

FOURTH SEMESTER DIPLOMA EXAMINATION IN CIVIL
ENGINEERING — MARCH, 2015

IRRIGATION ENGINEERING

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

(Maximum marks : 10)

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

1. Mention Sprinkler irrigation.
2. List out the principal crops in India.
3. Mention the situation where a canal escape is provided and list the types.
4. Define Percolation gradient.
5. What is meant by permanent canals ?

(5x2=10)

PART—B

(Maximum marks : 30)

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

1. Discuss the preparation and uses of rainfall records.
2. Compare the Pernnial irrigation and Inundation irrigation.
3. Distinguish between velocity of percolation and Scour.
4. List out the rigid and non rigid dams.
5. Discuss the terms :
(a) Construction joints (b) Drainage gallery
6. Discuss the methods of preventing soil erosion.
7. Discuss the importance of irrigation canals.

(5x6=30)

PART—C

(Maximum marks : 60)

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

UNIT – I

- III (a) Discuss the measurement of rainfall and list out the factors for selecting suitable site for a rain gauge station. 7
- (b) Explain the methods of estimating run-off. 8

OR

- IV (a) Discuss with sketch of velocity rod for measurement of velocity by surface float. 7
- (b) Explain with sketch the working of a current meter. 8

UNIT – II

- V (a) Discuss the terms weir, under sluices, silt excluder, guide bank, marginal bund. 7
- (b) Discuss the head works, its classification and the purpose served. 8

OR

- VI (a) Explain the terms :
 (i) Head regulator
 (ii) Scouring sluice
 (iii) Divide wall 7
- (b) Discuss the component parts of a weir and their functions. 8

UNIT – III

- VII (a) Discuss the factors based on the selection the site of reservoirs. 7
- (b) Explain with sketch practical profile of a low dam. 8

OR

- VIII (a) Discuss the investigations and surveys required for reservoirs and dams. 8
- (b) Discuss the situations suitable for earth dams. 7

UNIT – IV

- IX (a) Discuss the canal lining and its advantages. 7
- (b) Discuss the classification of canals based on the carrying capacity of the canals. 8

OR

- X (a) Discuss the furrow method of irrigation and its advantages. 7
- (b) Discuss the advantages and disadvantages of sprinkler irrigation. 8