

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – NOVEMBER -2020.

IRRIGATION ENGINEERING

(Maximum Marks : 100)

[Time : 3 hours]

PART-A
(Maximum marks: 10)

Marks

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

1. Define gross command area.
2. State the function of a weir.
3. Define phreatic line.
4. Write the functions of inundation canals.
5. Define percolation velocity in an irrigation structure. (5x2=10)

PART - B
(Maximum Marks : 30)

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

1. Define duty, delta and find delta for a crop if the duty for a base period of 110 days is 1400 hectare/cumec.
2. Explain catchment area and its types.
3. Explain the terms uplift, creep length and scour in irrigation system.
4. Briefly state evaporation loss in reservoirs.
5. List out the situations suitable for earth dams.
6. Write short note on canal lining.
7. Briefly state furrow method in irrigation and its advantages. [5x6 =30]

PART - C
(Maximum marks : 60)

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

UNIT I

- III** (a) Write the advantages and disadvantages of irrigation. (7)
- (b) Explain the factors affecting duty of water. (8)

OR

- IV** (a) Give a brief note on factors affecting runoff. (7)
(b) Explain the term maximum flood discharge and with the methods of finding. (8)

UNIT- II

- V** (a) Explain the component parts of a weir and write their functions with neat figure. (9)
(b) List out the factors suitable for selection of site for head works. (6)

OR

- VI** (a) List out the component parts of a diversion work and explain fish ladders and divide walls. (7)
(b) Distinguish between weirs and barrages. (8)

UNIT- III

- VII** (a) Write short notes on different types of dams. (7)
(b) Explain the causes of failure of gravity dams. (8)

OR

- VIII** (a) Prove that the base width of a gravity dam is equal to H/\sqrt{p}
(p =specific gravity of the material) (7)
(b) Write short note on different types of spill ways. (8)

UNIT – IV

- IX** (a) Write short notes on different types of cross drainage system. (9)
(b) Classify canals based on carrying capacity. (6)

OR

- X** (a) Write short note on berms in canals. (7)
(b) Explain sprinkler irrigation system. (8)
