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BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 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. State any six ratings of SCR
2. Draw the symbols for the following devices
   (i). DIAC (ii). SCS (iii). RCT
3. Define Chopper
4. Define Inverter
5. Classify Cyclo-converters
6. State any three devices used to suppress the spikes in supply system
7. State the factors affecting the speed Control of DC motors
8. Classify control system based on the type of parameters
9. Write the input devices used in PLC
10. List any three logical instructions used in PLC

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. Draw and explain the TRIAC firing circuit using DIAC with the help of circuit diagram and wave forms.
12. Explain the construction and working of SCR with neat diagram
13. Explain the working of Single-Phase half wave Controlled converter with Resistive Load

14A. Explain the working Principle of Chopper with neat diagram

B. Explain the working of Series Inverter

15. Explain the speed control for DC shunt motor using converter circuit.

16. Explain the importance of control engineering in day to day life and in industry

17. Explain contacts and coils in the following states

    (a) Normally open (b) Normally closed (c)Energized outputs (d) Latched output (e) Branching

18A. Draw the block diagram of generalized feedback control system and label the parts

B. Explain the Hardware and Software used in SCADA

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