

Reg. No. : 

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**Question Paper Code : 90334**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Sixth Semester

Civil Engineering

CE 8603 – IRRIGATION ENGINEERING

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define irrigation.
2. Give the relationship between duty and delta.
3. Define subsurface irrigation with an example.
4. Differentiate between the ridge and furrow irrigations.
5. List the types of impounding structures.
6. Distinguish between the weir and barrage.
7. What is meant by canal lining?
8. Define Lacey's Regime theory.
9. What is meant by participatory irrigation management?
10. What are the modern techniques used for water management?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss in detail about the planning and development of irrigation projects. (13)

Or

- (b) Describe in detail about the cropping season and the consumptive use of water. (13)

12. (a) Explain in detail about the design criteria of drip and sprinkler irrigation. (13)

Or

(b) Enlist the various types of irrigation methods and explain. (13)

13. (a) Explain with the help of a diagram the various components and their functions of a diversion head works. (13)

Or

(b) Describe about the gravity dam and the types of forces acting on it. (13)

14. (a) Discuss about the design concepts of the unlined canal. (13)

Or

(b) Elucidate about the canal alignment with the diagram. (13)

15. (a) Describe about the changing Paradigms in irrigation water management. (13)

Or

(b) (i) Elucidate about the need for optimization of water use.

(ii) Discuss about the roles and responsibilities of Water User Association. (7 +6)

PART C — (1 × 15 = 15 marks)

16. (a) Describe in detail about the types of canal drop with a neat sketch. (15)

Or

(b) Explain about the cross drainage works with the neat diagram. (15)