

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE – SEMESTER–VIII • Remedial EXAMINATION – WINTER 2013**

**Subject Code: 180606****Date: 12/09/2013****Subject Name: Irrigation Water Management****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) Classify the different methods of surface irrigation and their sub groups. **07**  
 (b) Discuss different Irrigation efficiencies **07**
- Q.2** (a) Write short note on sub surface irrigation. **07**  
 (b) Specify the distinct advantages of sprinkler irrigation over other methods of irrigation water application. **07**
- OR**
- (b) Write short note on irrigation scheduling. **07**
- Q.3** (a) How the water requirements of a crop can be increased by crop and soil management practices. **07**  
 (b) What are irrigation indices? What are the commonly used indices in scheduling irrigation. **07**
- OR**
- Q.3** (a) Distinguish between **07**  
 1) Water requirement and irrigation requirement of crop.  
 2) Net irrigation requirement and gross irrigation requirement.  
 3) Infiltration and deep percolation.  
 (b) What are the limitations in the large scale adoption of sprinkler irrigation in many of the developing countries. **07**
- Q.4** (a) What are the four basic stages in the hydraulics of check basin irrigation. **07**  
 (b) Distinguish between: **07**  
 1) Over head sprinkler and under tree sprinkler  
 2) Low pressure sprinkler and high pressure sprinkler  
 3) Solid set system and permanent system of sprinkler irrigation.
- OR**
- Q.4** (a) What are the causes of water logging and salt problems. **07**  
 (b) How the saline land can be reclaimed? Explain in detail **07**
- Q.5** (a) What are the major factors influencing the design capacity of a drip irrigation system? **07**  
 (b) What are the specific advantages of drip irrigation over sprinkler irrigation? **07**
- OR**
- Q.5** (a) What is the influence of salt on the physical properties of soil. **07**  
 (b) Distinguish between: **07**  
 1) Drip irrigation and micro irrigation  
 2) Surface and subsurface drip irrigation  
 3) Pressure regulation valve and flow regulation valve

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