Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech.(ECE) (2018 Batch) (Sem.–3)

ELECTRONIC DEVICES

Subject Code : BTEC-301-18

M.Code : 76444

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. Explain the difference between diffusion current and drift current.

c. Explain the working of a transistor as a switch.

d. What are different types of diode? Draw symbols of each.

e. Draw the energy band diagram of extrinsic and intrinsic semiconductors.

f. State the relation between mobility and resistivity.

g. Define Transconductance of MOSFET.

h. What is pinch off voltage?

i. What is the difference between schottly diode and normal diode?

j. What is diffusion capacitance?

SECTION-B

2. Explain the effect of using negative feedback on various parameters of amplifiers.

3. Compare ion implantation process with diffusion.

4. What is a solar cell and how does it work?

5. What is e-k diagram and its significance?

6. What do you mean by annealing? Why it is required in IC fabrication process?

SECTION-C

7. Explain the construction and working of MOSFET.

8. What is the difference between a rectifier and regulator? Explain **any one** type of rectifier and regulator with diagram.

9. Describe all steps of Photolithography in detail with diagrams.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.