

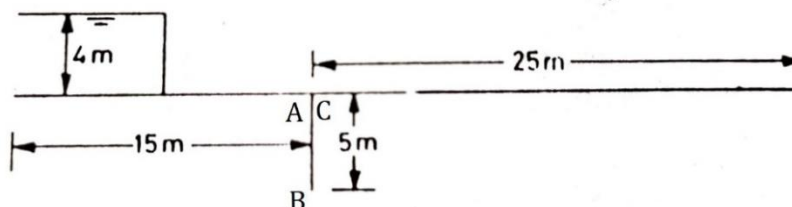
GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- VII EXAMINATION-SUMMER 2023****Subject Code: 2170609****Date: 30/06/2023****Subject Name: Irrigation Engineering****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

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.

- Q.1** (a) What are contour canal, ridge canal & side sloping canals. **03**
 (b) State the differences between weir and barrage? **04**
 (c) What is furrow irrigation? What are its advantages over the flooding method? **07**
- Q.2** (a) What are the necessity spillway in any dam? **03**
 (b) How can you control seepage in an earth dam? **04**
 (c) Write a note on different stages of a river and their flow characteristics **07**

OR

- (c) Determine the uplift pressure at the points A, B and C of the intermediate pile **07** as shown in the fig 1, using khosla's theory.

**Fig1**

- Q.3** (a) Explain in brief consumptive irrigation requirements. **03**
 (b) Write a note on losses of canal water **04**
 (c) Describe the procedure to design a non-alluvial canal **07**

OR

- Q.3** (a) Explain the climatic factors affecting the water requirements of crop. **03**
 (b) Sketch a canal in partial cutting and partial filling. What is the main benefit of canal in partial cutting and partial filling? **04**
 (c) Describe the procedure to design an alluvial canal with the help of Kennedy's theory. **07**

- Q.4** (a) Explain consumptive use of water. **03**
 (b) Briefly explain soil, water and plant relationship **04**
 (c) Describe silt extractor with a neat sketch. **07**

OR

- Q.4** (a) What are the ill effects of irrigation? **03**
 (b) Explain field capacity and permanent wilting point. **04**
 (c) Compare the advantages and disadvantages between silt excluder and silt ejector. **07**

- Q.5** (a) How will you decide the location of canal fall? **03**
 (b) Briefly describe canal escape, **04**
 (c) Write a note on causes & preventive measures of water logging. **07**

OR

- Q.5** (a) Write a note on Meter & Non Meter falls. **03**
 (b) State the factors affecting selection of types of cross drainage works. **04**
 (c) Explain the importance of proper drainage in the land for irrigation? Briefly describe different drainage systems. **07**
