

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3170609

Date:30-11-2024

Subject Name: Irrigation Engineering

Time:10:30 AM TO 01:00 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 The Terms (i) Permanent Wilting Point (ii) Field Capacity (iii) Saturation Capacity.	03
	(b) Write a brief note on history of irrigation development in India.	04
	(c) Explain Ill Effect of Irrigation in detail.	07
Q.2	(a) What are the advantage of lining Canals?	03
	(b) A crop requires 900 mm of water for a base period of 120 days. Find the duty of water.	04
	(c) Distinguish between a weir and a barrage.	07
	OR	
	(c) Sketch the layout of a typical diversion headwork and describe briefly the function of the various components of diversion headworks.	07
Q.3	(a) Write a notes on classification of dam.	03
	(b) What are Drawback of Lacey's silt theory?	04
	(c) Explain bligh's creep theory for the design of weir over pervious foundation.	07
	OR	
Q.3	(a) What is Spillway and explain Ogee Spillway.	03
	(b) What are the factor affect the alignment of a canal?	04
	(c) Explain Stability Requirement of gravity dam.	07
Q.4	(a) Explain Different types of fall.	03
	(b) What is the Canal Fall? Why is it necessary to provide a fall in a canal?	04
	(c) Give Classification of Irrigation Canals.	07
	OR	
Q.4	(a) What is cross regulator and explain its function.	03
	(b) Explain Various Regulation Work on Canal.	04
	(c) Describe Kennedy's theory for the design of irrigation Channel in alluvial Soil.	07
Q.5	(a) What do you understand by waterlogging? What are the main cause of waterlogging?	03
	(b) What are the ill- Effect of water logging? How would you prevent water logging?	04
	(c) Describe with the neat sketches the various types of cross drainage works.	07
	OR	
Q.5	(a) What are the various drainage system? Give advantage of open drains.	03
	(b) Write a short note on land Reclamation.	04
	(c) Explain Aqueduct and Syphon aqueduct with Sketches.	07

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