**18CE101**

**Hall Ticket Number:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **IV/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **December, 2021** | **Institutional Elective** | | |
| **Seventh Semester** | **Air Pollution and Control** | | |
| **Time:** Three Hours | | **Maximum:** 50 Marks | |
| *Answer Question No.1 compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer ONE question from each unit.* | | | (4X10=40 Marks) |
|  | | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | a) | Is photochemical smog a secondary pollutant justify? | CO1 |  |
|  | b) | What are non-point sources of air pollution? | CO1 |  |
|  | c) | List the global effects of air pollution. | CO1 |  |
|  | d) | How is humidity measured in the atmosphere? | CO2 |  |
|  | e) | Outline the importance of wind rose? | CO2 |  |
|  | f) | Define lapse rates. | CO2 |  |
|  | g) | Which device controls particulate pollutants? | CO3 |  |
|  | h) | List out objectives to be considered using control equipment for air pollution. | CO3 |  |
|  | i) | What are the main features of Air Act, 1981? | CO4 |  |
|  | j) | What causes SOx emissions? | CO4 |  |
| **Unit -I** | | | | |
| 2. |  | Classify and list the various sources of air pollution with minimum of two examples of each. | CO1 | 10M |
| **(OR)** | | | | |
| 3. | a) | Define acid rain. Illustrate the effects of acid rain on humans. | CO1 | 5M |
|  | b) | Explain the causes and effects of greenhouse effect? | CO1 | 5M |
| **Unit –II** | | | | |
| 4. |  | Explain wind rose with a neat sketch? | CO2 | 10M |
| **(OR)** | | | | |
| 5. |  | Sketch the various plume phenomena and discuss a sketch in relation to dry adiabatic lapse rate. | CO2 | 10M |
| **Unit -III** | | | | |
| 6. | a) | Why usage of Electrostatic precipitators is limited? Give its advantages and disadvantages. | CO3 | 6M |
|  | b) | Explain with a neat sketch the construction of fabric filter and give its applications? | CO3 | 4M |
| **(OR)** | | | | |
| 7. |  | Explain the Gaussian dispersion model with assumptions and limitations? | CO3 | 10M |
| **Unit -IV** | | | | |
| 8. |  | FindDescribe the removal and control technologies for SOx. | CO4 | 10M |
| **(OR)** | | | | |
| 9. | a) | What do you mean by air quality management? Explain its role and importance in present situations. | CO4 | 6M |
|  | b) | Explain how do you control the emission of NOx using desulphurization? | CO4 | 4M |

****