

Module 1:

1. Identify common water management issues that are found in many parts of the world?
2. Identify and discuss briefly some of the major issues and challenges facing water managers today.
3. List the tools available for integrated water resources planning and management?
4. Consider two alternative water resource projects, A and B. Project A will cost 2,500,000 and will return 1,000,000 at the end of 5 years and 4,000,000 at the end of 10 years. Project B will cost 4,000,000 and will return 2,000,000 at the end of 5 and 15 years, and another 3,000,000 at the end of 10 years. Project A has a life of 10 years, and B has a life of 15 years. Assuming an interest rate of 0.1 (10%) per year:
 - (a) What is the present value of each project?
 - (b) What is each project's annual net benefit?
 - (c) Would the preferred project differ if the interest rates were 0.05?
 - (d) Assuming that each of these projects would be replaced with a similar project having the same time stream of costs and returns, show that by extending each series of projects to a common terminal year (e.g., 30 years), the annual net benefits of each series of projects would be will be same as found in part (b).
5. Identify and discuss briefly some of the major issues and challenges facing water managers today.