

TED (15) – 4012

Reg. No.....

(REVISION — 2015)

Signature

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

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 Irrigation.
2. Define Weir.
3. Define Creep length.
4. List the different types of dams according to the material used in construction.
5. Define berms.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. List the factors for selecting suitable site for a rain gauge station.
2. State the characteristics of good, average and bad catchment.
3. Sketch the component parts of a weir.
4. List the forces acting on a gravity dam.
5. Explain geological factors in selection of site for reservoirs.
6. Explain the advantage of canal lining.
7. Explain typical cross section of canals with sketch.

(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) Define Duty, Delta, Crop period and Base period. 8
 (b) Explain the factors affecting Run-off. 7

OR

- IV (a) Explain the advantages of Irrigation. 8
 (b) Explain the Theissen's Polygon method to find out average rain fall over a basin. 7

UNIT — II

- V (a) Explain the factors for selecting a suitable site for head works. 8
 (b) Sketch the layout of a Diversion Head works. 7

OR

- VI (a) Explain the terms :
 (i) Percolation (ii) Percolation gradient (iii) Uplift (iv) Scour 8
 (b) Define a Diversion Head work. Explain the purpose of a Diversion Head work. 7

UNIT — III

- VII (a) Explain drainage gallery with sketch. 8
 (b) Explain the situations suitable for earth dams. 7

OR

- VIII (a) Sketch the profile of a dam and explain the following terms.
 (i) Dead storage (ii) Live storage (iii) Free board 8
 (b) Explain siphon spillway with figure. 7

UNIT — IV

- IX (a) Define soil erosion. Explain the methods of prevention of soil erosion. 8
 (b) Explain Level crossing cross drainage works. 7

OR

- X (a) Explain permanent types of canal lining. 8
 (b) Explain syphon aqueduct with sketch. 7
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