

**GUJARAT TECHNOLOGICAL UNIVERSITY****ME - SEMESTER- II(New course) • EXAMINATION (Remedial) – WINTER- 2015****Subject Code :2723303****Date: 10/12/ 2015****Subject Name: Water Resources Planning****Time: 02:30 PM To 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define Multipurpose project and discuss its advantages. **07**  
 (b) Write short notes on : **07**  
       (1) Reservoir operations for the optimum benefits  
       (2) Analytical method for determining storage capacity

- Q.2** (a) Explain the role of cost index in benefit cost analysis. Support your answer with suitable example. **07**  
 (b) Discuss the interstate and international problems with regard to water resource planning and management. **07**

**OR**

- (b) What does mean of general reservoir operation schedule. Explain with suitable example. **07**
- Q.3** (a) How do you see the role of performance review of existing water resources project for improving the performance of project? Support your answer with suitable example. **07**  
 (b) Write short notes on : **07**  
       (1) Importance of rule level (2) Capital Recovery and Capital Recovery Factor

**OR**

- Q.3** (a) Write short notes on : **07**  
       (1) Social impact of water resources project (2) Reservoir losses  
 (b) Explain the Integrated Water Resource Management in India and enlist the associated advantages of the same. **07**
- Q.4** (a) Discuss the significance and implementation of cash flow diagrams for water resources project. **07**  
 (b) Explain various risks and uncertainty conditions in water resource planning. Also suggest the probable considerations to diminish the effects due to such risks. **07**

**OR**

- Q.4** (a) Discuss and review the water law and policy of India with regard to : **07**  
       (1) National and state water policies (2) River Linking Projects  
 (b) Discuss the discounting techniques of (1) The rate of return method. (2) The annual cost method. **07**
- Q.5** (a) Draw neat and proportionate sketches of following curves and give their utility for a river valley project: **07**  
       (1) Cost v/s benefit (2) Cost v/s benefit cost ratio.  
 (b) Discuss the following : **07**  
       (1) Economic planning by project purpose (2) Feasibility studies of projects

**OR**

- Q.5** (a) Describe the Environmental and Economical impacts of water resources projects **07**  
 (b) Enlist and explain various stages of projects with their significance. **07**

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