

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00323

December, 2017

**BICEE-024 : ADVANCED ENVIRONMENTAL
ENGINEERING**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks. Assume suitable data, if missing.

1. (a) What are the various zones of pollution of a natural stream ? Explain in detail. 8
- (b) What are the effects of river pollution ? 6
2. (a) How can colour be removed from water ? Explain in detail. 6
- (b) Describe dual media and multimedia filters with relevant sketches. 8
3. (a) Describe how chlorine dioxide disinfects the water. 6
- (b) Write a detailed note on modern methods of disinfection. 8
4. (a) How does an extended aeration system work ? Explain in detail. 6
- (b) What do you understand by tertiary treatment of wastewater ? Why is it necessary ? 8

5. (a) What are the harmful effects of nitrogen oxides ? How can such pollutants be controlled ? 7
- (b) What are the harmful effects of carbon monoxide pollution ? How can such pollution be controlled ? 7
6. (a) What are the adverse effects of noise pollution ? 5
- (b) Describe, in detail, the various methods that can be used for control of noise pollution. 9
7. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Streeter-Phelps Equation
- (b) Catalytic Converter
- (c) Electrostatic Precipitator
- (d) Residual-Free Chlorine
- (e) Threshold of Audibility
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