No. of Printed Pages : 3

ET-534(C)

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

00029

June, 2014

ET-534(C) : WATER RESOURCES PLANNING

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any* ***five*** *questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. (a) Explain rotation of crops. What are its advantages ? 7

(b) What is the importance of forecasting water demand and how does it help in water resources planning ? 7

2. (a) Discuss briefly the method of collecting samples of water from different sources for its physical and chemical examination. 7

(b) Explain the difference between plains and plateaus. Also discuss the characteristics of plains of west and east coasts of India. 7

3. (a) What do you understand by land use pattern ? Describe its importance and application. Name the land use categories adopted in India. 7

(b) Explain the artificial ground water recharge. Discuss any two methods in detail. 7

4. (a) What is sedimentation ? How will you estimate the life of a reservoir ? Explain the term trap efficiency. 7

(b) Explain optimum population, population density and population growth rate. 7

5. (a) Explain any ***two*** of the following : $2 \times 3\frac{1}{2} = 7$

(i) Delta and duty

(ii) Crop water requirement

(iii) Crop water use efficiency

(b) Enumerate the information that can be obtained by remote sensing, and also state the advantages of aerial photogrammetry. 7

6. (a) Describe briefly the various constituents of a coagulation-sedimentation plant. 7

(b) Explain the following : $2 \times 3\frac{1}{2} = 7$

(i) Break point chlorination

(ii) Super chlorination

7. What is meant by disinfection in treating public water supply ? What is its importance ? What are the chemicals which are used as disinfectants and what are their merits and demerits ? *14*

8. (a) What are the common impurities found in natural sources of water ? Explain their effects upon its quality. *7*

   (b) Explain briefly flocculation and filtration operations employed for removal of particulate matter from water. *7*
