Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2015

Subject Code: 170602 **Date: 08/05/2015**

Subject Name: IRRIGATION ENGINEERING

Time:02.30pm-05.00pm **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)**	Describe irrigation and write history of irrigation development in India.	**07**
	(b)	Explain different types of irrigation in brief.	**07**
Q.2	**(a)**	What are the various methods of applying water to crops? Explain drip irrigation method with advantages and disadvantages.	**07**
	(b)	What is duty? Explain various factors affecting the duty.	**07**
		OR	
	(b)	Discuss various methods of assessment of irrigation water.	**07**
Q.3	**(a)**	Describe different types of irrigation channels based on alignment.	**07**
	(b)	Write design procedure for irrigation channel according to Kennedy's theory.	**07**
		OR	
Q.3	**(a)**	What is Lacey's regime theory? Derive Lacey's non-regime flow equation.	**07**
	(b)	Write advantages and disadvantages of Kennedy's and Lacey's theory.	**07**
Q.4	**(a)**	What is water logging? Explain causes and remedial measures for water logging.	**07**
	(b)	Enumerate various types of canal linings and explain all in brief.	**07**
		OR	
Q.4	**(a)**	Describe causes of failure of weirs and their remedies.	**07**
	(b)	Explain the procedure for the design of vertical drop weir.	**07**
Q.5	**(a)**	Explain Khosla's theory and weaver's solution.	**07**
	(b)	Describe various types of C D works for the canal with the help of sketches.	**07**
		OR	
Q.5	**(a)**	What are the canal regulation works? Explain necessity and location of canal falls.	**07**
	(b)	Write a short note on the canal escape.	**07**

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