

**GANPAT UNIVERSITY****B. Tech. Semester: VII (Civil) Engineering****Regular Examination Nov-Dec 2016****2CI-710 ENVIRONMENTAL POLLUTION & CONTROL - I****Time: 3 Hours****Total Marks: 70**

- Instruction:** 1. This Question paper has two sections. Attempt each section in separate answer book.  
 2. Figures on right indicate marks.  
 3. Be precise and to the point in answering the descriptive questions.  
 4. Assume Suitable Data where ever required.

**Section - I**

Que. – 1 (A) Explain in details, significance of physical, chemical and biological parameters of waste water. 07

Que. – 1 (B) For a solid content, if the quantity of sludge with a solid content of 1% is x, then what will be the quantity of sludge with solid content 5%? 05

**OR**

Que. – 1 (A) Describe MPN test in details. 06

Que. – 1 (B) Write the typical range of concentration values for tannery and textile industrial effluent, considering the following parameters: pH, BOD, COD, Suspend solids, TDS and Oil & Grease. 06

Que. – 2 (A) A tank is treating 3.8 MLD of Industrial effluent containing 300 ppm of suspended solids. The tank removes 60% of suspended solids. Calculate:- 06

a) Weight of sludge produced per day assuming the moisture content of sludge as 97%.

b) If the Sp. Gravity of sludge is 1.05. Calculate the sludge quantity in bulk.

Que. – 2 (B) Explain Volkswagen fraud (September, 2015) in details. 05

**OR**

Que. – 2 (A) Describe with neat sketch, working of Rotating biological Contractor (RBC). 06

Que. – 2 (B) Explain the microbiology of milk. 05

Que. – 3 Explain in details:(Any three) 12

1. Demineralization process

2. Alum as a coagulant

3. Activated Carbon

4. Nitrification in secondary treatment



Section – II

- Que. – 4 (A) Define the following Terms: 06  
Molarity, Normality, Molal Solution, Molar Solution, Normal Solution, Mole.  
(B) Explain necessity of Environmental Chemistry in Environment Engineering? 06

OR

- Que. – 4 (A) What do you mean by Redox Process? Explain it With Suitable Example in detail. 06  
(B) Explain Le-chattlier Principal in detail. 06

- Que. – 5 (A) Balance the Following Equation 06  
1.  $C_5H_{12} + O_2 \rightarrow CO_2 + H_2O$   
2.  $Al + H_2SO_4 \rightarrow Al_2(SO_4)_3 + 3H_2$   
3.  $C_{22}H_{46} + O_2 \rightarrow CO_2 + H_2O$

- (B) Find out the equivalent Weight of Following. 05  
NaCl , KCl ,  $MgSO_4$  ,  $NaSO_4$  ,  $CaCO_3$  ,  $NaN_3$ ,  $K_2CrO_4$ ,  $CaCl_2$ ,  
 $Ca(OH)_2$ ,  $MnSO_4$ .

OR

- Que. – 5 (A) What do you mean by Chemical Bond? Explain Different types of chemical bond with suitable Example. 06  
(B) What do you mean by Ionization? Explain theory of Ionization 05

- Que. – 6 Attempt the Following.  
(A) Write a short note on Flame Photo-meter (Draw a Sketch/flow diagram). 06  
(B) What is Turbidity? Enlist Different Turbidity Unit, and also Explain working Principal of Turbidity meter. 06

END OF PAPER