



SHRI VISHWAKARMA SKILL UNIVERSITY

(A State Skill University, setup by an Act of Legislature in 2016)

185033

Course : D.Voc. Industrial Electronics
Subject : Basics of Electronics Engineering
Subject Code : EDEC-107
Semester : First
Duration : 3 Hours
Maximum Marks : 35

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. **Section A** comprises ten questions of objective type in nature. All questions are compulsory. Each question carries one mark.
3. **Section B** comprises eight essay type questions out of which students need to do any five. Each question carries five marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled.

Roll Number

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SECTION -A (OBJECTIVE TYPE QUESTIONS)**(10x1=10 Marks)**

- Q1 (a) What is negative temperature coefficient of resistivity?
(b) Which kind of impurity is added to make P-type of semiconductor?
(c) List two examples each of active and passive components.
(d) What is the internal impedance of ideal current source?
(e) How many particles are there in the nucleus? Name them.
(f) List three differences between ideal diode and practical diode.
(g) What is the thresh hold voltage in case of Si and Ge diode?
(h) How is the colour of light decided in an LED?
(i) List four requirements of a Power Supply.
(j) Define Duty cycle for an SMPS.

SECTION -B (ESSAY TYPE QUESTIONS)**(5x5=25 Marks)**

- Q2 Draw the Energy Band diagrams of Conductors, Semiconductors and Insulator. What is forbidden gap in the Energy Band.
- Q3 Why can't we use Intrinsic Semiconductor to manufacture electronic devices?
- Q4 How is a PN Junction Diode specified? Draw circuit of a diode in forward and reversed bias.
- Q5 Design a circuit for driving an LED with a DC voltage source of 100V.
- Q6 Draw the Block Diagram of an SMPS. List four advantages and four disadvantages of SMPS
- Q7 What is the role of a filter in power supply? List two types of filters used in power supply.
- Q8 How can a voltage source be converted to its Current Source equivalent?
- Q9 Derive an expression for Average Voltage in case of an Half Wave Rectifier.

-----End of Paper-----