14OE706/CE 01

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **Jan/Feb, 2021** | **Common to CSE,ECE, EEE,IT and ME** | | |
| **Seventh Semester** | **AIR POLLUTION & CONTROL** | | |
| **Time:** Three Hours | | **Maximum :** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X12 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| **Part - A** | | | |

**1.** Answer all questions (1X12=12 Marks)

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| a | Distinguish primary and secondary air pollutants. |
| b | Explain the greenhouse effect. |
| c | Describe aerosols. |
| d | List out the metrological parameters that influence air pollution. |
| e | Explain the principle used in separates. |
| f | What is necrosis? |
| g | Explain the working principle of scrubbers. |
| h | Define the efficiency of ESP? |
| i | What are the sources of NOx emissions? |
| j | What are the adverse effects of SOx? |
| k | List out the various solvents used for the removal of SOx. |
| l | Mention about the effect of CO on plants. |

**Part - B**

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| 2. | Write the classification of sources of air pollution. | 12M |

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| 3.a | Discuss in detail about effect of air pollution on human health. | 6M |
| 3.b | What is acid rain? Explain the causes of acid rains. | 6M |

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| 4.a | Briefly explain the types of inversions. | 6M |
| 4.b | Explain the influence of lapse rate and mixing height on air pollution. | 6M |

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| 5.a | Discuss the construction of wind rose diagrams. | 4M |
| 5.b | Explain the various types of plume behaviour with neat sketches. | 8M |

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| 6.a | Explain the Gaussian model for plume dispersion. | 4M |
| 6.b | Explain the formulae of plume rise. | 8M |

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| 7 | Describe the working of following particulate collection equipment with neat sketches. | |
| a | Settling chambers | 6M |
| b | Electrostatic separators | 6M |

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| 8. | List out the wet methods for the control of SOx and explain any two methods in detail­. | 12M |

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| 9. | Explain the methods used for the control of NOx | 12M | 6M |

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