

Roll No.

Total Pages : 4

2205/M

K-33/2051

BASIC ELECTRONICS

Paper–DECE-102

Semester–II

Time allowed : 3 Hours] [Maximum Marks : 50

Note: The candidates are required to attempt three questions each from section A and section B carrying 5 marks each and the entire section C consisting of 10 questions carrying 2 marks each.

SECTION-A

1. Explain conductors, semiconductors and insulators with the help of energy band diagrams. 5

2. Draw circuit of half wave Rectifier and explain its working with proper input and output waveform. 5
3. What is Filter? Explain series inductor and LC Filters. 5
4. Explain Zener diode and its applications in detail. 5

SECTION-B

5. Draw and explain the input and output characteristics of Common Emitter configuration. 5
6. What are the various method of Biasing? Draw and explain the circuit diagram of base resistor biasing. 5
7. Explain the construction and working of MOSFET in enhancement mode. 5
8. Give the comparison of FET and BJT. 5

SECTION-C

9. Attempt all questions: $10 \times 2 = 20$
- (i) Define Potential Barrier and Knee Voltage.
 - (ii) What do you mean by Intrinsic Semiconductor and Extrinsic Semiconductor?
 - (iii) What is Doping?
 - (iv) Write about series Inductor Filter briefly.
 - (v) What do you mean by Transistor Biasing?
 - (vi) Define PIV and ripple factor?
 - (vii) Draw symbol of PNP transistor and also write about the doping profile.
 - (viii) Explain the need for stabilization of operating point.

- (ix) What do you mean by Amplification Factor ?
- (x) Draw the symbols of n-channel FET and p-channel FET.