

**B.Voc Automotive Component Manufacturing**  
**Subject: Basics of Electrical and Electronics**  
**Engineering**

**Subject Code: ZBEE-106**

**Semester: Second**

**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 objective 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 on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

**Roll Number**

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**SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)**  
(10x1=10 Marks)

- A. Define Resistance
- B. Why all the electrical appliances are connected in parallel?
- C. How would you identify the terminals (E,B,C) of transistor?
- D. Draw the symbol of thyristor.
- E. What are the applications of DC motor?
- F. What is difference between ELCB and MCB?
- G. Draw the symbol of PNP and NPN junction transistor.
- H. Define Fuses.
- I. What is the E.M.F equation of Induction motor? What is step up and step down transformer?

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

1. Define Ohm's Law and explains series-parallel resistance circuits.
2. Explain the principle, working of single phase transformer.
3. State and explain kirchhoff's current and voltage laws with suitable example.

4. a) Explain the generation of 3-phase E.M.F.  
b) Difference between three-phase and single-phase system.
5. Explain Delta to Star conversion in a three-phase system.
6. Define the concept of Neutral and Earthing. Explain the uses of earthing.
7. Explain the principle, construction and working of Stepper motor with diagram.
8. Define the following terms
  - a. Diodes and its applications
  - b. Transistor and its types

END OF PAPER