Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2713306 **Date: 04/01/2016**

Subject Name: Water supply and drainage

Time:2:30 pm to 5:00 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)**	Enlist and explain various factors affecting the prediction of flood in urban area.	**07**
	(b)	Discuss various aspects of planning of water supply scheme. Support your answer with reference to plan in urban area.	**07**
Q.2	**(a)**	Justify the statement "Effective Water Supply Distribution network and storm water drainage system can reduce the flood at sizable extent ".	**07**
	(b)	Enlist and explain various feasibility studies for the planning of water supply system.	**07**
		OR	
	(b)	Explain the role of software applications in analysis and designing pipe network. Support your answer with suitable example.	**07**
Q.3	**(a)**	Signify the considerations of losses of pipes during planning and design of water supply distribution network.	**07**
	(b)	How does SCADA works? Write your observations where SCADA can reduce the prevailing issues of water supply distribution system	**07**
		OR	
Q.3	**(a)**	Draw a neat sketch of radial collector well showing all necessary components and write its function in detail.	**07**
	(b)	Enlist and explain various factors affecting the selection of pump.	**07**
Q.4	**(a)**	Differentiate between (1) Detention basin and Retention basin (2) Groundwater Recharge well and Groundwater Discharge well	**07**
	(b)	Enlist various types of pipe material used for water supply network. Also write their advantages and suitabilities.	**07**
		OR	
Q.4	**(a)**	Justify the role of modeling and simulation for analysis and designing of urban storm water system. Give appropriate example in this regard.	**07**
	(b)	State the functions of service reservoir, balancing reservoir and underground reservoir.	**07**
		OR	
Q.5	**(a)**	Discuss various aspects of hydraulic design of storm sewer.	**07**
	(b)	Discuss about estimating costs of small scale water supply with various governing factors for cost of waters supply scheme.	**07**
		OR	
Q.5	**(a)**	Explain the significance of population forecasting for the estimation of water demand. Also enlist various methods used for population forecasting.	**07**
	(b)	Enlist and explain requirement of good distribution system. Also draw free hand sketches of Dead end system and Grid iron distribution network.	**07**

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