Enr	olime	ent No: C.U.SHAH UN	Exam Seat No:		_
		Summer Exam			
		Summer Exam	mauon-2019		
Sub	-	Name: Irrigation Water Management Code: 4TE08IWM1 :: 8 Date: 22/04/2019	Branch: B.Tech (Civil) Time: 10:30 To 01:30	Marks : 70	
((2) In (3) I	ons: Jse of Programmable calculator & any other instructions written on main answer book a Draw neat diagrams and figures (if necessa Assume suitable data if needed.	are strictly to be obeyed.	rohibited.	
1		Attempt the following questions:			(14
	a)	Define hygroscopic water.			
	b)	What do you understand by the term "int	tensity of irrigation'?		
	c)	Fertigation is a process in	irrigation.		
	d)	Sub-irrigation is suitable for which kind	of areas?		
	e)	What is the relationship between availab	le water and readily availabl	e water?	
	f)	Abbreviate RS.			
	g)	If the land is undulated one, then which i	method of irrigation is suitab	le?	
	h) i)	Define Leaching. Write the relationship between Irrigation	fraguancy and interval of i	rrigation	
	,	-	- •	irigation.	
	j)	What is the name of 'Trickling irrigation	l (
	k)	Define PIM.			
	l)	Available water is the difference between	n to		
	m)	Enlist the method of irrigation.			
	n)	Draw the moisture distribution pattern of	f sprinkle and drip irrigation.		

Q-2 **Attempt all questions (14)** Explain the relationship between soil-water and plant with neat sketch **07** (a)



	(b)	What measures can be taken to prevent high water table?	07
Q-3	(a)	Attempt all questions Write short note on "Reclamation of saline soils by leaching method".	(14) 06
	(b) (c)	Calculate the farm conveyance efficiency and field water application efficiency when a stream of 150 l/s received at the farm gate after being diverted from a canal delivered 72 l/s to the field. During irrigation to wheat crop for 8 hour, 350 and 158 m ³ of water respectively were lost by run-off and deep percolation. Give classification of Drainage in brief.	06
0.4	(C)		
Q-4	(a)	Attempt all questions What is 'Water User Organization'? Explain merit and demerit of water user's organizations.	(14) 07
	(b)	Define water logging? Discuss causes and remedial measures of water logging.	07
Q-5	(a)	Attempt all questions Compute the time required to irrigate a square area of 4 ha to a depth of 5 cm with two movable laterals 200 m long each fitted with 16 sprinklers at an interval of 13 m on each lateral. A sprinkler applies 1.25 cm of water per hour and the laterals are spaced at 20 m interval. Five hours are required to move the laterals	(14) 08
	(b)	each time. Define land grading. Enumerate various benefits and factors influencing land grading process.	06
Q-6	(a)	Attempt all questions How would be the Remote Sensing and Geographical Information System helpful in canal irrigation system?	(14) 08
	(b)	Discuss in detail operation and maintenance of canal irrigation system.	06
Q-7	(a)	Attempt all questions What step-by-step procedures for the hydraulic design of sprinkler Irrigation systems?	(14) 05
	(b)	Write a brief note on 'Emitters'.	02
	(c)	The following data were obtained for determination of emission uniformity coefficient of a drip irrigation lateral: $q_{min} = 35 \text{ l/s}, \ q_{max} = 60 \text{ l/s}, \ C_v = 0.075 \text{ and slope} = 1.5 \%$ determine emission uniformity co -efficient.	07
Q-8		Attempt all questions	(14)
	(a)	Discuss the problems encountered in drip irrigation systems. Explain in brief how fertilizers and chemicals are applied in drip irrigation system?	08
	(b)	Distinguish between surface irrigation and subsurface irrigation.	06

