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_3

Special Purpose diodes and transistors

Q:1 Write a short note on photo cell and solar cell.

Q:2 Write a short note on PIN diode.

Q:3 What is varactor diode? How capacitance of a diode varies with reverse voltage?.

Q:4 Write a short note on Schottky diode.

Q:5 Write a short note on Varistor diode.

Q:6 Explain V-I characteristic of tunnel diode..

Q:7 Explain the working of Photo transistor and Opto-coupler.

Field Effect Transistors (FET) and its biasing

Q:1 What is FET? State important features of FET.

Q:2 Explain the Depletion region and drain characteristics of n channel JFET.

Q:3 Draw and explain working and various characteristic of p channel JFET.

Q:4 Give comparison of BJT and FET.

Q:5 Draw and explain the self bias circuit of FET.

Q:6 Explain Transconductance and switching in FET.

Q:7 Explain FET as an Amplifier.

Q:8 Draw and explain various biasing method in ohmic region.

Q:9 Draw and explain voltage divider bias of FET.

Bipolar junction transistors and its biasing

Q:1 Explain the terms related to Transistor

(i)Thermal Stability (ii) Power Dissipation (iii)Switching Circuits

Q:2 Why biasing circuits are required?

Q:3 State advantage of transistor

Digital

Q:1 Explain Ex-OR and Ex- NOR gate with truth table

Q:2 Write truth table of AND, NAND and NOR gates.

Q:3 Explain following gate using their truth table, logic symbol and equation. Ex-NOR, NAND, NOR

Q: 4 Explain why NAND and NOR gate are called universal gate?

Q:5 Draw symbol and explain truth table of all basic logic gates

Q:6 Explain (i)universal gate (ii) EX-OR logic gate