GUJARAT TECHNOLOGICAL UNIVERSITY DIPLOMA ENGINEERING –SEMESTER III – • EXAMINATION – WINTER 2015

Subject Code: 3330503 Date: 04/1 Subject Name: Fluid Flow Operation			2 /2015	
Ti Ins	ime: 1 structio 1. A 2. M 3. Fi 4. E	10:30 AM TO 01:00 PM Total Marks: ons: ttempt any five questions. lake suitable assumptions wherever necessary. igures to the right indicate full marks. ach question carry equal marks (14 marks)	70	
Q.1	(a) (b)	Justify the pressure is independent of any direction of internal surface on which the pressure assume to act. Describe the Prandtl boundary layer theory in detail.	07 07	
Q.2	(a) (b)	Classify the fluid moving machineries in detail. Define: 1.Developed Head 2.Coutte flow 3.Venacontracta 4.Stream lines and stream tube 5.Hydraulic radius 6.Drag 7.Cavitation	07 07	
	(b)	Derive the equation for the flow rate through the venturimeter explaining the principle of venturimeter.	07	
Q.3	(a) (b)	Classify the various valves with their application. Define friction and explain the friction loss form sudden contraction of cross section.	07 07	
Q.3	(a) (b)	OR Classify the flow measuring devices in detail. Classify the various manometers in brief with neat figure.	07 07	
Q.4	(a) (b)	Write a short note on fluidization. State the Bernoulli equation and explain the various terms in it.	07 07	
Q. 4	(a) (b)	Differentiate between Piping and Tubing Explain the construction of Gate and Globe valve with neat figure.	07 07	
Q.5	(a) (b)	Derive the equation of pressure in static fluid. Explain the terms: Drag, Drag co-efficient, form drag, wall drag, friction factor, skin friction, form friction,	07 07	
Q.5	(a) (b)	Explain the characteristic curves of Centrifugal pump. Describe the types of fluid and flow in detail with example.	07 07	
