



## Department of Civil Engineering

Academic Year 2022– 2023 (Odd Semester)

Degree, Semester & Branch: V semester B.E Civil Engineering

Course Code & Title: OCE551 & Air Pollution and Control Engineering

Name of the Faculty member (s): Mr.V.Ragavan

### Innovative Practice Description

Unit / Topic: Unit III / Control of Particulate Contaminants

- Course Outcome: CO3
- Topic Learning Outcome: TLO7
- Activity Chosen: One Minute Paper
- Justification:

Choice of Equipment is a topic that involves the factors influencing while selecting the particulate air pollutant control equipment. After completed topics, I want to assess the understanding level of the students that's why I have chosen one minute paper for the above topic.

- Time Allotted for the Activity: 3 minutes
- Details of the Implementation:

- The one minute paper is a very commonly used classroom assessment technique. It really does take about a minute and, while usually used at the end of class, it can be used at the end of any topic discussion.
- I asked all students to take a piece of paper and made them to write answers for the questions within one minute.

- CO – PO / PSO mapping:

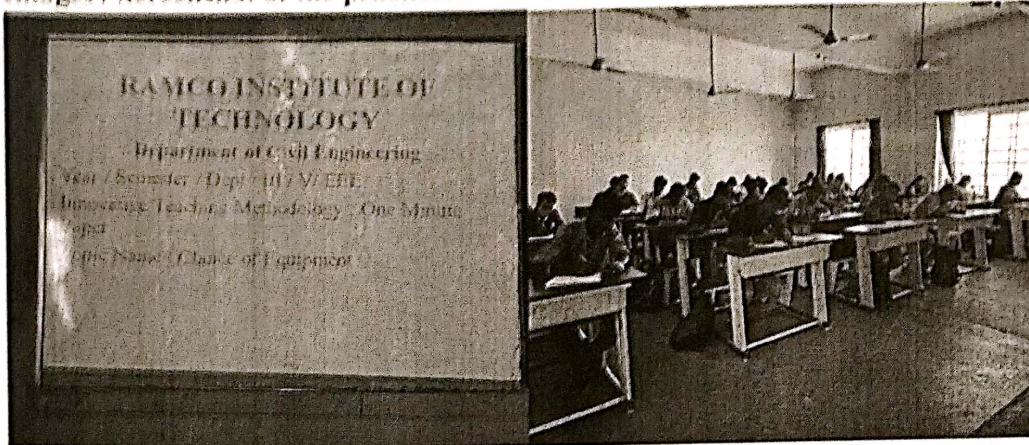
CO	PO3	PO6	PO7
CO3	2	1	2

(1 – Low      2 – Moderate      3 – High)

- PO / PSO mapped:

Innovative practice	PO3	PO6	PO7
<b>Justification for correlation</b>	Design and illustrate the working principle of particulate control devices. Also ability to find solution for air pollution problems related to particulate matter.	Students can apply the knowledge to assess the rate of pollutant through pollutant control devices.	Students can be able to develop the sustainability of environmental based on the rate of air pollutant in atmosphere.

• Images / Screenshot of the practice:



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Innovative Teaching Method: One minute paper

Unit - II Control of particulate matter.

Choice of equipment:

- 1) Particulate size
- 2) Particulate loading
- 3) Efficiency Required.
- 4) Requirements of carrier gas & concentration.

→ Composition → Humidity  
 → Temperature → combustibility  
 → Pressure → Reactivity  
 → Velocity → chemical property.  
 → Turbidity

→ flow characteristics of air carrier gas: mass rate, variations in air flow rate.

- 1) Allowable pressure drop
- 2) concentrate disposal.
- 3) Capital and operating cost of equipment.
- 4) Easy of maintenance and availability.

❖ Reflective Critique:

❖ Feedback of practice from students and other stakeholders:

The students felt easy to remember and recollect the concepts involved in the given topic which will make them to attend the questions under this topic in Internal Assessment Test.

❖ Benefit of the practice: (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)

- i. One minute paper activities are an effective way of involving all students in class simultaneously.
- ii. It prompts students to reflect on the day's lesson and provides the instructor with useful feedback.

❖ Challenges faced in implementation:

Initially, I have planned the activity for 3 minute but students have taken 5 minutes to write the answers.

References:

- ❖ M.N. Rao and HVN Rao, "Air Pollution", Tata MCgraw Hill Publishing Company limited 2007.
- ❖ C.S.Rao, "Environmental Pollution Control Engineering", New Age International (P) Limited Publishers, 2006.

*V. Pur*  
 Signature of Faculty Member

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