

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, NOVEMBER-2021**

**IRRIGATION ENGINEERING**

[Maximum marks: 75]

(Time: 2.15 Hours)

**PART – A**

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

1. Mention the units of duty and delta.
2. List any two seepage and percolation control measures.
3. Mention the two common types of head works
4. Give two examples each for rigid dam and non-rigid dam
5. State the classification of canal based on alignment. (3 x 2 = 6)

**PART – B**

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

1. State the importance and necessity of irrigation in India.
2. What are the factors affecting runoff.
3. Differentiate between storage head works and diversion head works with respect to their suitability.
4. List different types of dams and mention their suitability.
5. Differentiate between FRL and MWL of a reservoir
6. Explain the terms borrow pit and spoil bank with their purpose.
7. Differentiate between syphon aqueduct and canal syphon. (4 x 6= 24)

**PART – C**

(Answer **any of the three units** from the following. Each full question carries 15 marks)

**UNIT –I**

III. (a) Differentiate between (a) perennial and inundation irrigation (b) Flow and lift irrigation

(c) Storage and direct irrigation and mention the situation at which these systems are adopted. (8)

(b) Explain duty, delta and derive a relationship between them. (7)

OR

- IV(a) Explain how the discharge through a river is measured. (8)  
(b) Write short notes on Crop period, base period and kore watering and its purpose. (7)

**UNIT-II**

- V (a) Sketch the general layout of weir, mark the parts and explain the function of each component. (8)  
(b) What are the factors to be considered while selecting a site for a diversion head works. (7)

OR

- VI. (a) Discuss the effect of seepage and percolation in hydraulic structures and explain how it is controlled. (8)  
(b) Distinguish between barrage and weir with situation each is preferred. (7)

**UNIT-III**

- VII.(a) What are the major causes of failure of earthen dams. (8)  
(b) Sketch the cross section of a tower head type tank sluice. Mark the parts and mention functions. (7)

OR

- VIII.(a) Distinguish between low and high dams with their profile sketches. (8)  
(b) Discuss the uses of surplus weir and flush escape with their suitable locations. (7)

**UNIT-IV**

- IX. (a) Draw the cross section of canal in partially cutting and filling and explain the function of berm (8)  
(b) What are the function of canal sluice, canal drop and spill ways and list types of spill ways? (7)

OR

- X. (a) List any four cases of cross drainage work and explain each case. (8)  
(b) Discuss the causes and remedial measures of soil erosion. (7)

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