



C14-AEI-406

4418

BOARD DIPLOMA EXAMINATION, (C-14)

OCT / NOV-2017

DAEIE-FOURTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS & CONTROL SYSTEMS

Time : 3 Hours]

[Total Marks : 80

PART - A

3 x 10 = 30

- Instructions :** (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 conductive device.
2. Draw the circuit of optocoupler.
3. State the principle of induction heating.
4. List the three methods of coupling electrodes with RF generator in dielectric heating.
5. State the properties of transfer function.
6. Define open loop control system.
7. Define laplace transform of unit and ramp signals.
8. Define inverse laplace transform of the function.

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- *9. Define Type 0, Type 1 control systems.
- 10. Define absolute and relative stability.

PART - B

10 x 5 = 50

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 the answer.

- 11. a) Explain the working of photo transistor with diagram.
b) Explain the working of Dot matrix display with diagram.
- 12. a) Explain the working principle of dielectric heating with diagram.
b) List the applications of induction heating.
- 13. Explain the working of H.F power source for induction heating with diagram.
- 14. Write the short notes on the following systems
 - a) Linear and non linear control systems.
 - b) Continuous data and sample data system.
- 15. Derive the transfer function of RLC parallel circuit.
- 16. Explain the rules for block diagram reduction.
- 17. a) Derive the transfer function of thermal system.
b) Define peak time and settling time of the II order system.
- * 18. Obtain the time response of II order system for step input.

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