

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem - Vth Examination December 2010

Subject code: 150602

Subject Name: Hydrology & Water resources Engineering

Date: 15 /12 /2010

Time: 03.00 pm - 05.30 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Describe Recording and Non-Recording type of rain gauge stations. 07
(b) Define Unit Hydrograph. What are the assumptions underlying the unit hydrograph theory? Explain uses of unit hydrograph. 07
- Q.2** (a) Discuss factors affecting evapo-transpiration. 07
(b) Explain various climatic factors affecting run-off. 07
- OR**
- (b) Distinguish between : 07
1.) Confined & Unconfined Aquifers
2.) Aquiclude & Aquitard
3.) Specific yield & Storage co-efficient
- Q.3** (a) Explain with neat sketch storage zones of a reservoir. 07
(b) What are the principal components of a hydro electrical scheme? Discuss the utility of each component. 07
- OR**
- Q.3** (a) Explain how the storage capacity of a reservoir is fixed? 07
(b) Write short note on Surge tank and their types. 07
- Q.4** (a) Explain various causes of flood. 07
(b) Define flood routing. What are the uses of flood routing? 07
- OR**
- Q.4** (a) Explain the method of design flood estimation using the rational method. 07
(b) Differentiate followings : 07
1.) Channel routing & Reservoir routing
2.) Prism storage & wedge storage
- Q.5** (a) Explain draught & causes of draught. 07
(b) Briefly explain various water conservation methods. 07
- OR**
- Q.5** (a) Explain roof top water harvesting method. 07
(b) What are the environmental issues in water resources projects? 07
