

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

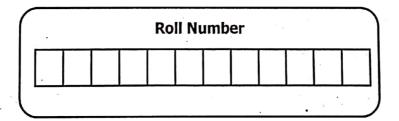
Maximum Marks

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.



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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 Ze 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-----