Enrollment No:	Exam Seat No:				
	C. U. SHAH UNIVERSITY				
Winter Examination-2021					
Subject Name : V	Water Resources Engineering				

Subject Code: 4TE05WRE1 Branch: B.Tech (Civil)

Semester: 5 Date: 16/12/2021 Time: 11:00 To 02:00 Marks: 70

## **Instructions:**

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1		Attempt the following questions:	<b>(14)</b>		
	a)	Define Drizzle.	(1)		
	<b>b</b> )	What is Dew?	(1)		
	<b>c</b> )	What do you mean by daily rainfall?	(1)		
	<b>d</b> )	Enlist various methods of estimating missing rainfall data.	(1)		
	<b>e</b> )	Write Dalton's law of evaporation.	(1)		
	<b>f</b> )	What is Virgin flow?	(1)		
	<b>g</b> )	Define S- hydrograph.	(1)		
	<b>h</b> )	What do you mean by radius of influence?	(1)		
	i)	Define porosity.	(1)		
	<b>j</b> )	What is flood Management?	(1)		
		What are the different methods of flood routing?	(1)		
	<b>l</b> )	Enlist various types of Drought.	(1)		
	m)	Define hydrograph.	(1)		
	n)	What is meant by water harvesting?	(1)		
Attempt any four questions from Q-2 to Q-8					
Q-2		Attempt all questions	<b>(14)</b>		
	(a)	Explain the double ring infiltrometer with a neat sketch.	<b>(7</b> )		
	<b>(b)</b>	Describe in detail the factors affecting infiltration.	<b>(7)</b>		
Q-3	(a)	Attempt all questions What are the factors that affect Evapotranspiration? Describe any one	(14) (7)		
	(u)	method of measurement of Evapotranspiration.	(1)		
	<b>(b)</b>	Define runoff, sub-surface runoff and direct runoff. Explain the factors affecting runoff.	(7)		



Q-4		Attempt all questions	(14)
	(a)	Differentiate Surface and Ground water Hydrology.	<b>(7)</b>
	<b>(b)</b>	In a certain river basin, there are four raingauge stations, with their normal annual precipitations amounting to 800, 620, 400 and 540 mm, respectively. Determine the optimum number of raingauges in the catchment, if it is desired to limit the error in the mean value of rainfall in the catchment to 10%.	(7)
Q-5		Attempt all questions	(14)
	(a)	Explain any two methods of reducing the evaporation loss from a free- water surface	<b>(7)</b>
	<b>(b)</b>	Explain: Hydrograph. Sketch a single peak flood hydrograph and discuss different elements of flood hydrograph. What are different uses of hydrograph?	(7)
Q-6		Attempt all questions	(14)
	(a)	Define unit hydrograph and its applications	<b>(7)</b>
	<b>(b)</b>	Explain various forms of precipitation.	<b>(7)</b>
Q-7		Attempt all questions	<b>(14)</b>
	(a)	Describe various factors affecting precipitation at a location.	<b>(7)</b>
	<b>(b)</b>	Discuss factors consider while selecting the site for stream gauging station. What are the uses of stream gauging?	(7)
Q-8		Attempt all questions	(14)
	a)	Write a brief note on flood damage analysis.	<b>(7</b> )
	b)	Explain interference between two wells.	<b>(7)</b>

