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C14-EE-606

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BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DEEE-SIXTH SEMESTER EXAMINATION

INDUSTRIAL AUTOMATION

Time : 3 Hours] [Total Marks: 80

PART-A

3X10=30

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

1. List any six advantages of automation.
2. What are the characteristics of negative feedback?
3. What is the function of a Solenoid?
4. What is servomotor?
5. Differentiate between hydraulic and pneumatic controllers.
6. Write the Laplace transform of a resistor and a capacitor.
7. Write rules for moving the summing point, a head of a block.
8. What is a controller? List the different types of electronic controllers.
9. Draw the block diagram of a PLC.
10. Draw the ladder diagram for AND &NOT.

PART-B

10X5=50

Instructions :

1. Answer any **Five** questions, choosing at least one from each section.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Draw a generalized block diagram of feedback control systems and derive the transfer function of it.

12. (a) Explain the concept of speed control of DC motors from the aspect of control systems.

    (b) Explain the concept of PD controller and draw its block diagram.

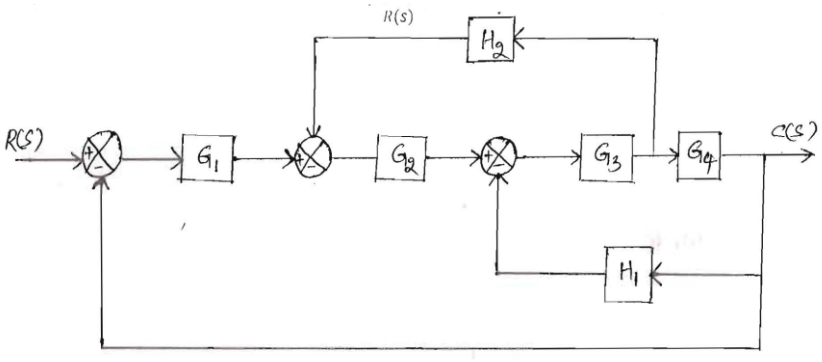
13. (a) Explain the working of an electromagnetic relay.

    (b) Explain the working of a reed relay.

14. Explain the working of synchro as a transmitter.

15. Explain the working of potentiometers and their use as error detectors.

16. Determine overall transfer $\frac{C(s)}{R(s)}$ for the system shown in fig.



17. Explain the working of a CTU counter

18. Draw and explain the ladder diagram for traffic light control.

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