**R16** 

Code No: R1641012

Time: 3 hours

## IV B.Tech I Semester Supplementary Examinations, July/Aug - 2021 WATER RESOURCES ENGINEERING - II

(Civil Engineering)

Max. Marks: 70

Set No. 1

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any FOUR questions from Part-B \*\*\*\*\*

## PART-A (14 Marks)

1.	a) b) c) d) e) f)	Write short note on 'Field Capacity' and 'wilting point'. Distinguish between a contour canal and a ridge canal. Write a short note on Montague type fall. Briefly explain Bligh's creep theory. Explain various types of reservoir. Discuss in brief the causes of failure of earth dams.	[3] [2] [2] [3] [2] [2]
$\underline{\mathbf{PART}} - \underline{\mathbf{B}} \ (4x14 = 56 \ Marks)$			
2.	a) b)	Explain various irrigation efficiencies. What are the factors affecting duty? How can duty be improved?	[7] [7]
3.	a) b)	Describe Lacey's theory for the design of irrigation channel in alluvial soil. Design an irrigation channel to carry a discharge of 5 cumec. Assume $N = 0.0225$ and $m = 1$ . The channel has a bed slope of 0.2 m per kilometer.	[7]
			[7]
4.	a)	What are the different types of cross drainage works that are necessary on a canal	[7]
	b)	Explain the method of fixation of water way of drain in an aqueduct.	[7] [7]
5.	a)	Give Bligh's approximate method of determining uplift pressure under the floor of a cross drainage work.	[7]
	b)	Explain with help of diagram, the various component parts along with their functions of diversion headwork	[7]
			[']
6.	a) b)	Explain the method of determining principal and shear stresses in a gravity dam. Discuss with a neat sketch, various storage zones of a dam reservoir.	[7] [7]
7.	a) b)	What are the different types of earth dams that are usually adopted? Compute the discharge over an ogee spillway with a coefficient of discharge	[7]
		C=2.5 at a head of 4 m. The effective length of the spillway is 100 m. Neglect the velocity of approach.	[7]

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