

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII EXAMINATION – SUMMER 2016****Subject Code:170602****Date:07/05/2016****Subject Name:Irrigation Engineering****Time:02:30 PM to 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) Explain (i) Culturable command area (ii) Duty and (iii) Delta **07**  
 (b) Give difference between Kennedys and lacey's theory **07**
- Q.2** (a) Enlist different methods of irrigation and describe (i) check basin method and (ii) sprinkler irrigation method **07**  
 (b) Describe function of (i) Escape (ii) Cross regulator and head regulator **07**
- OR**
- (b) The culturable command area of a water course is 1500 hectare . Intensities of irrigation of sugarcane and wheat crops is 25 % and 50 % respectively . the duties for the crops at the head of the water course are 700 hectare /cumec and 1750 hectares /cumec respectively . Find the discharge required at head of water course . **07**
- Q.3** (a) Describe function of (i) divide wall(ii) silt excluder (iii) undersluice portion in diversion head work **07**  
 (b) Describe benefit and ill effects of irrigation . **07**
- OR**
- Q.3** (a) Draw sketch of Aquaduct and syphone aquaduct . Also describe the same **07**  
 (b) Enlist different canal regulation structure . and explain canal fall in detail . **07**
- Q.4** (a) Describe Blighs theory for design of weir . **07**  
 (b) What is water logging ? how it can be prevented ? **07**
- OR**
- Q.4** (a) Explain Balancing depth of canal. **07**  
 (b) Draw cross section of canal in fully cutting and canal in full embankment . **07**
- Q.5** (a) Explain sarda type of fall . **07**  
 (b) Describe different components of drip irrigation methods. **07**
- OR**
- Q.5** (a) Explain conveyance , distribution and application efficiencies. **07**  
 (b) Describe types and benefits of lining of canal. **07**

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