

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 171301

Date: 25-11-2014

Subject Name: Advance Waste Water Treatment Technology

Time: 10:30 am - 01:00 pm

Total Marks: 70

Instructions:

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

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|------------|---|-----------|
| Q-1 | (a) Enlist & Explain the Detail membrane bioreactor Configuration. | 07 |
| | (b) What is Adsorption? What are the Factors on Which Adsorption depends? | 07 |
| Q-2 | (a) Enlist & Explain under which Circumstances, Advanced Waste Water treatment becomes necessary. | 07 |
| | (b) Write a short note on advanced oxidation process. | 07 |
| | OR | |
| | (b) Write a short note on Gravity Thickener. | 07 |
| Q-3 | (a) Write a short note on Ion Exchange Resins. | 07 |
| | (b) Highlight the importance of Adsorption Isotherms stating Their Applications. | 07 |
| | OR | |
| Q-3 | (a) With the help of neat Sketch Explain the concept of “RO” & Electro Dialysis. | 07 |
| | (b) Enlist the Advantages & Disadvantages of “Ultra filtration” & “Microfiltration”. | 07 |
| Q-4 | (a) With the help of neat sketch Explain the Construction & working of any one Sludge Dewatering Equipment. | 07 |
| | (b) Differentiate Between | 07 |
| | (1) Maintenance Cleaning & Recovery Cleaning | |
| | (2) External MBR & Immersed MBR | |
| | OR | |
| Q-4 | (a) Write a short note on Wet lands. | 07 |
| | (b) Explain the mechanism involved in the softening of Non carbonate hardness of magnesium. | 07 |
| Q-5 | (a) Enlist the Different Processes for biological nitrogen removal & Explain any one | 07 |
| | (b) Discuss at least seven membrane process Terminology. | 07 |
| | OR | |
| Q-5 | (a) Explain the Chemical Precipitation methods for Phosphorus method | 07 |
| | (b) With the help of neat sketch Explain the Process of Resin regeneration. | 07 |
