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BICEE-008

DIPLOMA IN CIVIL ENGINEERING (DCLEVI)
Term-End Examination
June, 2015

00566

BICEE-008 : IRRIGATION ENGINEERING

Time : 2 hours *Maximum Marks : 70*

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

1. Write *True* or *False* for the following : *7×2=14*

(a) Base period of a crop is greater than crop period.

(b) Canal lining is advisable over the expansive clay.

(c) Height of gravity in general means the Hydraulic height.

(d) Generally high intense rainfall occurs for a short duration.

(e) Injection through wells is a way of artificial recharge of ground water.

(f) Duty of water is measured in ha/m^2/sec.

(g) Evaporation increases with an increase in humidity.

2. Explain the different sources of irrigation water and assess the need of irrigation in India. *14*

3. (a) Give an account of different types of rain gauges. *7*

   (b) Differentiate between Gross Command Area and Cultivable Command Area. *7*

4. (a) Differentiate between Well irrigation and Canal irrigation. *7*

   (b) Discuss the methods of Lift irrigation. *7*

5. (a) Differentiate between Aqueduct and Siphon. *7*

   (b) Bring out the functions and necessities of aqueduct. *7*

6. (a) Explain the radius of influence and the depression head with regard to tube-wells. *7*

   (b) Make an assessment of the advantages of tube-wells. *7*

7. Design a concrete lined channel to carry a discharge of 350 cumecs at a slope of 1 in 5000. The side slopes of the channel may be taken as $1\frac{1}{2}$: 1. The value of n for lining is 0·014. Assume limiting velocity in the channel as 2 m/sec. Assume channel section as trapezoidal. *14*

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Causes of failure of Dams

(b) Classification of Dams

(c) Selection of pump

(d) Windmills

(e) Energy dissipator

(f) Critical velocity ratio