Seat No.:	Enrolment No
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**Subject Code: X70601** 

## GUJARAT TECHNOLOGICAL UNIVERSITY

## PDDC SEMESTER VII– EXAMINATION – SUMMER 2017

Date: 27/04/2017

Subject Name: Design of Hydraulic Structures Time: 02.30PM to 05.00PM Instructions:  1. Attempt all questions.  Total Marks: 7		7	
	2.	Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	Write short note on Arch dam and Detention dam. Explain briefly the factors affecting in selection of type of dam.	07 07
Q.2	(a) (b)	Explain causes of failure of earth dam.  Explain briefly how the stability of earth slopes is checked by the Swedish slip circle method.	07 07
		OR	
	<b>(b)</b>	How to control seepage in earth dam?	07
Q.3	(a) (b)	Discuss in brief merits and demerits of gravity dam.  Write short note on galleries and joints in gravity dam.  OR	07 07
Q.3	(a) (b)	Enlist various forces acting on gravity dam. Explain wave pressure in detail.  Describe the elementary profile of a gravity dam.	07 07
Q.4	(a) (b)	How spillways are classified? Discuss briefly overflow spillway.  Design an ogee spillway for the following data.  Spillway crest height= 120m  Design discharge= 12000cu mec.  No of piers= 05  Clear distance between each piers= 10m.  Thickness of each pier= 4m.  Assume suitable data if required. Find out design head, effective length of spillway crest &maximum co ordinate of downstream profile of spillway.  OR	07 07
Q.4	(a) (b)	Describe the various types of bucket type energy dissipaters with figure. Write a short note on hydraulic jump.	07 07
Q.5	(a) (b)	Enlist types of falls. What are the factors affecting the location of fall? Describe various energy dissipation devices used below spillway in relation to the position of the jump height curve (JHC) and tail water rating curve (TWRC).	07 07
0.5		OR	<b>^=</b>
Q.5	(a) (b)	Explain functions of distributor head regulator and cross regulator.  Describe design of crest and design of cistern for sarda fall.	07 07
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