

B. Voc Robotics and Automation
Subject: Electronic Devices and Circuits
Subject Code: ECE-602
Semester: Third
Session: September 2022
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answers type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything in the question paper.
6. Whenever necessary, the diagram drawn should be neat and properly labelled

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SECTION – A (OBJECTIVE TYPE QUESTIONS)
(10 × 1 = 10 Marks)

- A. What is a P-N junction?
- B. Why is silicon preferred over germanium in the manufacture of semiconductor devices?
- C. Why is SCR unidirectional?
- D. Which is the main application of SCR?
- E. What is an amplifier?
- F. What is a differential amplifier?
- G. Define differential input resistance.
- H. The arrow on the symbol of MOSFET indicates.....
- I. Which feedback increases the gain of the amplifier?
- J. Define Oscillator.

SECTION – B (ESSAY TYPE QUESTIONS)

(5 × 5 = 25 Marks)

1. What is Zener diode? Explain Zener as regulator
2. Explain full wave rectifier with schematic diagram and waveforms.
3. What are the two mechanisms of breakdown in a p-n junction ?
4. Explain V-I Characteristics of Thyristor with diagram

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5. Draw and explain the input and output characteristics of a transistor in CB configuration.
6. What are the advantages of introducing negative feedback ?
7. Explain the Wien bridge Oscillator with circuit diagram.
8. Write a short notes on the following:
 - a. Laser diode
 - b. IGBT

END OF PAPER