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(21)

B.E / B.Tech ( Full Time ) DEGREE EXAMINATIONS, APRIL / MAY 2013

AGRICULTURAL ENGINEERING

V Semester

AI 9301 - Irrigation Engineering

(Regulation 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. The duty of a cropland is 900 ha/cumecs. If the base period of the crop is 160 days, find the delta?
2. Differentiate between a weir and a barrage.
3. Write a short note on the administrative classification of canals.
4. Differentiate between a ridge canal and a contour canal.
5. Define field application efficiency.
6. Sketch the uplift pressure diagram of a vertical faced gravity dam with a gallery.
7. State the location and function of a canal regulator.
8. Lining a canal reduces the seepage losses - Substantiate.
9. Expand CADP and state its prime objective.
10. Give the line sketch of a section of a tank.

**Part – B ( 5 x 16 = 80 marks)**

11. Elaborate on the merits and demerits of irrigation. (16)
12. A) Explain the different flooding methods with neat sketches, bringing out their advantages and disadvantages. (16)  
OR  
B) Compare and contrast between sprinkler irrigation and drip irrigation. (16)
13. A) Elaborate on the forces acting on a dam, focusing on its contribution towards maintaining. (16)  
OR  
B) An ogee spillway with vertical U/S face has a design discharge of 3000 cumecs, crest length of 150m, normal reservoir level is 700m, and average river bed level is 650m. The coefficient of discharge is 2.2. Determine the crest level and profile of the overflow spillway section. Assume suitable data wherever needed. (16)

14. A) Describe the types of cross drainage works with neat sketches. (16)

OR

- B) Write notes on
- (i) Canal drops (8)
  - (ii) River training works (8)

15. A) Write notes on
- (i) Percolation pond (8)
  - (ii) Water users' Associations (8)

OR

- B) Elaborate on the different tools that can be used for getting information through the participatory technique for planning any irrigation project. (16)