

Total No. of Questions : 12]

SEAT No. :

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[4859]-21

B.E. (Civil)

INTEGRATED WATER RESOURCES & PLANNING

(2008 Pattern) (Elective-IV) (Semester-II)(401008)

Time : 3 Hours]

[Max. Marks :100

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw neat and labeled diagrams wherever necessary.*

SECTION-I

Q1) a) Write a short note on scope for privatization in the field of water resources. **[4]**

b) What is national water policy? Explain the recent norms of National water policy at state level. **[6]**

c) Enlist the different water infrastructure problems and their perspective. **[8]**

OR

Q2) a) What are riparian rights? Explain any two **[6]**

b) Explain the significance of prior appropriation. **[4]**

c) Discuss the different principals of planning and financing of water resource project. **[8]**

Q3) a) The runoff of stream in the month of October has mean and standard deviation of 165 and 200 cumec - months respectively. Assuming that lognormal distribution is a good fit. Find the probability that October runoff in the stream in any year exceeds 185 cumec months. What is the probability that the October runoff would fall in the range 100 to 250 cumec months? **[8]**

b) Define mean, mode, median, standard deviation and coefficient of a distribution. **[8]**

OR

P.T.O.

- Q4)** a) Write short note on [8]
- i) Application of ANN in flood prediction/rainfall-runoff prediction.
 - ii) Use of Fuzzy Logic in water resources planning & management.
- b) Define mean, mode, median, standard deviation and coefficient of a distribution. [8]

- Q5)** a) State general methods of flood forecasting used in India. [8]
- b) Distinguish between the mitigation plans of flood management and drought management. [8]

OR

- Q6)** a) Explain the use of geoinformatics in drought management. [8]
- b) What are different types of Drought? Explain severity index of drought with suitable examples in India. [8]

SECTION-II

- Q7)** a) State the different water requirements for environmental management and explain any three of them in detail. [9]
- b) What is water quality management? Discuss various issues related to water quality management. [9]

OR

- Q8)** a) What is the role of an Civil Engineer in protection of vital ecosystem.[9]
- b) Write a short note on Aquaculture. [9]

- Q9)** a) Correlate direct and indirect benefits of water resource development to employment generation. [8]
- b) Explain 'Co- operative movement in the water resource development' with the help of case study. [8]

OR

- Q10)a)** Write a note on control of water logging and its different types. [8]
b) Explain how the social impact of water resource development is related to agro-industry. [8]

- Q11)a)** What is Decision Support system for Integrated Water Resource Planning and Management? Explain with suitable example. [10]
b) Explain the concept of perspective plan for basin development and management. [6]

OR

- Q12)a)** Write short note on [8]
i) Application of ANN in flood prediction/rainfall-runoff prediction.
ii) Use of Fuzzy Logic in water resources planning and management.
b) State and define four statistical parameters used in statistical methods.[8]

