

Roll No.

Total No. of Pages : 02

Total No. of Questions : 18

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**

**Write briefly :**

- 1) Compare Zener breakdown and Avalanche breakdown.
- 2) What is the difference between a Schottky diode and normal diode?
- 3) What are the different types of diode? Draw symbols of each?
- 4) Draw the energy band diagram of extrinsic and intrinsic semiconductors.
- 5) What do you mean by Light Emitting diode?
- 6) What do you mean by diffusion current?
- 7) What do you mean by Etching?
- 8) What is diffusion capacitance?
- 9) What is pinch-off voltage?
- 10) What is the P-N junction diode?

### SECTION-B

- 11) Draw and Explain the VI characteristics of a Zener diode.
- 12) Draw the circuit diagram of a full-wave bridge rectifier circuit.
- 13) What do you mean by annealing? Why it is required in the IC fabrication process?
- 14) What is a solar cell and how does it work?
- 15) What is the e-k diagram and its significance?

### SECTION-C

- 16) Draw the Input and Output Characteristics of Common Emitter Configuration.
- 17) Draw the circuit diagram of a Half-wave rectifier circuit and Calculate
  - a)  $I_{dc}$
  - b)  $I_{rms}$
  - c) Ripple factor
  - d) Efficiency
- 18) 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.**