CBCS SCHEME

USN | | | | | | | | | | |

15CV551

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022
Air Pollution and Control

Time: 3 hrs. Max. Marks: 80

Note : 1. ***Answer any FIVE full questions, choosing ONE full question from each module.***
2. ***Draw neat labeled sketches wherever necessary.***
3. ***Assume suitable data wherever necessary.***

Module-1

1 a. Compare salient features of Coal Induced and Photochemical Smog with the help of a Table. Write equations as necessitated. **(10 Marks)**

b. What is Inversion? Explain its different types. **(06 Marks)**

OR

2 a. Bring out the classification of Air Pollutants with examples for each. **(08 Marks)**

b. Highlight the impact of Air Pollution on Plants. **(08 Marks)**

Module-2

3 a. Describe Plume behavior for different atmospheric conditions with sketches. **(12 Marks)**

b. Determine Effective Stack height for a stack which has a physical height of 203m and internal diameter of 1.07m. Consider the following attributes for your computations and use Hollands Formula.
Wind speed : 3.56 Mps ; Stack gas velocity : 9.14 MPs ; Air temperature : 13°C
Stack gas temperature : 149°C ; Barometric pressure : 1000 millibars. **(04 Marks)**

OR

4 a. With the help of a sketch, explain the concept of Lapse Rate of Atmospheric Stability. **(08 Marks)**

b. What is Maximum Mixing Depth? Explain with neat sketch its computation and also exhibit its applications. **(08 Marks)**

Module-3

5 a. Enlist the objectives of Stack Sampling Assessment. **(06 Marks)**

b. With the help of neat sketch, explain Construction and working of SAMPLING TRAIN. **(10 Marks)**

OR

6 a. With the help of neat sketch, explain sampling of suspended particulates by High Volume Sampler. **(10 Marks)**

b. Enlist Preliminary consideration of Air Sampling. **(06 Marks)**

Module-4

7 a. With a neat sketch, explain Construction and Working of a Cyclone Separator. **(08 Marks)**

b. With a neat sketch, explain Construction and Working of a Gravity Settler. **(08 Marks)**

OR

8 Explain in detail "Estimation of Smoke density: by using Ringelmann chart. Support your answer with schematics and solved example. **(16 Marks)**

Module-5

9 a. Elucidate salient features of Air Quality Act, 1981. **(10 Marks)**
b. Tabulate National Ambient Air Quality Standards. **(06 Marks)**

OR

10 a. What is Air Quality Indexing? How is it computed? Explain its significance. **(10 Marks)**
b. Distinguish between Montreal and Kyoto Protocol. **(06 Marks)**

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