

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-VI Examination-Nov/Dec-2011

Subject code: 161703

Date: 25/11/2011

Subject Name: Control System Components

Time: 10.30 am -1.00 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) How the Intelligent transmitter is consider better than ordinary electronic transmitter? Explain with block diagram and merit of it. **07**

(b) Explain valve selection guidelines for control valve **07**

Q.2 (a) Explain the control valve having rangeability higher than 80:1. **07**

(b) Given the comparative advantage and disadvantage of single and double port globe valve with application. **07**

OR

(b) Explain the pressure drop requirements for good control valve and also explain how it control flow? **07**

Q.3 (a) What is the significant of control valve flow characteristic. Explain selection of flow characteristics based on application with reason. **07**

(b) List out various control valve accessories. Explain any three control valve accessories with figure and its role in control valve. **07**

OR

Q.3 (a) Which are safety considerations we follow in control valve design and operation. **07**

(b) What is the purpose of pressure relief valve? Explain the rupture disc operation. **07**

Q.4 (a) Explain Relay problems and remedies for those problems. **07**

(b) Explain the construction, theory of operation of Induction motor **07**

OR

Q.4 (a) Explain the characteristics of electromechanical relays and Also any two dynamic characteristic of relay. **07**

(b) Given the application of stepper motor. Also given drive circuits for stepper motor with reason of its need. **07**

Q.5 (a) List out various cams and followers. Explain any two cam and follow pair with its output profile. **07**

(b) Explain the differential pressure switch with all details **07**

OR

Q.5 (a) What is need of gear? How we design the gear train? Explain backlash and gear ratio in gear terminology. **07**

(b) What is different between proximity switches and limit switches. Explain any one proximity switch and one limit switch. **07**
