**

**I Mid Term examination**

**Session: 2018-19**

**B. Tech II Year (III Semester)**

**Subject with code:** Electronic Devices, (3EC4-07)

**SET-A**

Time: 2 hrs. M.M.:40

**Instruction for students:**

1. No provision for supplementary answer book.
2. Question paper contains three sections. Sec A includes 5 Short answers type questions (upto 25 words) Sec B- contains 06 Questions out of which any 04 questions to be attempt by the student (Analytical/Problem solving questions.).Sec C- contains 03 Questions out of which any 02 questions to be attempt by the student (Descriptive /Design questions.)

**Sec-A(5\*2=10 Marks)**

Q.1 What is the Insulator?

Q.2 What is the Drift Current?

Q.3 Write the formula of the Mass Action low.

Q.4 Write the Diode current Equation

Q.5 Write the Einstein Equation.

**Sec-B (4\*4=16 Marks)**

Q.1 Explain the Band gap Structure of Insulator, Conductor and Semiconductor.

Q.2 Explain the Difference between Generate and Non- Degenerate Semiconductor material

Q.3 what do you understand by Mobility? Explain with the help of Formula.

Q.4 Explain the different Properties of Silicon, germanium and Gallium Arsenide

Q.5 How Schottky diode is better than PN Junction Diode?

Q.6 what is the Output waveform of the Given Circuit?

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**Sec-C(2\*7=14 Marks)**

Q.1 Derive the Drift Current for Intrinsic and Extrinsic Semiconductor.

Q.2 What do you understand by Quantum Mechanics. Explain the basic Difference between Semiconductor Physics and Quantum mechanics

Q.3 Explain the EBERS moll model of the Transistor.