BE. Civil VII CBas Irrigation Engg

QP Code: 5930

N.B. (1) Question 1 is compulsory (2) Solve any three questions out of remaining five questions (3) Darw near sketches wherever necessary (4) Assume suitable data if necessary and state it clearly. Qu.1. Solve any four from following (a) Define irrigation and irrigation engineering and explain the recessity of irrigation in India (b) Define hydrology and explain with near sketch hydrological cycle. (c) Explain the terms: aquifer, aquiculue and aquifuge (d) What are the various forces that acte on gravity dam, explain each of them. (e) Whet do you understand by canal liting, state its advantages. Qu. 2 (a) Derive relation between 'duty 'and 'deta'. (b) An irrigation canal has gross command area of 80,000 hectares out of which 85% is culturable command area. The intensity of irrigation for Kharl crop is 30% and for Rabi crop is 69%. Find the discharge required at the head of the canal if the duty at its head is 800 hectares/clunce to Rabiff and for Rabi is 1700 hectares/clunce. (c) Describe drip irrigation also state what are the favorable conditions to use drip irrigation and sprinkler irrigation. Qu 3. (a) State methods of computing average rainfall over the basin and explain any one of them (b) What is unit hydrograph and S hydrograph. State significance of each one (c) The ordinates of a 4ar unit hydrograph are given below. Determine the ordinates of 12 hr unit hydrograph. Time (hour) 0 4 8 12 16 20 24 88 32 36 40 44 Critinate in m3/soc 0 24 84 139 184 151 103 64 36 17 6 0 Qu 4 Qu 4 (a) Derive an equation for discharge from a Ne'l in an unconfined aquifer (b) A 40 em diameter well fully penetrates an unconfined aquifer whose bottom is 75 m below the undisturbed ground water table. When numpd at a steady rate of 1.40 m/min. The drawdowns observed in observation wells at radial diffances of 4 m and 14 m are 4m and 2m respectively. Determine the drawdown in the well (c) Explain recuperation test. (d) Describes usefulness of arch dam and buttress dam ((3 Hours) Total Marks: 80	
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