



C16-AEI-405

6418

BOARD DIPLOMA EXAMINATION, (C-16)

OCTOBER—2020

DAEI—FOURTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS AND CONTROL SYSTEMS

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=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.

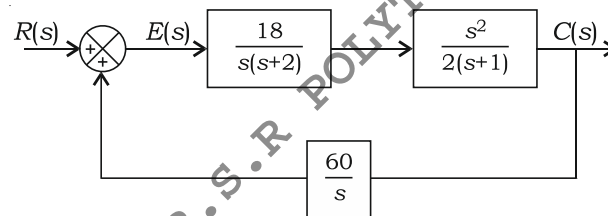
1. State the principle of photoconductive device.
2. State the working of solar cells.
3. Draw the diagram of high frequency power source for induction heating.
4. List the types of resistance welding.
5. Distinguish between open-loop and closed-loop system.
6. Define transfer function.
7. Define Laplace transform.
8. Define block diagram of a system.
9. List the frequency response plots.
10. Define test signal and control system.

PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Explain the bar graph and seven segment display with diagrams.
12. Explain the working of basic AC resistance welding with diagram.
13. Explain the principle and working of dielectric heating with diagram.
14. Explain continuous and discrete data systems.
15. Derive the transfer function of RLC series circuit.
16. Find $C(s)/R(s)$ for the given problem.



17. (a) Obtain inverse Laplace transform of $F(s) = 1/s$ 5
(b) State Routh-Hurwitz criteria for stability of a system. 5
18. Obtain steady state error of Type 0 and Type 1 systems.
