



C14-AEI-406

4418

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2018

DAEIE—FOURTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS & CONTROL SYSTEMS

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

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

1. List any three applications of photo transistor.
2. List applications of discrete displays.
3. List types of industrial heating methods.
4. List any three dielectrics used in dielectric heating.
5. Define system and control system.
6. List any three limitations of transfer function.
7. Define Laplace transform of unit step signal.
8. State the Mason's gain formula.
9. Define 'Type' and 'order' of control system.
10. Define Delay time and Rise time of the second order system.

PART—B

10×5=50

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- Instruction :** (1) Answer any **five** questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answers.

11. Explain the working of photomultiplier with diagram and write the applications
12. Explain the working of H.F power source for Induction heating with diagram
13. (a) Explain the principle of dielectric heating. 5
(b) Explain the principle of resistance welding process. 5
14. Explain briefly about the following systems. 5
(a) Linear and Non Linear control systems. 5
15. Derive the Htransfer function of mechanical rotational system.
16. Derive the transfer function of pressure system.
17. (a) Define Laplace transform and inverse laplace transform of the function 5
(b) Obtain the time response of 1st order system for
(i) step input
(ii) inpulse input
18. (a) Define type o, type 1 and type 2 control system. 6
(b) Define absolute and relative stability. 4

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