Code No: P18CET14

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
III B.TECH I SEMESTER END REGULAR EXAMINATIONS, JAN/FEB - 2022
WATER RESOURCE ENGINEERING-II
(CE Branch)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

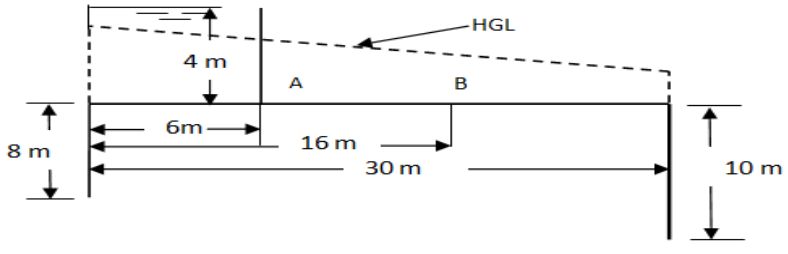
PART-A

Answer all the questions in Part-A (5X2=10M)

Q.No.		Questions	Marks	CO	KL
1.	a)	Differentiate between non-erodible canals and erodible canals	[2M]	1	2
	b)	Explain the purpose of canal outlet and canal fall	[2M]	2	2
	c)	Explain Khosla's theory of independent variable	[2M]	3	2
	d)	Differentiate clearly between 'flood control reservoir' and 'multipurpose reservoir'?	[2M]	4	2
	e)	Write two functions of horizontal filter of earthen dams	[2M]	5	1

PART-B

Answer One Question from each UNIT (5X10=50M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	What do you understand by balancing depth? Derive an expression for the same	[5M]	1	4
	b)	Why is Lacey's conception superior to that of Kennedy's?	[5M]	1	3
		OR			
3.		Explain the causes and effects of flooding suggest corrective measures to avoid flooding situation	[10M]	1	3
		UNIT-II4			
4.		Describe with the help of neat sketches various types of cross-drainage works	[10M]	2	3
		OR			
5.		What are various types of canal falls explain each one in detail along with neat sketches?	[10M]	2	3
		UNIT-III			
6.		Figure shows the section of a hydraulic structure founded on sand. Calculate the average hydraulic gradient. Also, find the uplift pressures at point 6 and 16 m from the u/s end of the floor and find the thickness of the floor at those points. 	[10M]	3	5

		OR			
7.		Draw a diversion head work and label its components and explain about the silt regulation works	[10M]	3	3
		UNIT-IV			
8.	a)	Explain the following with neat sketches i).Surcharge storage ii).Valley storage iii). Safe yield iv) Secondary Yield	[5M]	4	3
	b)	Describe in brief various investigations required for reservoir planning	[5M]	4	3
		OR			
9.		The following particulars refer to a concrete dam: RL of top of dam = 250.00 Free board = 3.0 m U/s face is vertical D/s face is sloping at 0.7:1 from RL 240.00 RL of base of the dam = 210.00 Determine the stability of the dam and the stresses induced when the reservoir is full. Take the unit weight of concrete as 24 kN/m3, μ = 0.70, safe compressive stress = 2 MPa, safe bearing capacity = 1.5 MPa. Consider only self weight, water pressure and full uplift pressure.	[10M]	4	5
		UNIT-V			
10.		Discuss various causes of failure of earth dams with neat sketches	[10M]	5	3
		OR			
11.	a)	Enumerate the different types of spillways and draw neat sketches showing each type.	[6M]	5	3
	b)	Estimate the discharge over an ogee spillway with coefficient of discharge is 2.2 and head is 4.2m.The effective length of spillway is 120.m.The weir crest is 8m above the bottom of approach and consider velocity of approach.	[4M]	5	4

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