

S. B. Roll. No.....

**ELEMENTS OF ELECTRICAL AND ELECTRONICS ENGINEERING**  
**3<sup>rd</sup> Exam/Mech./Auto/0193/Jun'2021**  
**(For 2018 Batch Onwards)**

**Duration: 1.15Hrs.**

**M.Marks:25**

**SECTION-A**

**Q1. Attempt any three questions.**

**3x5=15**

- i. A supply voltage of 230 V, 50 Hz is fed to a residential building. Write down its equation for instantaneous value?
- ii. What is power factor? What is its importance?
- iii. Explain V-I characteristics of an SCR.
- iv. On what factors the resistance of a conductor depends?
- v. Explain the working principle of a transformer.
- vi. Explain the working of 2 phase servo-motor.
- vii. What do you mean by feeder, distributor and service mains in a distribution system?

**SECTION-B**

**Attempt any one question.**

**1x10=10**

- Q2.** a) Explain, the indication of a fully charged cell.  
b) What are the advantages of electrical energy over other types of energy?
- Q3.** Briefly explain Zener diodes and their applications.
- Q4.** What is earthing? What is its purpose? Explain any one type of earthing in detail.
- Q5.** Differentiate between High and Low voltage Distribution system.