

Code: 9A10602

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

PROCESS CONTROL INSTRUMENTATION

(Common to EIE & E.Con.E)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 With a neat diagram, explain various elements of a typical process control loop.
- 2 Explain the operation of electronic PID controller and derive the expression for controller output. Mention its merits and demerits.
- 3 Explain the control valve and instrumentation system for the measurement and control of fluid flow, with neat diagram.
- 4 Explain the Baffle-nozzle system with the help of its characteristic curves.
- 5 With neat diagram, explain the operation of pneumatic actuator. Compare its merits and demerits with electronic motor actuator.
- 6 Explain with neat schematic diagram, the drum level control schemes with two element control and three element control.
- 7 Explain in detail the principles governing the conduct of reactions and chemical equilibrium with reference to chemical reactions.
- 8 Explain in detail:
 - (a) Evaporation barometric condensers.
 - (b) Inferential temperature control.
