

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (OLD) EXAMINATION – SUMMER 2019****Subject Code: 180606****Date: 17/05/2019****Subject Name: Irrigation Water Management****Time: 10:30 AM TO 01:00 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) Explain various types of sprinkler irrigation system based on portability. **07**
- Q.2** (a) Discuss the present status of irrigation potential in India and the prospect of its further development. **07**  
(b) Write short note on irrigation scheduling. **07**
- OR**
- (b) Explain border and check basin irrigation method. **07**
- Q.3** (a) What are the specific advantages of drip irrigation system over sprinkler Irrigation system? **07**  
(b) Discuss the problems encountered in drip irrigation systems. Explain in brief how fertilizers and chemicals are applied in drip irrigation system. **07**
- OR**
- Q.3** (a) What are the major factors influencing the design capacity of a drip irrigation system? **07**  
(b) Explain maintenance and trouble shooting of sprinkler irrigation system. **07**
- Q.4** (a) Define irrigation efficiency. Determine the water distribution efficiency in a 150 m long border strip when the soil sampling after an irrigation at 25 m intervals along the water run showed that effective depth of water penetration in the 90 cm root zone were 90, 90, 85, 82, 82 and 80 cm. **07**  
(b) Discuss the problems arise from using poor quality of irrigation water. **07**
- OR**
- Q.4** (a) What is leaching requirement? How the salinity in the coastal area can be prevented? **07**  
(b) Define frequency of irrigation. Describe various factors affecting frequency of irrigation. **07**
- Q.5** (a) Explain various factors should be considered to improve canal irrigation management. **07**  
(b) Discuss the role of community participation in irrigation water management. **07**
- OR**
- Q.5** (a) What is water logging? Explain role of drainage system for preventing water logging **07**  
(b) What is water user organization? Explain merit and demerit of water user's organizations. **07**

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