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B.E/B.Tech(Full Time)DEGREE END SEMESTER ARREAR EXAMINATIONS APRIL/MAY
2011

AGRICULTURE ENGINEERING BRANCH

FIFTH SEMESTER

AI 372-IRRIGATION ENGINEERING

(REGULATION 2004)

Time:3 hr

Max.Mark:100

Answer ALL Questions

PART-A (10x2=20 Marks)

1. What is meant by canal automation?
2. Distinguish between crop rotation and mixed cropping.
3. How does design of lift canal differ from gravity canal?
4. Compare lift irrigation and gravity irrigation.
5. Write the various factors governing the selection of a dam site.
6. What is the difference between a weir and barrage?
7. How will you determine seepage loss from canal?
8. Write the Lacey's regime theory.
9. Define percolation ponds.
10. What are the objectives of water management?

PART-B(5X16=80)

11.a)Describe various criteria for financial soundness of an irrigation project. What are the factors involved in planning an irrigation project?Describe. (16 Marks)

12.a)Discuss the primary objective of an irrigation method. What are the essential requirements of an irrigation method?. Discuss briefly about sprinkler irrigation with sketches. (16 Marks)

(Or)

b)i)What are the merits and demerits of Flooding method.(6Marks)

ii)Explain about Drip irrigation method(10Marks)

13. a)Explain the various steps that can be taken in the design and in the construction of an earthen dam to reduce seepage from it.(16 Marks)

(Or)

b).State the design criteria of a concrete gravity dam and explain briefly how you will determine the various factors of safety against possible failures.(16 Marks)

14.a).Draw a neat sketches showing various components of a canal headworks. Briefly explain the function of each component.(16 Marks)

(Or)

b)Describe various steps for the design of a lined canal. (16 Marks)

15.a).Discuss the roles and responsibilities of farmers and governmental agencies in the farmers organisation.(16 Marks)

(Or)

b.i)What are the factors affecting crop water requirement.(6 Marks)

ii)Discuss the methods of minimising irrigation water losses. (10 Marks)