

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2173513****Date: 30/11/2019****Subject Name: Newer waste water treatment systems****Time: 10:30 AM TO 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.

MARKS

- Q.1** (a) Define sewer, invert and putrescible decay. **03**
(b) Explain mechanism of Disinfection. **04**
(c) Explain Ozone/UV process for generation of Hydroxyl Radical. **07**
- Q.2** (a) Explain primary treatment with a flow diagram. **03**
(b) What are the characteristics of ideal disinfectant? **04**
(c) What are the typical applications of membrane technologies in wastewater treatment? **07**
- OR**
- Q.3** (c) Explain in detail Membrane Filtration. **07**
(a) Give Difference between unit operation and unit process. **03**
(b) Explain Manhole. **04**
(c) Explain in detail adsorption process for wastewater treatment. **07**
- OR**
- Q.3** (a) Describe working principle of Fenton Process. **03**
(b) Explain application of Ion exchange for Heavy Metals Removal. **04**
(c) Explain four steps of Anaerobic Process with a neat sketch. **07**
- Q.4** (a) Enlist phosphorous removal techniques from wastewater. **03**
(b) Explain Lamphole. **04**
(c) Explain in detail Rapid Sand Filter. **07**
- OR**
- Q.4** (a) Explain Application of Ion Exchange for Nitrogen Control. **03**
(b) Describe Aerated Grit Chamber. **04**
(c) Explain sources of water in detail. **07**
- Q.5** (a) What is the difference between Advanced Wastewater Treatment and Tertiary Treatment? **03**
(b) Describe Residual Management. **04**
(c) Explain in detail Slow Sand Filter. **07**
- OR**
- Q.5** (a) Describe Mechanical Agitation Method of Equalization. **03**
(b) Describe two types of flocculation. **04**
(c) Explain Dissolved Air Floatation. **07**
