

C-704 – Irrigation Engineering

Max.Time: 3 Hours

Max. Marks: 70

Exam. No. of the candidate: _____

Supervisor's dated initial: _____

- Instructions: -**
- (1) Answer to the two sections must be written in **separate answer books.**
 - (2) Figures to the **right** indicate **full marks.**
 - (3) Assume suitable data if required.

Section - I

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|-----------|---|-----------|
| 1 | (A) Discuss Khosla's theory and concept of flow net, and define different gradients. | 6 |
| | (B) Discuss the use of various devices used for silt control in the off taking canal. | 6 |
| 2 | (A) Explain 'classifications of canals'. | 5 |
| | (B) Explain: Design of alluvial channels. | 6 |
| OR | | |
| 2 | (A) Enlist 'Types of Cross Drainage Works' and explain any one with neat sketch. | 6 |
| | (B) What is function of canal regulator? Explain in detail. | 5 |
| 3 | Attempt any Three. | 12 |
| | (A) Compare Lacey's Theory and Kennedy's Theory. | |
| | (B) Write short note on: Canal Escapes. | |
| | (C) Define Terms: Duty, Delta and Base Period. Derive relationship between them. | |
| | (D) Explain method of drawing phreatic line in case of earth dam provided with toe. | |

Section - II

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|-----------|---|-----------|
| 4 | (A) Give difference types of Earthen dam. Explain with the help of neat sketch 'Zoned earthen dam'. | 6 |
| | (B) What do you understand by water logging? What are the main causes of water logging? | 6 |
| 5 | (A) Give comparison between Surface irrigation, Sprinkler irrigation and Drip irrigation. | 6 |
| | (B) How would you determine the weight of dam and Uplift pressure on body of dam? | 5 |
| OR | | |
| 5 | (A) What is different mode of failures of gravity dam? Discuss in brief. | 5 |
| | (B) What is limiting height of low dam? Differentiate between low and high gravity dam. | 6 |
| 6 | Attempt any Three. | 12 |
| | (A) Assumptions made in the seepage analysis of earthen dams. | |
| | (B) Discuss: Selection of sites of a cross drainage work. | |
| | (C) Write short note on: Canal Falls. | |
| | (D) Write Short note on Irrigation Development In India. | |