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C09-AEI–404

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BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DAEIE - FOURTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS AND CONTROL ENGINEERING

Time : 3 hours] [*Total Marks* : 80

PART—A

4×5=20

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **four** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Draw the symbol of photo transistor.

2. List the applications of photo conductive device.

3. List different industrial heating methods.

4. List the applications of induction heating.

5. List the applications of ultrasonics.

6. Define linear control system.

7. Define Laplace transform function.

8. State properties of transfer functions of system.

9. Define type 0 control system.

10. Define static error coefficient K_P.

PART—B

15×4=60

Instructions : (1) Answer *any* **four** questions.

(2) Each question carries **fifteen** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the construction and working of photomultiplier with diagram.

12. *(a)* Explain the working of solar cell.

(b) Explain principle of Resistance Welding process.

13. Explain the working of AC resistance welding with circuit diagram.

14. Explain the generation of ultrasonics using magnetostriction oscillator with diagram.

15. Explain the need for feed back in a control system with example.

16. Derive the transfer function of mechanical translational system with diagram.

17. Derive the transfer function of RLC series circuit with diagram.

18. Derive the time response of I-order system to step input with diagram.

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