



**B.E/B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATION, APRIL/MAY 2011**  
**AGRICULTURAL AND IRRIGATION ENGINEERING**  
**SIXTH SEMESTER**  
**CE521 INTEGRATED WATER RESOURCES MANAGEMENT**  
**(REGULATION 2004)**

**Time: 3 hours**

**Max. Marks: 100**

**Answer ALL questions**

**Part – A (10 x 2 = 20 Marks)**

1. Why was Integrated Water Resources Management developed?
2. What is meant by Food Security?
3. State the purpose of Morphometric analysis.
4. When are river training measures preferred?
5. How does the change in the watershed regime affect the agriculture yield?
6. List the water quality standards for irrigation requirements.
7. Why is water termed as an economic good?
8. State the effectiveness of water pricing.
9. What is meant by Eco-restoration?
10. What is the role of NGO in Public Private Participation?

**Part - B (5 x 16 = 80 Marks)**

11. (i) Sketch the Integrated Water Resources Management triangle and bring out clearly the role of social and economic dimension on the environment. (8)  
 (ii) Compare the Dublin Principle with the concepts of Integrated Water Resources Management. (8)
- 12.a Describe clearly the various Morphometric parameters that have been developed to quantify the drainage basin network. (16)  
 (OR)  
 b Discuss the cause, effects and classification of reservoir sedimentation. State the procedure for estimation of the life of reservoir. (16)
- 13.a Enumerate the effects of construction of a reservoir on the natural regime of a watershed taking into account the changes in the runoff, storages, sedimentation, landuse and yield. (16)  
 (OR)  
 b Evaluate the effects of Changes in the hill slope of a watershed on the runoff and erosion pattern of its natural regime. Which type of integrated landuse and farm management practices can be adopted to control the erosion from hill slopes? (16)
- 14.a Discuss the role of economics in assessing the scarcity of resources and also on the allocation of these resources. Deduce the concepts of water pricing for sustainability of these resources. (16)  
 (OR)  
 b Explain the role of water balance in the sustenance of the components of hydrological cycle. Highlight the role of water audit in balancing the demand-supply scenario. (16)
- 15.a Describe the ecological functions of wetlands and estuary. How does this get affected due to urbanizations? State the different methods of eco-restoration techniques that can be adopted to reduce the effects of urbanization on its ecological functions. (16)  
 (OR)  
 b Evolve the concepts, formulate the objectives of Public Private Participation. Identify the roles to be played by the government, industrialists, Rotarians, NGO's and different stakeholders in effective use and sustainability of water resources. (16)