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4746**BOARD DIPLOMA EXAMINATION, (C-14)****JUNE-2019****DEEE –SIXTH SEMESTER EXAMINATION****INDUSTRIAL AUTOMATION**

Time: 3 Hours]

[Max.Marks: 80

PART-A**10x3=30M**

Instructions: 1) Answer **all** questions. Each question carries **three** marks.
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) List the advantages of automation.
- 2) Define closed loop control system with an example.
- 3) What is a solenoid?
- 4) What is synchor?
- 5) Write a short notes on servomotor
- 6) State the properties of transfer functions of system.
- 7) Give the Laplace transform of an inductor and capacitor.
- 8) What is time invariant system.
- 9) Draw the block diagram of PLC.
- 10) Draw ladder diagrams for OR gate and NOT gate.

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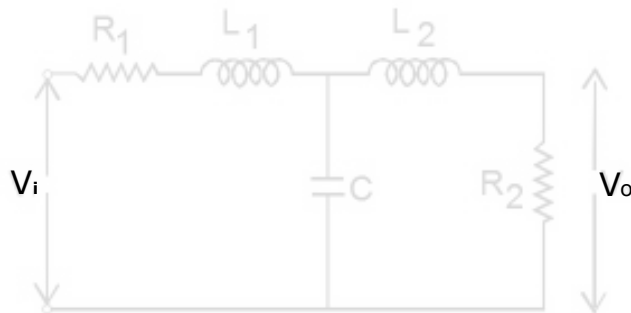
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PART-B

5x10=50M

Instructions: 1) Answer any **five** questions.
2) Each question carries **ten** marks.
3) Answers should be comprehensive and the criteria for valuation is the content but not the length of answer.

- 11) Explain briefly the concept of open loop and closed loop control of temperature controller.
- 12) (a) State the advantages and disadvantages of closed loop control systems.
(b) With the help of block diagram explain the concept of Integral controller.
- 13) Explain the working of electromagnetic relay.
- 14) Explain the working of potentiometer and its use as error detector.
- 15) Explain the working of synchro as error detector.
- 16) Derive the transfer function of the following network.



- 17) Explain the working of T_{ON} Timer.
- 18) Draw and explain ladder diagrams for STAR-DELTA starter.

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