Oct-22/TE/Insem-515

T.E. (Civil)

HYDROLOGY AND WATER RESOURCES ENGINEERING
(2019 Pattern) (Semester - I) (301001)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates:

1) *Solve Q. No. 1 or Q. 2, Q.3 or Q.4, Q,5 or Q.6.*
2) *Figurs to the right indicate full marks.*
3) *Draw neat diagram wherever necessary.*
4) *Use of logarithmic table, slide rule and electronic pocket calculator are allowed.*
5) *Assume suitable data if necessary, stating it clearly.*

Q1) a)   Explain hydrological cycle with neat sketch.   **[5]**

   b)   Explain central designs organization (CDO).   **[5]**

OR

Q2) a)   Explain drizzle form and glaze form of precipitation.   **[4]**

   b)   What is infiltration capacity; explain any two factors affecting infiltration capacity.   **[3]**

   c)   What are the different methods of measuring evaporation and draw sketch of class A evaporation pan.   **[3]**

Q3) a)   Explain working of symphonic rainguage with neat sketch.   **[5]**

   b)   Explain frontal and orographic precipitation.   **[5]**

OR

Q4) a) Explain BINNI's method & BARLOW Tables for runoff estimation. **[6]**

b) State and explain factors affecting runoff. **[4]**

Q5) a) State the assumptions made in Unit Hydrograph theory. **[3]**

b) Given below are ordinates 6-h unit hydrograph for a catchment. Calculate the ordinates of the DRH due to a rainfall of 3.5cm occurring in 6 hours.

[7]

Time (h)	0	3	6	9	12	15	18	24
UH Ordinates m^3/s	0	25	50	85	125	160	185	160
Time (h)	30	36	42	48	54	60	69	
UH Ordinates m^3/s	110	60	36	25	16	8	0	

OR

Q6) a) Explain velocity area method for stream gauging. Draw neat sketch. **[7]**

b) Explain components of typical hydrograph. **[3]**

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