

Reg No :

Name:

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND SEMESTER M.TECH DEGREE EXAMINATION, APRIL 2018
07 Thrissur Cluster
Civil Engineering
Environmental Engineering
07CE6104 Air Quality Management & Meteorology

Time: 3 hours

Max. Marks: 60

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1a	List out some air pollutants and indicate their sources	4
Answer b or c		
b	Explain the theory of formation of photochemical smog.	5
c	Write short notes on (1) aerosols (2) smog	5
Q.no.	Module 2	Marks
2a	Define a wind rose. Explain the importance of wind roses in the air pollution studies.	4
Answer b or c		
b	What is plume rise? Enumerate the factors which affect plume rise.	5
c	Sketch the possible shapes of smoke plumes for different combinations of wind velocity and adiabatic lapse rate	5
Q.no.	Module 3	Marks
3a	Write a detailed note on conventional methods of air sampling and analysis	4

Answer b or c

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| b | What are the methods for the collection of gaseous air pollutants? | 5 |
| c | Explain stack sampling. | 5 |

Q.no.	Module 4	Marks
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| 4a | What are the source correction methods to control air pollution? | 4 |
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Answer b or c

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| b | What do you mean by bag house? Explain with figure the fabric filter system | 5 |
| c | Explain Howard settling chamber. What are the advantages and disadvantages of settling chamber. | 5 |

Q.no.	Module 5	Marks
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| 5a | What are the factors affecting the selection of scrubbing medium. | 5 |
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Answer b or c

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| b | Explain the functioning of electrostatic precipitator. | 7 |
| c | Explain the functioning of impingement baffle plate scrubbers. What are the merits and demerits of wet scrubbers? | 7 |

Q.no.	Module 6	Marks
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| 6a | Explain wet scrubbing methods for the removal of SO ₂ from flue gases. | 5 |
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Answer b or c

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| b | Explain the methods for the control of exhaust emissions from automobiles. | 7 |
| c | Explain the methods used for the control of hydrocarbons. | 7 |