

**6636**  
**BOARD DIPLOMA EXAMINATION**  
**JUNE - 2019**

**\* DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING**  
**POWER ELECTRONICS & PLC**  
**FIFTH SEMESTER EXAMINATION**

**Time: 3 Hours**

**Total Marks: 80**

**PART - A (3m x 10 = 30m)**

*Note 1: Answer all questions and each question carries 3 marks*

*2: Answers should be brief and straight to the point and shall not exceed 5 simple sentences*

1. Draw Crowbar Protecting circuit using Thyristor
2. List any six applications of SCR
3. Classify the Converters in any three aspects
4. Define Cyclo-converter
5. Classify Inverters in any three aspects
6. Define Uninterrupted Power Supply
7. Draw the burglar alarm circuit using SCR
8. State the need of Automation
9. List any three comparison instructions used in PLC
10. Draw the Ladder diagram for (i) NOR gate (ii) NAND gate

**PART - B (10m x 5 = 50m)**

*Note 1: Answer any five questions and each carries 10 marks*

*2: The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer*

11. Explain the construction and working of SCR with neat diagram
12. a) What is meant by communication and what are the different communication methods.  
 \* b) Draw and explain the Triac triggering circuit using DIAC.
13. Explain the working of Three-Phase half wave Controlled converter with Resistive Load
- 14A. Explain the working of single phase AC Regulator  
 B Explain the working of three Phase Inverter for  $120^\circ$  mode of operation.
- \* 15. Explain the Battery charger circuit using SCR with a neat diagram

16. Explain the importance of control engineering in day to day life and in industry
17. Draw the block diagram of PLC and Explain the purpose of each part of PLC
- 18A. Draw the block diagram of water level controller and label the parts
- B. Explain the Hardware and software used in Distributed Control System (DCS)

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