

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

December, 2010

ET-534(C) : WATER RESOURCES PLANNING

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions. Give sketches/examples in support of your answers. Use of calculator is permitted.

1. (a) Discuss the characteristic features of plains on west and east coasts of India 3
- (b) Explain the evolution of the landscape of a desert region. 4
- (c) Discuss briefly the features of the continental shelf of Indian seas. 3
2. (a) What do you understand by land use classification ? 3
- (b) Describe briefly the Conventional and Remote Sensing Techniques for identification of various land use categories. 7
3. (a) Explain the hydraulic budget equation for saturated portion of a ground water basin. 4
- (b) Explain the saline water intrusion and describe briefly various methods for its control. 6

4. (a) How does cropping pattern affect utilization of irrigation potential ? 4
- (b) Define major, medium and minor irrigation projects. Briefly explain the need for inter-basin water transfer schemes. 6
5. (a) Explain the following: 6
- (i) Design period for a water supply scheme
- (ii) Future population
- (iii) Population explosion.
- (b) Briefly describe factors affecting population distribution. 4
6. (a) What are the advantages of practising rotation of crops ? 3
- (b) List important factors influencing cropping patterns. 4
- (c) List the methods for surface irrigation. 3
7. (a) Explain the following: 6
- (i) Coagulation
- (ii) sand filters
- (iii) reverse osmosis
- (b) Explain the most common method used for disinfecting public water supply. 4

8. (a) State various elements of integrated water resources management. 5
- (b) Briefly describe the uncertainties associated with the design of reservoirs and canals for an irrigation command area. 5
9. Differentiate between induction and in-service training. State atleast five advantages of training senior officials ? What are the steps needed in identifying training needs of personnel in an organization 10
10. Explain the following:
- (a) Classification of reservoirs 4
- (b) Reservoir losses 3
- (c) Site selection criteria for a reservoir. 3
-