

Roll No.

Total Pages : 03

BT-7/M-20

37045

IRRIGATION ENGG.-II

CE-403-E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks. Assume any missing data.

Unit I

1. Define falls. Why are falls provided ? Write about types of falls. Discuss design of a straight glacis fall with a sketch. **20**
2. (a) Draw a neat sketch of a cross regulator and show its components. **10**
(b) What do you mean by Escapes ? Discuss its types with neat diagrams. **10**

Unit II

3. (a) What are different types of cross drainage works ? Explain how would you avoid one type of cross drainage work and prefer another type on the basis of alignment of a canal ? **10**

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- (b) Explain functioning of an aqueduct and siphon aqueduct by neat sketches. **10**
4. (a) What are different types of weirs ? Explain them with neat sketches. **10**
- (b) Enumerate three types of corrections applied for thickness of floor, mutual interference of piles and slope of floor used in Khosla's theory. **10**

Unit III

5. (a) Discuss in detail various forces causing instability in a dam. **10**
- (b) Explain how to calculate self weight, water pressure and uplift pressure for an elementary section of a gravity dam. **10**
6. (a) Distinguish between constant angle and constant radius arch dams with neat diagrams. **10**
- (b) Explain the procedure of drawing a phreatic line for a given earthen dam section. **10**

Unit IV

7. (a) What is meant by a spillway ? Enumerate working of any *two* kind of spillways provided in a dam with neat diagrams. **10**

- (b) What is a spillway gate and what are the merits and demerits of installing a gate ? **10**
8. (a) Describe with neat sketches various bucket type energy dissipators used in the spillways. **10**
- (b) Why are stilling basins provided in a spillway ? Draw a neat sketch of any *one* of them. **10**