

## MODEL QUESTION PAPER

### Eighth Semester B.Tech. Degree Examination, May 2017 13.803 ENVIRONMENTAL POLLUTION, MONITORING AND CONTROL (B)

**Time: 3 hours**

**Max. Marks: 100**

#### PART A

Answer **all** questions. Each question carries **2** marks

1. Explain the significance of nitrification and denitrification reactions associated with waste water treatment?
2. Enumerate the various tests for the parameters associated with water pollution.
3. Write a note on aerobic oxidation.
4. Write a note on atmospheric stability.
5. Briefly explain the control aspects of noise pollutants.
6. Write a note on lapse rate, temperature lapse rate and adiabatic lapse rate.
7. Write a note on subsidence inversion and double inversion in relation to atmospheric stability.
8. Write a note on Phytoremediation.
9. Explain the Bioremediation of petroleum sludge using bacterial consortium.
10. Explain a Bioremediation technology to remove radionuclides.

#### PART B

Answer **one full** question from **each** Module. Each question carries **20** marks

#### MODULE I

11. a) Write in detail about Reverse osmosis and Electro dialysis based waste water treatment. **(10 Marks)**  
b) Briefly discuss the preliminary and primary methods of treating water in municipal water treatment. **(10 Marks)**

**Or**

12. a) Explain in detail the disinfection of water and coagulation process involved in wastewater treatment? **(10 Marks)**  
b) Write in detail about concept of Common ETP, major units in ETP and their functions in waste water treatment. **(10 Marks)**

## MODULE II

13. a) Briefly explain the working of an electrostatic precipitator with suitable figure. **(10 marks)**
- b) What is power and intensity in noise pollution? Explain in detail the outdoor noise propagation and indoor noise propagation in relation with noise pollution and control **(10 marks)**

**Or**

14. a) Briefly discuss the use of catalytic converters in vehicular pollution control. Explain the principle, design and working of catalytic converters? **(10 marks)**
- b) Describe in detail about the various control methods of gaseous pollutants for controlling oxides of sulphur, nitrogen and carbon. **(10 marks)**

## MODULE III

15. a) Describe with relevant figures, the principle, operation and design aspects of cyclone separator and wet scrubber used in particulate matter control. **(10 marks)**
- b) Explain in detail the outdoor noise propagation and indoor noise propagation in relation with noise pollution and control? **(10 Marks)**

**Or**

16. a) Write a note on subsidence inversion and double inversion in relation to atmospheric stability. **(10 Marks)**
- b) Explain in detail about the primary and secondary air pollutants with examples. **(10 Marks)**

## MODULE IV

17. a) Write a detailed note on atmospheric stability. **(10 Marks)**
- b) What are the advantages and disadvantages of biodegradation? Write a note on aerobic oxidation. **(10 Marks)**

**Or**

18. a) Discuss in detailed about biooxidation and kinetic mechanism. **(10 Marks)**
- b) Describe in detail the extraction of metals from ores using microbes. **(10 Marks)**