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Internal Assessment Test 1 – September 2018

Sub:	Hydrology and Irrigation Engineering					Sub Code:	15CV73	Branch:	CIVIL		
Date:	08-09-2018	Duration:	90 min's	Max Marks:	50	Sem/Sec:		VII A &B		OBE	

		MARKS	CO	RBT
	Part A			
1.	Define hydrology. Draw the engineering representation of hydrologic cycle.	[05]	CO1	L1
2.	Explain the various types of precipitation. Draw and explain the working of siphon rain gauge.	[05]	CO2	L1
3.	What are the factors affecting evaporation? How evaporation is measured for a given lake?	[05]	CO2	L2
4.	How is evapo-transpiration measured? Differentiate between PET and AET.	[05]	CO2	L2
	Part B			
5.	The average rainfall of 5 rainguages in a basin are 89, 54, 45, 41 and 55 cm. If the error in the estimation of the basin mean rainfall should not exceed 10%, how many additional gauges should be installed in the basin?	[10]	CO2	L3

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Answer any **FOUR from Part A** and any **Three from Part B**

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	Part B			
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6. A precipitation station X was inoperative for sometime during which a storm occurred. At three stations A, B and C surrounding station X, the total precipitation recorded during this storm are 75mm, 58mm and 47mm respectively. The normal annual precipitation amounts at X, A, B and C are respectively 757, 826, 618 and 482mm. Estimate the storm precipitation at X. [10] CO2 L3
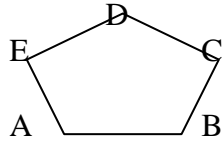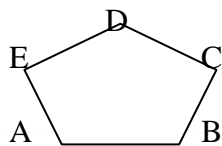
7. A basin has the area in the form of a pentagon with each side of length 20km as shown. The 5 rainguages located at the corners A,B,C,D,E have recorded 60,81,73,59 and 45mm of rainfall respectively. Compute the average depth of rainfall over the basin using arithmetic mean and thiessen polygon method. [10] CO2 L3

8. The infiltration capacity was found to be 6cm/h before rainfall and 1.2 cm/hr after 8 hours of rainfall. If total infiltration during 8 hours period of storm was 15cm, estimate the value of the decay coefficient k in Horton's equation. [10] CO2 L3

CI   CCI   HOD