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Question Paper Code : 10224

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Fifth Semester

Civil Engineering

CE 2301/CE 50/10111 CE 501 – IRRIGATION ENGINEERING

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Enumerate the possible disadvantages of Irrigation.
2. What are the different types of duty and their units?
3. Where the sprinkler irrigation is more useful?
4. What do you understand by contour laterals?
5. Distinguish between Weir and Barrage.
6. State the functions of undersluices.
7. List out the types of canal escapes.
8. Give the purposes of groyne.
9. How the water conservation measures can be comprised?
10. Write a note on participatory irrigation management.

PART B — (5 × 16 = 80 marks)

11. (a) (i) After how many days will you supply water to a clay loam soil in order to ensure efficient irrigation of the given crop, if
 - (1) Field capacity of the soil is 27%
 - (2) Permanent wilting point is 14%
 - (3) Density of soil is 1.5 gm/cc
 - (4) Effective depth of root zone is 75 cm and
 - (5) Daily consumption use of water for the give crop is 11mm. (8)
- (ii) Discuss about the factors affecting consumptive use of water. (8)

Or

(b) (i) Explain the methods of improving Duty. (8)

(ii) Write short notes on the following :

(1) Duty

(2) Delta

(3) Crop period

(4) Base period. (8)

12. (a) (i) Describe the modes of applying water to crops with neat sketches. (8)

(ii) Discuss about the favorable conditions for the sub-surface irrigation practice. (8)

Or

(b) (i) Explain the components of drip irrigation system. (8)

(ii) Discuss about the advantages of drip irrigation system. (8)

13. (a) (i) Discuss about the forces acting on a gravity dam. (8)

(ii) Discuss about the modes of failure of a gravity dam. (8)

Or

(b) (i) Describe the classification of Dams with examples. (8)

(ii) Discuss about the points to be considered for selection of site for a dam. (8)

14. (a) (i) Explain the effects of water logging. (8)

(ii) Describe the properties of canal lining material suitable for canal lining. (8)

Or

(b) (i) Describe the different types of cross-drainage works with sketches. (8)

(ii) Discuss about the classification of Groynes with sketches. (8)

15. (a) (i) Describe the purposes of water resources development. (8)

(ii) How will you minimize the irrigation water losses? (8)

Or

(b) (i) Describe the process of project formulation. (8)

(ii) How will you prepare the performance evaluation for a irrigation project? (8)