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Question Paper Code: 31554

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Fifth Semester

Electronics and Instrumentation Engineering

01UEI504 – PROCESS CONTROL INSTRUMENTATION

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is Process Dead Time?
2. Define Servo operation.
3. What is Steady state error?
4. What is the series equation of Proportional controller?
5. Give the various evaluation criteria.
6. What is IAE?
7. What is meant by actuators?
8. State the working of Solenoid valve.
9. What are the advantage of split range control.
10. What is process reaction curve?

PART - B (5 x 16 = 80 Marks)

11. (a) Derive and explain first order Level process.

(16)

Or

- (b) Explain in detail Batch and Continuous process control. (16)
12. (a) Draw and explain Electrical Two-position control system. (16)
- Or
- (b) Explain the composite control mode of PID. (16)
13. (a) Explain in detail about quarter decay ratio and Integral square error. (16)
- Or
- (b) Explain the tuning PID controller using frequency response. (16)
14. (a) Draw the circuit of I/P and P/I converter and explain it. (16)
- Or
- (b) Briefly explain the cavitations and flashing in detail. (16)
15. (a) Explain the structure of feed forward control scheme. Explain the situation where this type of control is used. (16)
- Or
- (b) What is the need for Ratio control system? Explain with suitable example in detail and also draw its block diagram representation. (16)
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