

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

BICEE-008 : IRRIGATION ENGINEERING

Time : 2 hours

Maximum Marks : 70

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

1. Write whether the following statements are *True* or *False* :

$7 \times 2 = 14$

- (a) Wheat, Barley, Jowar are grown in Rabi season.
- (b) Isolated patches of high lands can be better served by well irrigation.
- (c) Evaporation from the oceans is the major source of moisture for precipitation.
- (d) Cotton is a perennial crop.
- (e) Headway is the same as the free board.
- (f) The silt factor for medium sand is 1.0.
- (g) A lysimeter has an impervious bottom.

2. (a) What is runoff ? Differentiate between direct runoff and the base flow. 7
- (b) List the different methods of measurement of precipitation and explain any two of them. 7
3. (a) Define Duty, Delta and Base period and explain their inter-relationship. 7
- (b) The gross command area for a distributary is 6000 hectares, 80% of which is culturable irrigable. The intensity of irrigation for Rabi season is 50% and that for kharif season is 25%. If the average duty at the head of the distributary is 2000 hectares/cumec for Rabi season and 900 hectares/cumec for Kharif season, find out the discharge required at the head of the distributary from average demand considerations. 7
4. (a) Describe the various types of cross drainage works in canal. 7
- (b) What is meant by canal fall ? Explain the different types of canal falls. 7
5. (a) What factors will you consider while selecting a suitable type of cross drainage works ? 7
- (b) Name the various regulation works on a canal. What are their functions ? 7

6. (a) Differentiate between Earthen dam and Concrete dam. Give examples. 7
- (b) What are the types of Earthen dams ? Explain. Also discuss the causes of their failure. 7
7. (a) Differentiate between an open well and a tube well. What are the advantages of tube wells over open wells ? 7
- (b) List the methods of drilling a tube well and explain any one of them. 7
8. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Types of Spillway
 - (b) Classification of Dams
 - (c) Irrigation Efficiency
 - (d) Catchment Area
 - (e) Types of Canal Lining
 - (f) Causes of Water Logging
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