MB225

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VIT
Vellore Institute of Technology

Winter Semester 2019-20 **Continuous Assessment Test – II**

Program Name & Branch: B Tech Civil Engineering

Course Name & Code: Pollution Control & Monitoring & CLE 2019

Class Number: 6024 **Slot: B2** **Exam Duration: 90 mins** **Maximum Marks: 50**

Faculty Name: Bhaskar Das **Exam Mode: Closed book**

General instruction(s): NA

Section – A (5 x 10 = 50 Marks)

1. (a) Identify two primary pollutants in photochemical smog and explain the formation of secondary pollutant. [5]

   (b) List the main greenhouse gases and their sources and discuss their relative effects. [5]

2. What is the best technology for removal of particulate matter from air? Give your justification with sketch and operating procedure.

3. Explain the working principle of Falling Film Evaporator with neat sketch.

4. (a) How the decentralized water treatment can be integrated into a flexible wastewater system? [5]

   (b) Why there is no dilution benefit in the decentralized wastewater treatment compared with the centralized system? [5]

5. (a) Find the migration velocity for an existing electrostatic precipitator, which the collection plate area is 110 m^2, gas flow rate is 2.5 m^3/s, and collection efficiency is 99.5%. [5]

   (b) Estimate the wind speed at an elevation of 400 m in rough terrain, if the atmosphere is slightly unstable. Assume an anemometer at a height of 10 m above ground measures the wind speed at 2.5 m/s. [5]