TED (15/19) 4012
(Revision-2015/19)

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Reg.No.....
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2025

IRRIGATION ENGINEERING

[Maximum marks: 100] [Time: 3 Hours]

PART – A
Maximum marks: 10

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

1. Define Base period.
2. Define Percolation.
3. List any four forces acting on a gravity dam.
4. Define berm.
5. State the term soil erosion. (5 x 2 = 10)

PART – B
Maximum marks: 30

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

1. List any six benefits of irrigation.
2. Briefly describe the factors affecting run-off.
3. List any six factors to be considered for selection of site for diversion works.
4. Describe with neat sketch the component parts of a weir.
5. Describe the terms (a) Full Reservoir Level (b) Free Board.
6. Discuss siphon spillway with a neat sketch.
7. Describe the classification of canal based on the functioning of canal.

(5 x 6 = 30)

PART – C
Maximum marks: 60

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

UNIT – I

III. (a) Define the term (i) Catchment (ii) Intercepted catchment. (8)

(b) Derive the relation between Duty, Delta, and Base period. (7)

OR

IV. (a) Sketch and explain the working of Symon's rain gauge. (8)

(b) Describe the factors affecting duty. (7)

UNIT - II

V. (a) Compare weir and barrage. (8)

(b) Draw the component parts of a diversion head works with a neat sketch. (7)

OR

VI. (a) Explain the terms (i) Percolation gradient (ii) Exit velocity (iii) Scour (iv) Uplift pressure (8)

(b) Give a brief description about the river training works. (7)

UNIT - III

VII. (a) Define the terms (i) Saturation gradient (b) phreatic line. (8)

(b) Explain the forces acting on a gravity dam with the aid of a neat sketch. (7)

OR

VIII. (a) Differentiate between low dam and high dam with neat sketch. (8)

(b) Explain about the surplus weir with a neat sketch. (7)

UNIT – IV

IX. (a) Define the terms (i) Canal lining (ii) Balancing depth. (8)

(b) Describe the classification of canal based on their carrying capacity. (7)

OR

X. (a) Draw the cross section of canal in partial cutting and partial filling. (8)

(b) Describe the causes and effects of soil erosion. (7)
