Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII EXAMINATION – WINTER 2015

Subject Code: 170602 **Date:07/12/2015**

Subject Name: Irrigation Engineering

Time: 10:30am to 1:00pm **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)**	Differentiate between i) sprinkler and drip irrigation. ii) Weir and barrage.	**07**
	(b)	Discuss the causes and remedial measures of water logging.	**07**
Q.2	**(a)**	What do you mean by lining a canal? What are the advantages of it?	**07**
	(b)	Explain the various irrigation efficiencies.	**07**
		OR	
	(b)	Describe the various methods of surface irrigation.	**07**
Q.3	**(a)**	Define: 1) Duty. 2) Delta. 3) Base period. 4) Crop period.	**07**
	(b)	Explain the Khosla's method of independent variables for a design of a weir.	**07**
		OR	
Q.3	**(a)**	Define: 1) Exit gradient. 2) Culturable command area. 3) Unculturable command area. 4) Intensity of irrigation.	**07**
	(b)	Describe the method of designing an irrigation canal based on Lacey's theory.	**07**
Q.4	**(a)**	What is diversion head work? Describe the function of each component of diversion head work with a neat sketch.	**07**
	(b)	Discuss the factors affecting duty.	**07**
		OR	
Q.4	**(a)**	Compare Lacey's and Kennedy's silt theory.	**07**
	(b)	Why canal falls are provided? Describe any two types of falls commonly used in irrigation function.	**07**
Q.5	**(a)**	What is canal escape? Discuss different types of canal escapes.	**07**
	(b)	Escape the function of cross regulator and head regulator.	**07**
		OR	
Q.5	**(a)**	Discuss the benefits and ill effects of irrigation	**07**
	(b)	Explain different types of Aqueducts and discuss the factors affecting the selection of a suitable type of aqueduct.	**07**

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