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BICEE-024

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00793

June, 2018

BICEE-024 : ADVANCED ENVIRONMENTAL ENGINEERING

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **five** questions. All questions carry equal marks. Assume suitable data, if missing. Use of scientific calculator is allowed.*

1. (a) Explain the operation of a tube settler with a neat sketch. 7

(b) Describe the methods used for removal of odours from wastewater. 7

2. (a) How is disinfection of wastewater carried out with chlorine as the disinfectant ? Why is this disinfection step necessary ? 7

(b) What is DO sag curve ? Explain the same with an example. 7

3. (a) What are the various factors associated with self-purification of natural water ? 7

(b) Explain the Streeter-Phelps relation for estimating the DO in a receiving body. 7

4. Describe the various tertiary methods used for wastewater treatment. *14*

5. (a) Explain the operation and principle behind a biofiltration unit used in wastewater treatment. *7*

   (b) How is sulphur dioxide contamination of ambient air controlled ? *7*

6. (a) Illustrate the working of a sound level meter with a neat sketch. *7*

   (b) What are the various harmful effects of nitrogen oxides and hydrocarbons present in ambient air ? *7*

7. (a) Describe the functioning and significant features of a dual filter. *7*

   (b) The 5-day 30°C BOD of a sewage sample is 110 mg/L. Calculate its 5-day 20°C BOD. Assume deoxygenation constant at 20°C, k_{20} as 0·1/day. *7*