

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

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 Crop period.
2. Define Storage Weir.
3. State the function of free board.
4. List main classification of dam according to Hydraulic Design.
5. Name the cross drainage work is provided, when canal water passes over drainage.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. List any six advantages of irrigation.
2. Derive an equation for Delta in terms of Duty & Base period.
3. List the factors suitable for selection of site for Head works.
4. Draw and explain different types of Barrages.
5. Describe the situations suitable for Earth Dams.
6. Describe different classification of canal based on the functioning of the canal.
7. Explain the methods are adopted to maintain an Irrigation Canal.

(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) Sketch and explain the working procedure of Symon's Rain gauges. 8
 (b) Describe the factors affecting runoff. 7

OR

- IV (a) Sketch and explain briefly the working of a current meter. 9
 (b) Write down the Rive's formula and Dicken's formula and explain the terms. 6

UNIT — II

- V (a) Explain the terms :
 (i) Percolation (ii) Uplift
 (iii) Scour (iv) Creep length 8
 (b) Describe the component parts of a weir. 7

OR

- VI (a) Explain the different discharge conditions in weir. 7
 (b) Write short note on the following :
 (i) Scouring Sluice (ii) Divide Wall
 (iii) Fish Ladder (iv) Head Regulator 8

UNIT — III

- VII (a) Enumerate the causes of failure of Earth dams. 8
 (b) Define Spillway. List out different types of Spillways. 7

OR

- VIII (a) Sketch the Elementary profile of a Gravity Dam. 6
 (b) Explain Different types of Dams. 9

UNIT — IV

- IX (a) Describe different classifications of canals based on carrying capacity. 9
 (b) List the advantages of canal lining. 6

OR

- X (a) List and explain cross drainage works. 9
 (b) Sketch and explain the function of Gibb's Module. 6