

No. of Printed Pages : 03

Roll No. ....

**CC-604**

**M. Tech. EXAMINATION, Dec. 2017**

(Third Semester)

(Main & Re-appear)

(ESEM/RE)

ESEM-304-B

**WATER RESOURCE MANAGEMENT**

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-61/5) M-CC-604

**P.T.O.**

### **Unit I**

1. (a) Define the term “water crisis”. Mention the global distribution of water resources along with consumption of water resources ? **10**  
(b) What are different practices used for ground water management ? **5**
2. (a) Explain in detail the sources of surface and groundwater, along with the threats to ground and surface water ? **10**  
(b) Justify the statement “the third world war will be for water”“ ? **5**

### **Unit II**

3. Write short notes on the following : **3×5**
  - (a) Catchment infiltration
  - (b) Roles of dams
  - (c) Management of degraded groundwater management.

4. Define the concept of rainwater harvesting. Also give the different components and harvesting practices used for rainwater harvesting. **15**

### **Unit III**

5. Explain the different processes used under the “Advanced treatment” of waste water. **15**
6. (a) Mention the different chemical and biological properties of sewage ? **8**  
(b) Discuss the filtration and coagulation process used for primary treatment. **7**

### **Unit IV**

7. Explain the sludge treatment and disposal process. **15**
8. (a) How people participation and man awareness are helpful in the water resource management ? **8**  
(b) Explain with chemical reactions the process of desalination and ion exchange used for water treatment. **7**