

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VIII (NEW) EXAMINATION – WINTER 2020

Subject Code:2180601**Date:21/01/2021****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.

		MARKS
Q.1	(a) Differentiate between low gravity dam and high gravity dam.	03
	(b) Give the classification of dams and write their functions	04
	(c) Discuss the practical profile of a Gravity Dam	07
Q.2	(a) Explain the various forces disturbing the stability in gravity dam.	03
	(b) Write the criteria for safe design of Earthen Dams.	04
	(c) Define Phreatic line in earthen dam. Discuss the graphical method for the Phreatic line in a Homogeneous earthen dam with a horizontal drainage filter.	07
Q.3	(a) Describe the types of Earth Dam based on section of dam.	03
	(b) List out the various modes of failure of a Concrete Gravity Dam. Explain any one.	04
	(c) Explain different types of galleries in the gravity dam.	07
Q.4	(a) Write a note on Energy dissipation works.	03
	(b) Write a short note on settlement of Rock Fill Dams.	04
	(c) Explain causes of failure of earthen dam in brief.	07
Q.5	(a) Differentiate High dam and low dam.	03
	(b) Explain the function of stilling basin with a neat sketch.	04
	(c) Describe types of spillway gates	07
Q.6	(a) Why drainage gallery is provided within a dam section?	03
	(b) What are the different types of spillways? Explain Chute spillway in brief.	04
	(c) Explain how the ogee spillway is designed.	07
Q.7	(a) Write a note on Plunge pools.	03
	(b) Describe (i) cavitation on spillway (ii) Chute blocks.	04
	(c) Why canal fall is provided in canal? Enlist different types of falls and explain any one.	07
Q.8	(a) Explain the remedial measures adopted to control seepage through foundation of Earthen dam.	03
	(b) Explain Design criteria for glacis type fall.	04
	(c) Describe various design principles of cross regulator and head regulator.	07
