics of PN Junction Diode & Zener Diode?

Part – B

1. Compare Zener Breakdown & Avalanche Breakdown?
2. Draw the Circuit of half wave Rectifier with a Capacitor Filter?
3. Explain Zener Diode as a Voltage Regulator?
4. Write the Properties of PN Junction Diode
5. Draw the Characteristics of Zener Diode & Explain?
6. Write Short notes on Rectifier?

Part – C

1. Explain the working of Zener Diode with a neat Sketch & write its Applications?
2. Explain the working of Bridge Rectifier with a neat Sketch & Draw its input & output Waveforms?
3. Explain the working of PN Junction Diode with a neat Sketch & write its Applications?
4. Explain the working of Capacitor & Pi Filter with a neat Sketch & write its Applications?
5. Explain the working of half wave Rectifier with a neat Sketch & Draw its input & output Waveforms?
6. Explain the working of full wave rectifier with a neat Sketch & Draw its input & output Waveforms?

2. Bipolar Junction Transistor

1. Draw the Symbol of NPN & PNP transistor and write its terminal?
2. Write the types of transistor Configuration?
3. Define Feedback?
4. Write a applications of Emitter Follower?
5. List the types of transistor Biasing?
6. Draw the Circuit of Collector to base Bias?
7. List the advantages of Negative Feedback?
8. List the types of Negative Feedback?
9. Draw the circuit of Self bias?
10. State the merits of Fixed Bias?

Part – B

1. Compare CB, CE, CC Configurations of transistor?
2. List the Classification of Amplifiers?
3. Explain the operation of transistor as an Amplifier?
4. Why the transistor is called TRANSFER RESISTOR & Bipolar Junction Transistor?
5. Draw the Circuit of Emitter Follower?

Part – C

1. Explain the Input and Output Characteristics of Common Emitter & Common Base Configuration with a neat Sketch?
2. Explain the Input and Output Characteristics of Common Collector Configuration with a neat Sketch?
3. Explain the Construction & working of Emitter Follower with a neat Sketch?
4. Explain the Construction & working of RC Coupled Amplifier with a neat Sketch?
5. Describe in detail about the Types of Negative Feedback?

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3. Transistor Oscillator, FET & UJT

Part – A

1. What is the General form of LC oscillator?
2. What are the Characteristics of FET?
3. What are the Applications of MOSFET?
4. Draw te equivalent circuit of UJT?
5. Write the application of FET?
6. State the Conditions for Oscillations?
7. Compare SCR & Transistor?
8. Define Oscillator & Tank Circuit?
9. Draw the Symbol of FET & UJT?
10. Name the any two of LC Oscillator?

Part – B

1. Draw a crystal Oscillator Circuit?
2. Draw the emitter Characteristics of UJT & note the important the points?
3. Classify the FET?
4. Compare BJT & FET?
5. State Barkhausen Criteria?
6. Draw the circuit diagram of Colpitt's Oscillator?

Part – C

1. Explain the Construction, Working, Drain & Transfer Characteristics of FET?
2. Explain the Construction & working of RC Phase Shift Oscillator with a neat Sketch?
3. Explain the Construction, Working and Characteristics of UJT?
4. Explain the Operation of crystal Oscillator?
5. Explain UJT as a Relaxation Oscillator & Common Source Amplifier?
6. Describe in detail about the General form of LC Oscillator?
7. Explain the Construction & Working of Hartley & Colpitt's Oscillator?

4. SCR, DIAC, TRIAC & MOSFET

Part – A

1. Draw the Symbol of TRIAC & Name it is terminal?
2. Define Holding Current?
3. Compare SCR and Transistor?
4. Draw the Symbol of UJT & Note its terminal?
5. What are the different regions in the characteristics of UJT?
6. Define Latching Current?
7. What are the Applications of MOSFET?
8. What is the difference between TRIAC & DIAC?
9. Expand MOFET & SCR?
10. Draw the VI Characteristics of DIAC?

Part – B

1. What is the difference between rectifier & Controlled rectifier?
2. Mention any one application of SCR, DIAC, TRIAC, MOSFET?
3. Explain MOSFET as a switch?
4. Explain SCR as a Switch?
5. Compare Transistor with a SCR?
6. Draw the symbol of N – Channel MOSFET for Depletion & Enhancement modes?

Part – C

1. Explain how a DIAC can be operated on a Bidirectional Switch & draw the VI Characteristics?
2. Explain SCR as a Controlled rectifier & Write the Applications of SCR?
3. Draw the VI Characteristics of TRIAC with a neat circuit diagram?
4. Explain about the operation and characteristics of N – Channel Depletion mode MOSFET?
5. Explain the working of UJT as a Relaxation Oscillator?
6. With a neat diagram, explain the construction, working of SCR & write its Applications?

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5. Optoelectronic Devices & WaveShapping Circuits

Part – A

1. State the Classification of multivibrators?
2. Draw the symbol & characteristics curve of LDR?
3. What is Solar Cell & draw the symbol of Solar cell?
4. What I is an Optocoupler & draw the symbol of it?
5. Define Clipper & Clamper?
6. Expand & Define LED?
7. What is Schmitt trigger?
8. Define LCD & write its types?

Part – B

1. Explain Simple Positive Clipper?
2. Draw the circuit of Schmitt Trigger using transistor?
3. Draw the Circuit diagram of Astable Multivibrator?
4. Compare LCD & LED?
5. Explain about the Photo transistor?

Part – C

1. Draw & Explain the Construction, Working of Astable Multivibrator?
2. Draw & Explain the Construction, Working of Monostable Multivibrator?
3. Draw & Explain the Construction, Working of Bistable Multivibrator?
4. Draw & Explain the Construction, Working of Schmitt trigger?
5. Explain the operation of Solar Cell & photo transistor?
6. Explain the working of Clipper & Clamper?