

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Summer 17 - 18 Examination

Semester: 2**Subject Code: 03210153****Subject Name: Experimental Techniques and Instrumentation in
Thermal Engineering****Date: 23/05/2018****Time: 02:00PM TO 04:30PM****Total Marks: 60**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1A) How the calibration of Thermocouple is carried out? (05)

B) Enlist the pressure measuring instruments. Draw neat sketch of any one. (05)

C) What are the types of instrumental errors. Explain Parallax error in Brief. (05)

Q.2 Answer the following questions. (Attempt any three) (Each five mark) (15)

A) Draw and explain close loop diagram of pneumatic controllers.

B) Differentiate between Transient state and Steady state techniques.

C) Describe in brief how Taguchi method is used in Design of Experiments.

D) Draw the neat sketches of Diaphragm and Bellows used for pressure measurement.

Q.3A) What are the flow measuring instruments. Explain any one in detail. (07)

B) How PID controllers works, explain in detail. (08)

OR

B) Write a short note on Density Measurement. (08)

Q.4A) Explain the role of sensors for error reduction. (07)

OR

A) What is viscosity? Why it is important to measure viscosity? (07)

B) Write a Descriptive note on Pyrometry. (08)