

BACHELOR OF VOCATION
Robotics and Automation
Subject: Basics of Electrical & Electronics Engineering
Subject Code: EE-501
Semester: First
January 2021
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											

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

- A. Define Inductance
- B. Express the correlation between charge and current.
- C. Define linear bilateral circuit ?
- D. What is the voltage across an electric heater of resistance 5 ohm through which passes a current of 46 A .
- E. What is the difference between fuse and breaker.:
- F. How Zener diode is different from normal diode?
- G. Distinguish between slip and rotor frequency.
- H. What are the advantages of three-phase system over single-phase system?
- I. Derive an expression for frequency of the ac generated voltage.
- J. Define peak value and average value s

SECTION -B (ESSAY TYPE QUESTIONS)

(5x5=25 Marks)

- Q1 Explain the conversion of current source into equivalent voltage source for solving the electrical problem.
- Q2 Three resistances of 20, 25 and 30 ohms are connected in delta. Calculate the corresponding resistances in an equivalent star connection.
- Q3 Write down the advantages of using three phase supply system over single phase system.
- Q4 Explain the working principle of single phase transformer.
- Q5 Write a short note on
- i) Applications of servo motor
 - ii) Construction of DC generators
- Q6 Explain the VI characteristics of thyristor.
- Q7 Write two points on
- i) MCBs and ELCBs
 - ii) Neutral and earthing
- Q8 Draw layer diagram of PN junction diode

*******END OF PAPER*******