

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014

Subject Code: 161702

Date: 21-05-2014

Subject Name: Process Control

Time: 10:30 am - 01:00 pm

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1** (a) Explain cascade control scheme with suitable example and neat sketch. **07**
(b) Explain two alternatives of ratio control with respective application. **07**
- Q.2** (a) Explain need of feed forward control with one example. **07**
(b) Explain split range control scheme with neat sketch. Narrate its importance in process industry. **07**
- OR**
- (b) Explain proportional control scheme with features, limitations and its remedy. Provide neat sketch for support of the same. **07**
- Q.3** (a) Explain parallel structure of simple system in detail. **07**
(b) Explain the benefits of control objective for process. **07**
- OR**
- Q.3** (a) Explain modeling procedure and linearization for process dynamics in short. **07**
(b) Give the application of selective and override control in process plant. **07**
- Q.4** (a) Discuss control performance measures for common input changes. **07**
(b) Explain floating point control with neat sketch. **07**
- OR**
- Q.4** (a) Give and explain the PID algorithm. **07**
(b) Explain fine tuning of controller tuning constants. **07**
- Q.5** (a) Give stability analysis of linear and linearized system. **07**
(b) Explain process lag and self regulation. **07**
- OR**
- Q.5** (a) Explain reactive curve method for tuning. **07**
(b) Explain PI controller mode in detail. **07**
