

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Winter 2018-19 Examination

Semester: 2

Subject Code: 03214182

Subject Name: Water Resources Management

Date:14/12/2018

Time:2:00pm to4:30pm

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1 (A) Fill in the blanks :** (05)
- i) Values of the most hydrometeorological variables _____
 - ii) Validation is the means by which data are -----
 - iii) Simulation process ----- the system's behaviour by designing a model of the system.
- (B) Define :** (05)
- i) Conjunctive use of water
 - ii) Base year
 - iii) Economic life of project
 - iv) Annual cost
 - v) C.R.F.
- (C) Enlist the various costs included in the OMR costs .** (05)
- Q.2 Answer the following questions. (Attempt any three) (Each five mark)** (15)
- (A) Discuss a Hydrological validation
 - (B) Discuss a secondary validation
 - (C) Discuss the various techniques used for observations of data for water resources development.
 - (D) Discuss the management tools used for the planning of water resources development.
- Q.3 (A) Discuss the advantages of the conjunctive use.** (07)
- (B) Determine the OMR cost of a shallow tubewell in Rs / ha whose capital cost is Rs 3×10^5 , yield is 400lpm, pumping hours are 12 .** (08)
- OR**
- (B) Determine the electric charges of the shallow tubewell referred in above Q.3(B), when the total pumping head is 11.5 m and cost of power is Rs 12 / unit .** (08)
- Q.4 (A) Enlist the principles of the conjunctive use and discuss any one .** (07)
- OR**
- (A) Annual capital cost of Ukai dam outflow of 200 Mm^3 is Rs 2.5×10^7 . If 60% of the outflow of Ukai dam goes into LBMC of Kakrapar weir whose annual capital cost is Rs 4.21×10^7 determine the annual capital cost /ha/season . CCA is 145335 ha .** (07)
- (B) Enlist the physical constraints of a conjunctive use and discuss any one.** (08)