

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VII EXAMINATION – SUMMER 2026

Subject Code:3170609

Date:29-05-2026

Subject Name: Irrigation Engineering

Time: 02:30 PM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1* (a) Define: Gross command area, Hygroscopic water, Paleo.	03
(b) Define Duty and Delta. Derive relationship between Duty and Delta.	04
(c) Explain Drip irrigation system with neat sketch.	07
Q.2 (a) Give classification of dams.	03
(b) Explain with neat sketch vertical drop weir.	04
(c) Describe causes of failure of weirs and their remedies.	07
OR	
(c) Sketch the layout of typical diversion headwork and describe briefly the functions of the various components of diversion headwork.	07
Q.3 (a) Give necessity of lining in canal.	03
(b) Give the comparison between Kennedy's and Lacey's theory.	04
(c) Discuss various forces acting on the gravity dam with a neat sketch.	07
OR	
Q.3 (a) Discuss losses in canals.	03
(b) Give classification of irrigation canals.	04
(c) Explain briefly the causes of failure of earthen dams.	07
Q.4 (a) Explain Spoil bank and dowlra for canals.	03
(b) Explain with a neat sketch the components of a zoned embankment dam, with their functions.	04
(c) Explain with the help of neat sketches the various types of cross drainage works.	07
OR	
Q.4 (a) Explain Counterberm and Free boards in canals.	03
(b) Explain: (1) Rolled fill dam (2) Hydraulic fill dam.	04
(c) Discuss functions of head regulator and cross regulator.	07
Q.5 (a) Define canal outlet. Explain any one type of canal outlet.	03
(b) Write a note on Notch type fall.	04
(c) Write a note on land reclamation.	07
OR	
Q.5 (a) Why it is necessary to provide a fall in a canal?	03
(b) Write a note on canal escape.	04
(c) Discuss the causes and remedial measures of water logging.	07
