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BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
DIPLOMA IN APPLIED ELECTRONICS AND INSTRUMENTATION
INDUSTRIAL ELECTRONICS & CONTROL SYSTEMS
FOURTH 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. List the applications of Solar cells
2. List the disadvantages of Photo transistor
3. State the merits and demerits of Induction heating
4. Mention the dielectrics used for dielectric heating in the range of 30 Hz to 3 MHz
5. Distinguish between open loop and closed loop control system
6. State the need for feed back in a control system
7. Find the laplace transform of unit ramp
8. Obtain inverse Laplace transform of F(s)= 1/(s+a)
9. Define unit step signal and draw it
10. Define stability of system

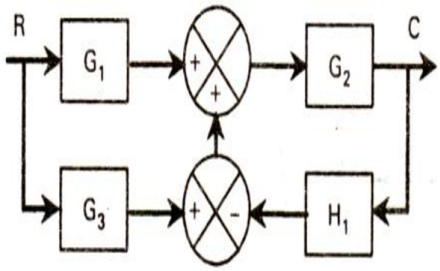
PART - B (10m x 5 = 50m)

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 of Solar cell
12. Explain the working principle of dielectric heating with diagram
13. Explain the principle of Induction heating with diagram and list the applications
14. Explain closed loop temperature controller with diagram
15. Find the laplace transform of e^{at} sin bt
16. Find the Inverse Laplace Transform of the function $F(s) = \frac{5}{(s+3)(s^2-4)}$

17. Derive the expression for steady state error of type 2 system for unit step and unit parabolic inputs

18A. 

Find C(S)/R(S) for the given problem

B. **Derive the expression for steady state error of type o sytem for unit parabolic input**

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