

BASIC ELECTRONICS

2nd Exam/ECE/ECE-II/ETV/Comp/IT/CSc./EEE/0664/Nov'18

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Fill in the blanks.

15x1=15

- The value of knee voltage of a Germanium diode is _____ volts.
- The electrons in the outermost orbit are called _____.
- Holes are _____ carriers in the p-type semiconductors.
- MOSFET is a _____ controlled device.
- A zener diode is always operated in _____ region.
- When pn junction is heavily doped, its breakdown voltage wills _____.
- FET is _____ polar device.
- The smaller the stability factor, the _____ will be the thermal stability of the circuit.
- If the arrow points outward, the transistor is an _____.
- The best biasing method is achieved by adopting _____ biasing circuit.
- BJT stands for _____.
- CMOS stands for _____.
- Current amplification factor of CB is _____
- The meaning of hybrid is _____.
- Output signal frequency of full wave rectifier is _____ of input signal.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- Explain the need for Stabilization of the Operating Point.
- Discuss the advantages of FET over Conventional transistor.
- Explain the effect of temperature on conductivity of intrinsic semiconductor.
- Write a note on tunnel diode.
- Draw circuit of half wave Rectifier and explain its working. Draw the output waveform.
- What do you mean by thermal runaway?
- Draw and explain Filter Circuits.
- What is Zener Diode? Explain its Applications.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- Draw and Explain the Common emitter Configurations Characteristics.
- Explain construction and working principle of FET. Draw the neat diagram.
- Write note on PN Junction and its biasing. Difference between the n-type and p-type semiconductor.
- Explain in detail different types of biasing.
- Write short notes on the following. **(any two)**
 - LED
 - Avalanche breakdown
 - Schottky Diode