DIPLOMA IN CIVIL ENGINEERING
DCLE(G)

00522

Term-End Examination
June, 2019

BCE-061 : IRRIGATION ENGINEERING

Time : 2 hours   *Maximum Marks : 70*

Note :   *Question no. 1 is compulsory. Answer five questions in all. Attempt **any four** more questions from the remaining questions. Use of scientific calculator is permitted.*

1.   Define following terms :   7x2=14
      (a)   Catchment area
      (b)   Flood irrigation
      (c)   Hydrology
      (d)   Cross Regulator
      (e)   Free Board
      (f)   Energy Dissipator
      (g)   Fertigation

2.   (a)   Discuss the factors affecting the Run off.   5
      (b)   Write expression for Dicken's formula.   3
      (c)   Describe working of a Float type automatic   6
            rain gauge with the help of a diagram.

3.   (a)   Define following terms and give their   6
            inter-relationship :
            (i)   Delta.
            (ii)   Duty.
            (iii) Base period.

(b) Calculate the delta for kharif jawar having duty as 2600 ha/cumec. **4**

(c) Discuss irrigation scheduling of Rice, Wheat and Sugarcane. **4**

4. (a) Draw a neat labelled sketch for canal structures for Flow Regulation and Control and describe, briefly the labelled terms. **10**

(b) Discuss the following terms in brief **4**
   (i) Silt Vanes
   (ii) Canal Outlet

5. (a) What are different types of Embankment dams ? Discuss in brief. **7**

(b) Describe components and functions of a Spillway. **7**

6. (a) Discuss the characteristics of unconfined and confined aquifer. **8**

(b) Define aquitard and aquifuge. **4**

(c) What is Inverted Cone of Depression ? **2**

7. Write short notes on **any four** of the following :
   (a) Cavity type of Tube Wells   **4x3½=14**
   (b) Jet Pump
   (c) Furrow Irrigation
   (d) Components of Sprinkler Irrigation System
   (e) Water Logging
   (f) Drainage Coefficient (D.C.)

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