C14-EE-**606**

4746

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL-2019
DEEE - SXITH SEMESTER EXAMINATION

INDUSTRIAL AUTOMATION

Time:3 Hours Max.Marks:80

PART-A

10x3=30M

Instructions: 1) Answer **all** questions. Each question carries **3** marks.
2) Answer should be brief and straight to the point and shall not exceed **five** simple sentences.

1) Define control system. 3M

2) Draw a generalized block diagram and label the parts of feedback control system. 3M

3) Explain the photo electric switch. 3M

4) List the specifications of potentiometer. 3M

5) What are the types of a controller? 3M

6) Define Transfer Function of a system. 3M

7) Explain the block diagram reduction rules for cascade blocks and parallel blocks. 3M

8) What is a proportional controller? 3M

9) List the advantages of PLC. 3M

10) Draw the basic elements of ladder diagram and label parts. 3M

PART-B

5x10=50M

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

11) a) Write differences between open loop and closed loop system. 5M
b) Explain temperature control of a room with neat diagram. 5M

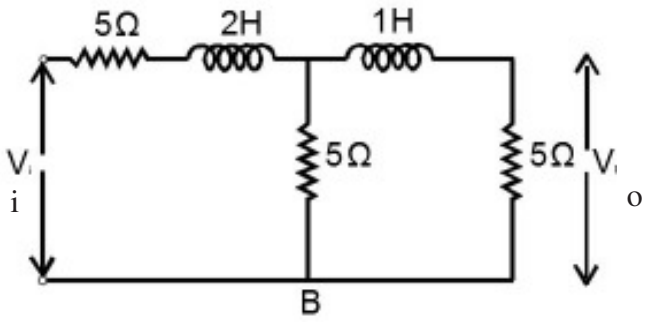
12) a) List the applications of reed relay and pilot lamps. 6M
b) Explain the types of contacts. 4M

13) Explain the synchros as error detector with a neat diagram. 10M

14) a) Explain the concept of digital controller. 5M
b) Write differences between hydraulic and pneumatic controllers. 5M

15) a) List the properties and limitations of a transfer function. 4M
b) Explain PI and PID controllers. 6M

16) Derive the transfer function for the following electrical network. 10M



17) Draw and explain ladder diagram for star delata starter. 10M

18) a) Explain Counter (CTU, CTD) instructions. 6M
b) Explain logical AND and logical OR instructions using ladder diagrams. 4M

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