

TED (10)–4002

Reg. No.

(REVISION—2010)

Signature

FOURTH SEMESTER DIPLOMA EXAMINATION IN CIVIL ENGINEERING—
MARCH, 2013

IRRIGATION ENGINEERING

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Mention any two disadvantages of irrigation.
2. Differentiate between the lift irrigation and flow irrigation.
3. What is meant by scouring and silting ?
4. Mention two uses of galleries in dams.
5. What is meant by the term 'berm' ?

(5×2=10)

PART—B

(Maximum marks : 30)

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

1. Define irrigation. What are the factors which demand the necessity of irrigation ?
2. Illustrate the functioning of simon's non recording type rain gauge.
3. Enumerate the points to be considered while selecting the site for diversion head works.
4. Distinguish between elementary profile and practical profile of a low dam.
5. Predict the different ways an earth dam can fail.
6. List the effects of erosion on irrigation works.
7. Write short notes on the following :

(i) Furrow irrigation

(ii) Drip irrigation.

(5×6=30)

PART—C

(Maximum marks : 60)

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

UNIT—I

- III (a) Explain briefly the working of a current meter. 8
 (b) What is meant by stream gauging? What are its objectives? 7

OR

- IV (a) Differentiate the following :
 Duty, Delta and base period. 8
 (b) A catchment area of 30.75 square kilometer is situated in western ghats. What would be the maximum flood discharge expected from the basin? Use Dicken's coefficient of 25. 7

UNIT—II

- V (a) Explain the following terms :
 (i) Creep length (iii) Head regulator 8
 (ii) Uplift (iv) Percolation. 8
 (b) Draw a neat diagram showing the section of a weir with all details. 7

OR

- VI (a) Distinguish between the following :
 (i) Weir and barrage 8
 (ii) Silt excluder and scouring sluice. 8
 (b) Write short notes on the following :
 (i) Divide wall (ii) Fish ladder 7

UNIT—III

- VII (a) What are the factors to be considered in fixing the site for a dam? 8
 (b) Draw a typical section of an earth dam detailing important levels and naming various parts. 7

OR

- VIII (a) Explain the situation suitable for an earth dam. 8
 (b) Outline components of a 'Tank sluice' with tower head. 7

UNIT—IV

- IX (a) Mention the different types of cross drainage works. Explain the necessity for an aqueduct. 8
 (b) What are the causes of soil erosion? 7

OR

- X Explain with sketches the types of alignment of canals. 15