

**DIPLOMA IN CIVIL ENGINEERING (DCLEVI)**

**Term-End Examination**

**December, 2016**

00403

**BICEE-008 : IRRIGATION ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** *Attempt five questions in all. Question no. 1 is compulsory. Assume missing data, if any. Use of scientific calculator is allowed.*

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1. Write *True* or *False* for the following :  $7 \times 2 = 14$

- (a) For the same type of catchment, greater is the rainfall, greater will be the value of C in Dicken's formula.
- (b) Symon's Rain Gauge is a non-recording rain gauge.
- (c) Sugarcane is a Rabi crop.
- (d) If the rice requires about 12 cm depth of water at an interval of 10 days and the base period for rice is 120 days, then the delta for rice is 120 cm.
- (e) An artificial obstruction placed in a river or water course to increase the depth of water is known as cross regulator.

- (f) Spillways are passages for letting out flood water when the reservoir is overflowing.
- (g) Confined aquifer is one in which a free water surface exists.
2. (a) Discuss the different reasons of irrigation necessity in India. 6
- (b) Discuss the functions of irrigation water and define net and gross irrigation requirements. 8
3. (a) Define different kinds of irrigation efficiencies and state their practical significance. 8
- (b) Define the terms Delta, Base period and Duty. 6
4. (a) Draw a neat and labelled sketch of a canal structure for flow regulation and control; and explain it. 10
- (b) Discuss various factors which should be considered while selecting the location of a fall. 4
5. (a) Discuss the characteristics of a confined aquifer. Draw a labelled sectional view of a confined aquifer. 10
- (b) Explain the functions of energy dissipators. 4

6. (a) Discuss Rotary Drilling with a neat sketch. 6  
(b) Explain Well development in detail. 8
7. Write short notes on any *four* of the following :  $4 \times 3 \frac{1}{2} = 14$
- (a) Water Logging
  - (b) Impurities in Water used for Irrigation
  - (c) Canal Lining
  - (d) Concrete Dam
  - (e) Cultivable Command Area
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