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B.E (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013
AGRICULTURAL AND IRRIGATION ENGINEERING
V Semester

AI 9023 Irrigation Water quality and moeling
(Regulation 2008)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Why we call water as the "Universal solvent"?
2. What are automatic samplers?
3. List advantages of random sampling method ?
4. What is " water quality standard"?
5. What are the differences between point and nonpoint sources of water pollution?
6. What is leaching ratio?
7. Define Water Quality
8. Define reverse osmosis
9. What is acid rain?
10. What is vegetative growth?

Part – B (5 x 16 = 80 marks)

11. Explain NPS pollutants generation in an agricultural water shed. Discuss the important watershed processes necessary to estimate the NPS pollution load
12. a) i Discuss essential steps necessary to design a water quality investigation?
ii Write notes on non statistical sampling designs in environmental investigations
OR
b) i Explain any one hydro chemical chart for water quality data interpretation and discuss with reference to a groundwater quality study
13. a) i What is salinity problem in irrigation water? How can we overcome the problem of soil salinity?
OR
b) i What is permeability problem in irrigation water? Explain how you will use cultural methods and amendments to overcome this problem.
14. a) i Explain changes in water quality that takes place in atmosphere during precipitation and surface water run off ?
OR
b) i Discuss the general guidelines for evaluation of water quality for irrigation
ii. A factory is discharging its effluents upstream in a river at unknown periodic intervals. If downstream weekly average water quality is desired, which sampling design would be appropriate and why?

15. a) i Why we should consider waste water for irrigation purposes? Discuss its advantages and limitations when used in irrigated agriculture.

OR

b) i What is sustainability ? How can we achieve it in the case of water resources management?