



# HARYANA VISHWAKARMA SKILL UNIVERSITY

Course	:	B.Sc. (Automotive Mechatronics)
Subject	:	Basics of Electronics
Semester	:	First
Subject Code	:	BEC-101
Duration	:	3 Hours
Maximum Marks	:	35

## Instructions to the Student:

This question paper consists of 2 Sections.

1. Section A comprises 10 questions of objective type in nature. All 10 questions are compulsory. Each question carries 1 mark.
2. Section B comprises 6 long answer type questions out of which students need to do any 5. Each question carries 5 marks.

## SECTION- A

### 1 .Short answers type questions

- Q 1. Define a hole in a semiconductor.
- Q 2. Why is silicon preferred to germanium in the manufacturing of semiconductor devices?
- Q 3. What is Zener diode? Draw its symbol.
- Q 4. What is rectifier? Write its applications.
- Q 5. What are the two mechanisms of breakdown in a P-N junction?
- Q 6. Discuss the need for biasing the transistor?
- Q7. What are the different type of transducer?
- Q 8. What is the concept of amplification?
- Q 9. What is the function of multimeter?
- Q 10. What are the different type of filters?

## SECTION- B

### 2. Long answers type questions

Q 1. What is electronic emission ? Explain different types of electronic emissions with the help of diagram.

Q2. Explain PN junction diode with the help of its forward biased and reverse biased characteristics.

Q 3. Explain the working of centre tapped full wave rectifier with the help of diagram. Draw its output characteristics also.

Q 4. What is a transistor? Explain operation of NPN and PNP transistors with the help of diagram.

Q 5. Explain single stage CE amplifier with the help of diagram.

Q 6. Explain the working of thermocouple & its application.