Sardar Vallabhbhai Patel Institute of Technology -SVIT-Vasad

Academic Year:2021-22

First Year - Semester–I (Computer)

Subject Name: BASIC ELECTRONICS(3110016)

QUESTION BANK - Test - 1

Unit 1: Diode theory and application

Q:1 Differentiate between insulator, conductor and semiconductor.

Q:2 Write a short note: V-I characteristic of P-N junction diode. Also discuss about VI characteristic of Ideal Diode.

Q:3 Write short note on first (ideal), second & third approximations of diode.

Q:4 Write a short note on Surface Mount Diodes.

Q:5 What is zener breakdown? What is avalanche breakdown? Compare both the type of breakdown.

Q:6 Describe process of testing diode with multi meter.

Q:7 Draw and explain with waveform the circuit diagram of Half wave rectifier. Derive efficiency and ripple factor value.

Q:8 Describe the circuit that uses center tape transformer for rectification with circuit diagram, waveforms and required derivations.

Q:9 Draw and Explain bridge rectifier. Explain advantage and disadvantage of bridge rectifier over center tape full wave rectifier.

Q:10 What is the necessary of filter in power supply? Describe choke and capacitor input filter with its advantages and disadvantages.

Unit : 2 Bipolar junction transistors and its biasing

Q:1 Define ά and ß. Get the relation between them.

Q:2 Explain different BJT configuration and their operation.

Q:3 Obtain DC Load line on the output characteristics of transistor? What does its importance?

Q:4 Discuss various current components of transistor.

Q:5 Explain fixed bias method of biasing using circuit diagram.

Q:6 Explain emitter bias method of biasing using circuit diagram.

Q:7 State the requirement /importance of transistor biasing and list out different methods.

Q:8 Discuss Common emitter configuration and its characteristics.

Q:9 Discuss Common base configuration and its characteristics.

Q:10 Discuss Common collector configuration and its characteristics.

Q:11 Discuss the comparison of all transistor configuration.

Q:12 Define DC and AC load line and compare it?