

Total No. of Questions : 6]

SEAT No. :

P5789

[Total No. of Pages : 2

**TE/INSEM/OCT. - 1**  
**T.E. (Civil)**  
**Hydrology and Water Resources Engineering**  
**(2012 Pattern) (Semester - I)**

*Time : 1 Hour]*

*[Max. Marks :30*

*Instructions to the candidates:*

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*

**Q1) a)** State the components of Hydrologic cycle. Explain three forms of precipitation. **[5]**

b) What is Dalton's law? Explain double ring infiltrometer. **[5]**

OR

**Q2) a)** Explain double mass curve of rainfall. **[5]**

b) A storm with 10 cm precipitation produced a direct runoff of 5.8 cm in a basin. Calculate average infiltration rate of the storm. **[5]**

Rain fall - Hrs	1	2	3	4	5	6	7	8
Incremental Rain fall (cm)	0.4	0.9	1.5	2.3	1.8	1.6	1.0	0.5

**Q3) a)** Define Duty. State the relationship between Duty and Delta. **[5]**

b) State various methods of irrigation. Write merits and demerits of Sprinkler Irrigation. **[5]**

**P.T.O.**

OR

- Q4) a)** Explain the following : **[5]**
- i) Lacustrine soil
  - ii) OMC
  - iii) Kor Watering
  - iv) Delta
  - v) Cumecday
- b) State various methods of canal revenue. Explain volumetric assessment of Canal Irrigation. **[5]**

- Q5) a)** Explain the following : **[5]**
- i) Aquitard
  - ii) Specific yield
  - iii) Drawdown
  - iv) Transmissivity
  - v) Porosity
- b) Write short notes on : **[5]**
- i) Recuperation Test
  - ii) Cavity Type Tube Well.

OR

- Q6) a)** During recuperation test the water level in an open well was depressed by pumping by 3 m and it recuperated to 1.2 m in 2 hrs. Determine the yield from a well of 4 m diameter under a depression head of 2.5 m. **[5]**
- b) Write down the assumptions in Dupuit - Theim theory. Explain interference among wells. **[5]**

