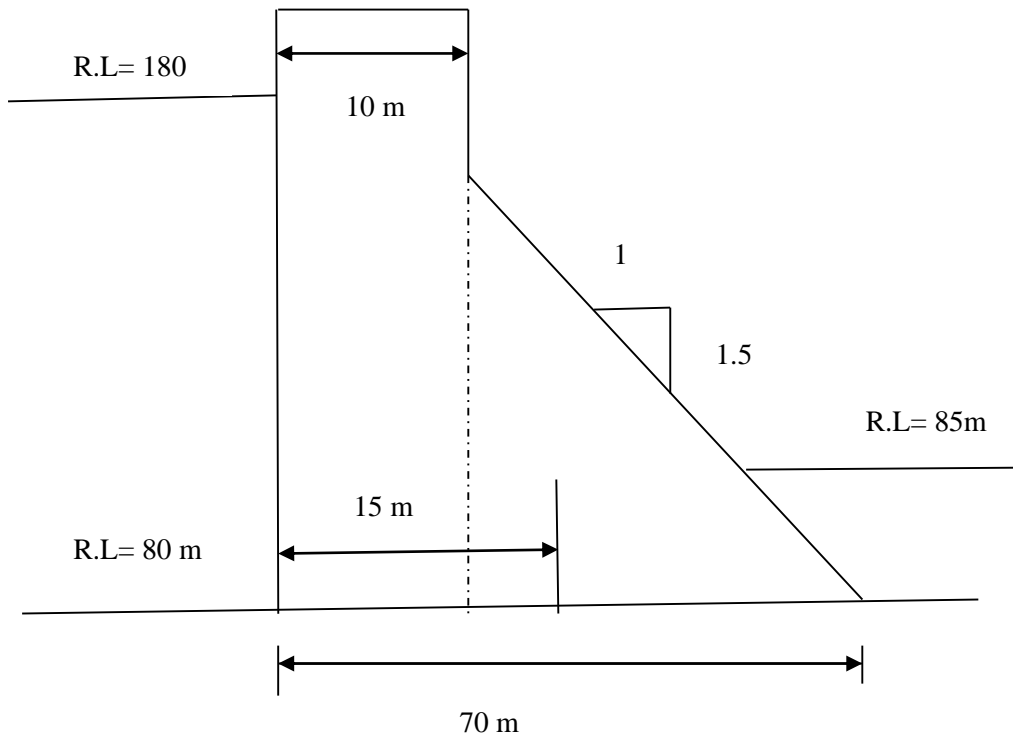


GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VIII (OLD) EXAMINATION – WINTER 2020****Subject Code:180601****Date:25/01/2021****Subject Name:Design Of Hydraulic Structures****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Write a short note on classification of Dams. **07**
(b) Discuss various external forces acting on gravity dam. **07**
- Q.2** (a) Explain method of drawing phreatic line when filter is provided at toe. **07**
(b) Figure 1 shows the section of gravity dam (non-overflow section) built of concrete. Compute the following 1) Water Pressure 2) Earthquake pressure 3) Weight of Dam 4) Wave pressure **07**
- Q.3** (a) Explain the causes of failure of Earthen Dam. **07**
(b) What are the basic data required for planning of dams and reservoirs? Discuss different levels in the investigation for a reservoir project. **07**
- Q.4** (a) Explain Bucket type energy dissipator. **07**
(b) What is meant by Canal Regulators. Explain Cross-Regulator with neat sketch. **07**
- Q.5** (a) Explain Arch and buttress dam with their advantages and disadvantages. **07**
(b) Write a short note on rock fill dam with a neat sketch. **07**
- Q.6** (a) Explain Bligh's creep theory . **07**
(b) Why spillway are considered "safety valve " for dams. Classify and write suitability of various spillways. **07**
- Q.7** (a) Explain Energy dissipation below spillways. **07**
(b) What is meant by hydraulic jump. Classify the different types of jump. **07**
- Q.8** (a) Explain cavitation in ogee spillway. **07**
(b) Write a short note on types of Stilling basin. **07**



Figure(1)

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