

Total No. of Questions : 6]

SEAT No. :

P8550

[Total No. of Pages : 2

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) *Figures 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

P.T.O.

- 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]

