

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (EE/EEE) (Sem.-3rd)

ELECTRONIC DEVICES AND CIRCUITS

Subject Code : BTEE-304 (2011 Batch)

Paper ID : [A1137]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A**1. Write briefly :**

- Give the expression for diffusion and drift current densities of holes.
- What is the difference between biased and unbiased clipper?
- Where is bleeder resistor used in filters and why?
- How is emitter efficiency improved in a junction transistor?
- Why is input impedance higher in MOSFET as compared to JFET?
- How do you classify power amplifiers?
- Define slew rate. What causes slew rate?
- What is the function of discharge and threshold in 555 Timer IC?
- What are multivibrators?
- What is SMPS?

SECTION-B

- Draw and explain the circuit of a diode is clamped to zero volts.
- In an NPN silicon transistor $\alpha_{dc} = 0.9$. Determine I_c , I_B , β_{dc} and I_{CEO} .
- Sketch and explain the CB input and output characteristics of NPN transistor.
- Discuss the operation and frequency response of an active filter.
- What is the difference between comparators?

SECTION-C

- Discuss the operation of half wave rectifier. Compare their performance. How is it extended to work as voltage tripler?
- Discuss the application of op-amp as inverting amplifier and how are they overcome using practical applications.
- Describe various current limiting techniques.

