

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (OLD) - EXAMINATION – SUMMER 2018

Subject Code:161701

Date:05/05/2018

Subject Name:Instrumentation System

Time:10:30 AM to 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) Draw the following graphical symbols as per ISA standards. **07**
(1) Needle valve (2) plug valve (3) Ball valve (4) Water cooled condenser
(5) Hydraulic Line (6) Pneumatic Line (7) Damper
- (b) Explain types of control panels with necessary diagram. **07**
- Q.2** (a) Explain control room layout with necessary sketch. **07**
(b) Discuss panel bid specifications and inspection. **07**
- OR**
- (b) Explain the plant start up procedure. **07**
- Q.3** (a) Compare plant air and instrument air. Explain instrument air supply system for any process industry with necessary diagram **07**
(b) What is a compressor? Explain any two type of compressor in detail. **07**
- OR**
- Q.3** (a) Enumerate various factors to be considers in designing good quality Instrument Air System. Explain the factor related to distribution of Instrument Air. **07**
(b) What is a role of dryer? Explain any one in detail. **07**
- Q.4** (a) Describe the selection of measurement method for “pressure” **07**
(b) Discuss electric safety and intrinsic safety. **07**
- OR**
- Q.4** (a) What are responsibilities and duties of Instrumentation Engineer while plant is being commissioned? **07**
(b) Write a short note on capacitance type level instrument. **07**
- Q.5** (a) Explain the control valve selection guidelines for different application. **07**
(b) Describe various methods used for temperature measurement. Explain any one in detail. **07**
- OR**
- Q.5** (a) Explain importance of loop wiring diagram and process flow sheets with examples. **07**
(b) Give the installation detail of Diaphragm operated control valve. **07**
