	Enrollmo	ent No: Exam Seat No:										
		C.U.SHAH UNIVERSITY										
Summer Examination-2019												
		Name: Water Resources Engineering Code: 4TE05WRE1 Branch: B.Tech (Civil) :: 5 Date: 14/03/2019 Time: 10:30 To 01:30 Marks: 70										
	(2) I (3) I	Use of Programmable calculator & any other electronic instrument is prohibited. Instructions written on main answer book are strictly to be obeyed. Draw neat diagrams and figures (if necessary) at right places. Assume suitable data if needed.										
Q-1	a)	Attempt the following questions: What is meant by Recurrence period?	(14)									
	b)	Define safe yield.										
	c)	Write the Darcy formula for permeability.										
	d)	Draw the S- curve unit hydrograph.										
	e)	Give two examples for cash crop.										
	f)	What is mass rainfall curve?										
	g)	Enlist various types of precipitation.										
	h)	What is W_{index} ?										
	i)	Define: Unit hydrograph.										
	j)	What is meant by Aquifer?										
	k)	What do you understand by the term 'watershed'?										
	1)	Give the name of non automatic rain gauge.										
	m)	Differentiate between hydrograph and hyetograph.										
Atte	n) mpt any f	Enlist the types of soil. Four questions from Q-2 to Q-8										
Q-2		Attempt all questions	(14)									

Q-2

(a) Write short note on Water Resources development in India. 06

(b) The ordinates of 3-hr unit hydrograph are given in the table. Compute the **08** ordinate of 6-hr unit hydrograph.



	Discharge (cumecs)	$0.0 \mid 3$	3.08 4.	94 8.6	9.88	7.41	4.94	3.70	2.47	1.23	0.0	
	Attempt all question	S	ı			1						
(a)	Enlist various methods of computing average rainfall over a drainage basin and											
	explain Isohyetal metl	nod ir	i detai	•								
(b)	Write the relationship between Duty, Delta and Base period.											
	Attempt all questions											
(a)	Results to determine Horton's Infiltration capacity (f) in the exponential form are											
	Time in hours	0	0.23	0.5	0.75	1.0	1.25	5 1.:	5 1.	.75	2.0	
	Infiltration											
	capacity (f) in	11.0	5.60	3.20	2.10	1.50	1.20) 1.1	0 1	0.	1.0	
	cm/hr											
	Determine the infiltrate	tion c	apacit	/ expon	ential e	quatio	n.					
(h)	Explain the factors aff	fectin	g evan	oration								
(6)	•		g cvap	oracion.								
(-)	Attempt all questions Write the assumptions and limitations of unit hydrograph theorem											
(b)	Explain the factors affecting infiltration.											
	Attempt all questions											
	rittempt an question		A rain gauge recorded the following accumulated rainfall during the storm. Draw									
(a)	A rain gauge recorded	the f		_		d raint	fall du	ring t	he sto	orm.	Draw	
(a)	A rain gauge recorded the mass rainfall curve	the f	the hye	tograpł	•							
(a)	A rain gauge recorded	the f	the hye	tograpł		d raint	fall du				Draw 0.00	
(a)	A rain gauge recorded the mass rainfall curve	the fand to	8.1:	tograph 8.30	8.45	9.00	9.15	9.30	9.4	5 1	0.00	
(a)	A rain gauge recorded the mass rainfall curve Time (AM)	the f	8.1:	tograph 8.30	•			9.30	9.4	5 1		
	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm)	8.00 0.00	8.15 8.5	tograph 5 8.30 16.0	8.45	9.00	9.15	9.30	9.4	5 1	0.00	
(a) (b)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we	8.00	8.15 8.5	tograph 5 8.30 16.0	8.45	9.00	9.15	9.30	9.4	5 1	0.00	
(b)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we have all questions.	8.00 0.00 ell irr	8.15 8.5 8.5	16.0	8.45	9.00	9.15	9.30	9.4	.0	90.0	
	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we have all questions Explain the rain water	8.00 0.00 ell irr	8.15 8.5 8.5	16.0	8.45	9.00	9.15	9.30	9.4	.0	90.0	
(b) (a)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we have all questions Explain the rain water sketch.	8.00 0.00 ell irr s	8.5 8.5 8.5 8.5	tograph 8.30 16.0 1.	. 8.45 27.0	9.00 37.0	9.15 48.0	9.30 62.0	9.4	.0	90.0	
(b)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we Attempt all question Explain the rain water sketch. How do you select the	8.00 0.0 ell irr s harve	8.5 8.5 8.5 8.5	tograph 8.30 16.0 1.	. 8.45 27.0	9.00 37.0	9.15 48.0	9.30 62.0	9.4	.0	90.0	
(b) (a) (b)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we short all questions Explain the rain water sketch. How do you select the Attempt all questions	8.00 0.0 ell irr s harve	8.5 8.5 sesting a	16.0 and groung a rai	8.45 27.0 andwate	9.00 37.0	9.15 48.0	9.30 62.0	9.4	.0	90.0	
(b) (a)	A rain gauge recorded the mass rainfall curve Time (AM) Accumulated Rainfall (mm) Write short note on we Attempt all question Explain the rain water sketch. How do you select the	8.00 0.0 ell irr s harve	8.5 8.5 ser org	16.0 and groung a raise	8.45 27.0 andwate	9.00 37.0 er harv	9.15 48.0 vesting	9.30 62.0 techn	9.4	.0	90.0	
	(b)	explain Isohyetal methods (b) Write the relationship Attempt all question (a) Results to determine It tabulated below: Time in hours Infiltration capacity (f) in cm/hr Determine the infiltration (b) Explain the factors after the assumptions (a) Write the assumptions (b) Explain the factors after the factors	explain Isohyetal method in (b) Write the relationship betw Attempt all questions (a) Results to determine Horto tabulated below: Time in hours 0 Infiltration capacity (f) in cm/hr Determine the infiltration com/hr Attempt all questions (b) Explain the factors affecting the assumptions and the factors affecting the facto	explain Isohyetal method in detail (b) Write the relationship between Du Attempt all questions (a) Results to determine Horton's Infi tabulated below: Time in hours 0 0.25 Infiltration capacity (f) in 11.0 5.60 cm/hr Determine the infiltration capacity (b) Explain the factors affecting evaporations (a) Write the assumptions and limitation (b) Explain the factors affecting infilt	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta Attempt all questions (a) Results to determine Horton's Infiltration tabulated below: Time in hours 0 0.25 0.5 Infiltration capacity (f) in 11.0 5.60 3.20 cm/hr Determine the infiltration capacity exponding the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and I Attempt all questions (a) Results to determine Horton's Infiltration capacitabulated below: Time in hours 0 0.25 0.5 0.75 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 cm/hr Determine the infiltration capacity exponential explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrology in the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and Base p Attempt all questions (a) Results to determine Horton's Infiltration capacity (f) tabulated below: Time in hours 0 0.25 0.5 0.75 1.0 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 1.50 cm/hr Determine the infiltration capacity exponential equation (b) Explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrogram (b) Explain the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and Base period. Attempt all questions (a) Results to determine Horton's Infiltration capacity (f) in the tabulated below: Time in hours 0 0.25 0.5 0.75 1.0 1.25 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 1.50 1.20 cm/hr Determine the infiltration capacity exponential equation. (b) Explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrograph the (b) Explain the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and Base period. Attempt all questions (a) Results to determine Horton's Infiltration capacity (f) in the exportabulated below: Time in hours 0 0.25 0.5 0.75 1.0 1.25 1.3 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 1.50 1.20 1.1 Cem/hr Determine the infiltration capacity exponential equation. (b) Explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrograph theorem. (b) Explain the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and Base period. Attempt all questions (a) Results to determine Horton's Infiltration capacity (f) in the exponential tabulated below: Time in hours 0 0.25 0.5 0.75 1.0 1.25 1.5 1.0 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 1.50 1.20 1.10 1 cm/hr Determine the infiltration capacity exponential equation. (b) Explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrograph theorem. (b) Explain the factors affecting infiltration.	explain Isohyetal method in detail. (b) Write the relationship between Duty, Delta and Base period. Attempt all questions (a) Results to determine Horton's Infiltration capacity (f) in the exponential for tabulated below: Time in hours 0 0.25 0.5 0.75 1.0 1.25 1.5 1.75 Infiltration capacity (f) in 11.0 5.60 3.20 2.10 1.50 1.20 1.10 1.0 cm/hr Determine the infiltration capacity exponential equation. (b) Explain the factors affecting evaporation. Attempt all questions (a) Write the assumptions and limitations of unit hydrograph theorem. (b) Explain the factors affecting infiltration.	

Time (hours)

