

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-IV • EXAMINATION – SUMMER 2014

Subject Code: 341703

Date: 3-06-2014

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.
4. English version is considered to be Authentic.

- Q.1 (a) What is Potentiometer? Explain its construction and types. 07
(b) Describe control valve characteristics. 07
- Q.2 (a) Explain working and construction of Solenoid valve. 07
(b) What is actuator? Give classification of actuator and explain hydraulic actuator. 07
- OR
- (b) Write short note on Electro pneumatic actuator. 07
- Q.3 (a) What the function is of positioner? Explain any one pneumatic positioner. 07
(b) With neat diagram explain Globe valve. 07
- OR
- Q.3 (a) Write short note on Electro pneumatic positioner. 07
(b) Describe the factors affecting control valve selection basis of its application. 07
- Q.4 (a) Define following terms (any seven) 07
1) Rangeability 2) valve capacity
3) Trim 4) Valve Body
5) Plug 5) Seat
7) Normally open 6) Stem
(b) Explain how potentiometer is used as error detector. 07
- OR
- Q. 4 (a) How valve noise affect the valve function? Name the types of valve noise and explain any one technique of removal of valve noise. 07
(b) Working and construction of variable reluctance stepper motor. 07
- Q.5 (a) Explain synchro is used as error detector. 07
(b) Give the difference between Armature controlled and Field controlled servomotor. 07
- OR
- Q.5 (a) Write short note on vertical gyroscope. 07
(b) Explain tachogenerator sa position control with feedback. 07
