

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: 3330503****Date: 30-11-2013****Subject Name: Fluid Flow Operation****Time: 02:30 pm - 05:00 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) Derive equation of pressure in static fluid for incompressible fluid. **07**
(b) Explain in briefly Reynolds experiment with its figure. **07**
- Q.2** (a) Derive the Bernoulli equation for incompressible fluid. **07**
(b) Derive Continuity equation for steady flow. **07**
- OR
- (b) Discuss.(1) Boundary layers (2) Boundary layer separation and wake formation. **07**
- Q.3** (a) Explain Pneumatic conveying and Hydraulic conveying with industrial equation. **07**
(b) Write short note on head loss from sudden expansion. **07**
- OR
- Q.3** (a) Explain Fluidization and its industrial application. **07**
(b) Explain Friction Factor charts. **07**
- Q.4** (a) Write (1) Cavitations (2) NPSH (3) Priming of pump. **07**
(b) Compare centrifugal pump with reciprocating pump. **07**
- OR
- Q. 4** (a) Write construction and working of Gate valve and Globe valve. **07**
(b) Discuss the classification of pumps. **07**
- Q.5** (a) Write Difference between Variable Head meter and Variable Area meter. **07**
(b) Discuss and derive the flow equation for a venturimeter. **07**
- OR
- Q.5** (a) Discuss and derive the flow equation for a Orifice meter. **07**
(b) Draw a neat sketch of Pitot tube & explain its construction. **07**
