

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (CSE / EE / E & EE / IT / ME) (Sem.-7)

ELECTRONIC DEVICES

Subject Code : BTEC-301-18

M.Code : 90606

Date of Examination : 16-12-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

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

SECTION-A

1. Write briefly :
- a) Explain how Zener diode can be used as a voltage regulator.
 - b) What is the principle of working of varactor diode?
 - c) Define ripple factor and PIV.
 - d) Which of the BJT configurations are suitable for impedance matching applications? Why?
 - e) Compare linear regulator with switching regulator.
 - f) Differentiate between NPN and PNP transistors.
 - g) Compare positive feedback with negative feedback.
 - h) Compare LED with ordinary diode.
 - i) What do you mean by Sputtering?
 - j) Define ripple factor and PIV.

SECTION-B

2. '*Zener diode can be used as a voltage regulator*'. Justify it.
3. Explain the DC and AC load Line analysis.
4. Derive the expression for Diffusion capacitance of a diode.
5. Draw the circuit diagram of a PNP junction transistor in CE configuration and describe its characteristics.
6. Draw the circuit diagram of a half wave rectifier circuit and explain its working.

SECTION-C

7. Explain the process of Photolithography with diagrams.
8. Explain the operation of Depletion mode MOSFET in detail.
9. Explain Voltage Divider Bias.