Total	No. o	of Questions :4 ] SEAT No. :
PA-	101	[Total No. of Pages :2]
		B.E. (Civil Engineering) (Insem)
Dams & Hydraulics Structures		
(2019 Pattern) (Semester-VIII)(401011)		
Time	: 1 H	our] [Max. Marks : 30
Instructions to the candidates:		
	<i>1)</i>	Answer Q.1 or Q.2, 0.3 or Q.4.
	2)	Neat sketches/diagrams must be drawn wherever necessary.
	<i>3)</i>	Figures to the right side indicate full marks for the sub-questions.
	<i>4)</i>	Assume suitable data, if necessary and state them in your answer clearly.
	<i>5)</i>	Use non-programmable pocket size electronic calculator is allowed.
<b>Q1</b> )	a)	Define the term dam & state its purpose. [5]
<b>L</b> 1)	a)	Define the term dam & state its purpose.
	b)	Explain the types of dams based on structural action and briefly explain
	0)	any one type. [5]
	c) V	State & explain any two instruments used for various measurements
	<i>C)</i>	needed to safety of dams. [5]
		inceded to safety of dams.
		OR
<i>Q2</i> )	a)	What is an arch dam & state its advantages and disadvantages. [5]
<i>Q2)</i>	a) b)	- T
	(	What are the objectives of dam safety instruments? [5] What are the factors that govern the selection of the site for a dam
	c)	
		construction. [5]
()3)	o)	Enlist forces acting on gravity dam & write their equation for any two
<i>Q3</i> )	a)	Enlist forces acting on gravity dam & write their equation for any two forces acting on gravity dam.  [5]
	1-1	
	b)	What are the Modes of failure of gravity dam? Explain any two. [5]
	c)	Enlist different methods of stability analysis of gravity dam & explain in
		brief any one of them. [5]
•		
		OR
	٥)	Discuss various methods to reduce units and some at the horse of succession
$Q^{4}$	a)	Discuss various methods to reduce uplift pressure at the base of gravity

dam.
Explain various joints provided in gravity dam.

b)

[5] [5] c) As shown in fig. 1 profile of gravity dam and water level in the reservoir. If specific weight of concrete used for the dam is 24 kN/m<sup>3</sup> & coefficient of friction is 0.70, total self weight of dam is 54×10<sup>3</sup>kN/m. check the safety of dam with respect to sliding. [5]

