**18CEI01**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **November, 2022** | **Institutional Elective (Common to all branches)** | | |
| **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) |
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| 1. | a) | | Define air pollution. | CO1 | L1 | 1M |
|  | b) | | Name any two natural air pollutants. | CO1 | L2 | 1M |
|  | c) | | Which gases are responsible for acid rain? | CO1 | L4 | 1M |
|  | d) | | What is Environmental lapse rate. | CO2 | L3 | 1M |
|  | e) | | Which instrument used for measuring wind speed? | CO2 | L1 | 1M |
|  | f) | | Name the instrument used to measure the humidity in atmosphere. | CO2 | L2 | 1M |
|  | g) | | What is effective height of stack? | CO3 | L2 | 1M |
|  | h) | | List out the various objectives of controlling devices? | CO3 | L4 | 1M |
|  | i) | | Write down minimum height of the stack as per board formulas? | CO4 | L3 | 1M |
|  | j) | | List out the SOx control methods. | CO4 | L2 | 1M |
|  | | **Unit -I** | | | | |
| 2. | a) | | What are the various sources of air pollution? | CO1 | L2 | 5M |
|  | b) | | Explain effects of air pollution on vegetation? | CO1 | L1 | 5M |
|  | | **(OR)** | | | | |
| 3. | a) | | Explain the natural and artificial types of pollutants? | CO1 | L3 | 5M |
|  | b) | | Briefly explain about global environmental problem of Greenhouse effect? | CO1 | L2 | 5M |
|  | | **Unit -II** | | | | |
| 4. | a) | | What is plume Rise? Mention various formulae for Plume Rise? | CO2 | L2 | 5M |
|  | b) | | What is atmospheric stability and explain various atmospheric conditions with temperature profile graphs? | CO2 | L2 | 5M |
|  | | **(OR)** | | | | |
| 5. | a) | | Explain in brief about the ‘wind rose’ with neat sketch. | CO2 | L3 | 5M |
|  | b) | | What are the meteorological parameters affecting the ambient air quality. | CO2 | L3 | 5M |
|  | | **Unit -III** | | | | |
| 6. | a) | | What are the various types of plume behaviors? Explain with neat diagram. | CO3 | L1 | 5M |
|  | b) | | Explain about centrifugal separators with the help of diagram? | CO3 | L3 | 5M |
|  | | **(OR)** | | | | |
| 7. | a) | | With a neat sketch, explain about Gravity Settling Chamber? | CO3 | L4 | 5M |
|  | b) | | Describe in brief about Gaussian Dispersion Equation? | CO3 | L2 | 5M |
|  | | **Unit -IV** | | | | |
| 8. | a) | | Find Explain the various controlling methods used to control gaseous pollutants. | CO4 | L1 | 10M |
|  | | **(OR)** | | | | |
| 9. | a) | | Explain in details about SOx control methods | CO4 | L2 | 10M |

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