ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END-SEMESTER EXAMINATION : JANUARY 2021** (Academic Session: 2020 – 21)		
Name of the Program:	**B. Tech.**	**Semester:**	**VII**
Paper Title :	**Environmental Engineering-I**	**Paper Code:**	**ECE44101**
Maximum Marks :	**40**	**Time duration:**	**3 hrs**
Total No of questions:	**10**	**Total No of Pages:**	**02**
(Any other information for the student may be mentioned here)	1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code and Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer.		

Answer all the Groups

GROUP– A

Answer all the questions of the following **5 x 1= 5**

1. a) What is the purpose of aeration in WTP?
   b) Define Aquifers.
   c) What are the requirements of Distribution System?
   d) Give physical and chemical standards for a domestic water supply.
   e) State the significance of break point chlorination

GROUP– B

Answer ***any Three*** of the following **3 x 5 = 15**

2. a) What are the components of water supply system? 2 + 3 = 5
   b) Indicate a complete layout of water supply system?

3. Write the percentage of the greenhouse gases. How does it relate to global warming. 5

4. Write a short note on automobile pollution mentioning the chief pollutants in auto-exhaust and the methods of control. 5

5. What is per capita demand? Discuss the factors affecting per capita demand? Calculate the maximum demand of a town in cumnes for Population= 2 lakh, Per capita Water demand – 200 lpcd. 1 + 2 + 3 = 5

6. Write short notes on **any two** of the following: 2½ + 2½ =5
   a) Acid rain
   b) Ozone depletion
   c) Global convection currents
   d) Coriolis effect

GROUP– C

Answer ***any Two*** of the following **2 x 10 = 20**

7. Discuss briefly the various methods which adopted collectively for treating public water supplies drawn from a river? Show a layout of treatment units. 10

8. a) Suggest suitable methods of predicting demand of water for planning water supply schemes.
   b) The population figures of a town during the last four consecutive decades (from 1980 to 2010) are-**20,000; 24500; 29500, 32,200** respectively. Predict the population in the next decade using incremental increase method. Calculate the total water requirement of a town in 2020, if population meets its water demand at the rate of 200 lpcd.
   4 + 6 = 10

9. a) Write the major six types of primary pollutants according to EPA.
   b) What do you mean by $P_{2.5}$?
   c) What is the full form of CFC?
   d) Describe schematically how ozone layer is depleted by the influence of CFC.
   3+1+1+5 = 10

10. a) State the purpose of aeration.
    b) What is the method adopted for removing organic matter from water?
    c) What are the components of water supply system?
    d) How the soil may be polluted due to urbanization effect? Explain
    3 + 2 + 2 + 3 = 10

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