

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE – OCTOBER, 2017

**IRRIGATION ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define soil erosion.
2. What is a head work ?
3. Name the important crops in India.
4. What do you mean by Hydrological cycle ?
5. Define barrage.

(5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. With a neat sketch explain the working of a Simon's non-recording rain gauge.
2. Define head regulator. What are its functions ?
3. Which is the best site for the construction of a head work ?
4. Explain gauge post.
5. What do you mean by rotation of crops ? List its advantages.
6. Explain the classification of canals.
7. What are the causes for the common failures of earth dams ?

(5×6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) Explain the different types of irrigation. 8  
 (b) What are the various methods to improve duty. 7

OR

- IV (a) Define the following : Duty, Delta, Base period, Crop period. 8  
 (b) Derive a relation between Duty and Delta. 7

## UNIT — II

- V (a) Differentiate : Weir and Barrage. 8  
 (b) Explain the working of a fish ladder. 7

OR

- VI (a) Explain different classification of head works. 8  
 (b) Explain the terms:  
 (i) Divide wall (ii) Head regulator. 7

## UNIT — III

- VII (a) Explain the site suitable for an earth dam. 8  
 (b) What are the causes of structural failure of earth dam and list the precautions. 7

OR

- VIII (a) Draw a typical section of an earth dam showing the important parts and water levels. 8  
 (b) Explain the terms :  
 (i) Drainage in earth dam (ii) Tank sluice 7

## UNIT — IV

- IX (a) What are the causes of soil erosion ? Give its preventive measures. 8  
 (b) What is canal lining ? What are its advantages ? 7

OR

- X (a) Define the terms:- berm, regime channel, land reclamation, aqueduct. 8  
 (b) Give the types of alignment of canal. 7