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Question Paper Code: 35504

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fifth Semester

Electronics and Instrumentation Engineering

01UEI504 – PROCESS CONTROL INSTRUMENTATION

(Regulation 2013)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. List any four objectives of process control.
2. Quote self regulation.
3. Define proportional band.
4. Tell any two limitations of single speed floating control.
5. Discuss Integral Square Errors (ISE).
6. List the parameters required to design a best controller.
7. Differentiate inherent characteristics and installed characteristics.
8. Differentiate flashing and cavitation in a control valve.
9. When do you prefer process reaction curve method for controller tuning?
10. Compare Feed forward and feedback controllers.
11. Define tuning of controllers.
12. Differentiate inherent characteristics and installed characteristics.
13. Differentiate flashing and cavitation in a control valve.

14. Quote ratio control.
15. Compare Feed forward and feedback controllers.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Compare continuous process and batch process. Explain with an example. (10)
17. Illustrate the operation of electronic PID controller. (10)
18. Discuss the operation of process reaction curve method for P, PI and PID controllers. (10)
19. Draw the diagram for current to pressure converter and discuss its operation. (10)
20. With suitable example explain the concept of cascade control. (10)