

**D.Voc. Industrial Electronics**  
**Subject: Basic of Electrical Engineering**  
**Subject Code: EDEE108**  
**Semester: 2<sup>nd</sup> (Regular)**  
**Batch: 2018-21**  
**Theory (External): 35 Marks**  
**Time: 03 hours**

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**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 mark.
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 (OBJECTIVE TYPE QUESTIONS)**

**(10x1=10 Marks)**

Q1 One volt is equal to

a) One joule

b) One coulomb per joule

c) One joule per coulomb d) Work done in shifting one coulomb

Q2 When  $P = \text{Power}$ ,  $V = \text{Voltage}$ ,  $I = \text{Current}$ ,  $R = \text{Resistance}$  and  $G = \text{Conductance}$ , which of the following relation is incorrect?

a)  $V = \sqrt{PR}$

b)  $P = V^2G$

c)  $G = P / I^2$

d)  $I = \sqrt{P / R}$

Q3 What is the basic concept of power and its unit?

Q4 Define Ohm's Law.

Q5 Write the formula of energy stored in a capacitor.

Q6 What do you mean by mutual inductance?

Q7 Write the difference between AC and DC.

Q8 Write the formula with unit of work.

Q9 What is form factor in AC circuits?

Q10 Define power factor in AC circuits.

## SECTION –B (ESSAY TYPE QUESTIONS)

(5x5=25 Marks)

- Q1 Define the Voltage, Current, Charge, Power, Energy, Resistance, Conductance, Inductance and Capacitance with their units and symbols.
- Q2 Explain the Kirchhoff's current and voltage laws and their applications with suitable example.
- Q3 Derive the conversion formula with units of work, power and energy from one form to another.
- Q4 How many types of Capacitors are used in electrical circuits? Explain the concept of charging and Discharging of capacitors.
- Q5 Explain the Faraday's Laws of Electromagnetic Induction. Derive the expression for dynamically induced e.m.f.
- Q6 Find the force acting on a current carrying conductor in magnetic field also find the magnitude and its direction.
- Q7 Explain the mutually induced e.m.f., its magnitude and direction with suitable diagram. What is coupling coefficient?
- Q8 Derive the expression for voltage and current in A.C. Series Circuits with resistance and inductance.

-----END OF PAPER-----