

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – WINTER • 2014

Subject Code: 180606**Date: 25-11-2014****Subject Name: Irrigation Water Management (Department Elective-II)****Time: 02:30 pm - 05:00 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)** How would be the Remote Sensing (RS) and Geographical Information System (GIS) helpful in canal irrigation system? **07**
- (b)** What are the special field situations in which sub surface irrigation is suitable? **07**
- Q.2 (a)** What are the four basic stages in the hydraulics of check basin irrigation. **07**
- (b)** Give difference between Border strip Irrigation and Check basin Irrigation. **07**
- OR**
- (b)** Classify the irrigation systems in India. Discuss it. **07**
- Q.3 (a)** What are the major factors influencing the design capacity of a drip irrigation system? **07**
- (b)** Distinguish between: **07**
- 1) Low pressure sprinkler and high pressure sprinkler
 - 2) Over head sprinkler and under tree sprinkler
 - 3) Solid set system and permanent system of sprinkler irrigation.
- OR**
- Q.3 (a)** Draw a typical layout of drip irrigation system and sprinkler irrigation system showing all components. **07**
- (b)** What are step-by-step procedures for the hydraulic design of sprinkler irrigation system? **07**
- Q.4 (a)** What are irrigation indices? What are the commonly used indices in scheduling irrigation. **07**
- (b)** Write short note on “Reclamation of saline soils by leaching method”. **07**
- OR**
- Q.4 (a)** How the salinity in the coastal area can be prevented? **07**
- (b)** Explain in detail following terms: **07**
- (i) Water application efficiency (ii) Time of Irrigation
 - (iii) Water conveyance efficiency (iv) Irrigation Interval & Depth of Irrigation
- Q.5 (a)** Define ‘water logging’. How it will affect irrigated land? Discuss in detail the causes of it. **07**
- (b)** Write about the farmer’s participation and role of irrigation managers in practicing the irrigation. **07**
- OR**
- Q.5 (a)** Discuss the common criterions for judging the performance of irrigation system. **07**
- (b)** Give classification of Drainage in brief. **07**
