

Hall Ticket Number:

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IV/IV B.Tech (Regular\Supplementary) DEGREE EXAMINATION**November, 2019****Common to CHE, CSE, ECE, IT and ME****Seventh Semester****Air Pollution & Control****Time:** Three Hours**Maximum:** 60 Marks*Answer Question No.1 compulsorily.*

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

(1X12=12 Marks)

1. Answer all questions

- List the greenhouse gases.
- What are the natural sources of air pollution?
- Write the examples of secondary air pollutants.
- Explain the effect of moisture and relative humidity on pollutant dispersion.
- Define wind rose diagrams.
- Define particulate matter?
- Describe the adiabatic lapse rate.
- Explain the principle involved in settling chambers.
- List out the various source correction methods for air pollution
- Write the sources of SO_x emissions
- What are the adverse effects of NO_x ?
- What are the various solvents used to remove SO_x from air?

UNIT I

2. Explain the effects of air pollutants on the following: 12M
- Acid rains
 - Materials

(OR)

3. a) Discuss the classification of air pollutants 6M
 b) Explain stationary and mobile sources of air pollution. 6M

UNIT II

4. Discuss in detail about stack height and plume rise. 12M

(OR)

5. Explain the influence of meteorological parameters on air quality. 12M

UNIT III

6. a) Describe the various types of plume behavior 6M
 b) Discuss the limitations of Gaussian plume model 6M

(OR)

7. With neat sketches, discuss the working of following equipment. 12M
- Electrostatic precipitators
 - Cyclone separators

UNIT IV

8. Explain the following methods of control of SO_x emissions. 12M
- Wet method
 - Dry method.

(OR)

9. a) Discuss about the following: 12M
- Monitoring of sulfur oxides.
 - Monitoring of SPM



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IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION**November, 2019****Seventh Semester****Time:** Three Hours*Answer Question No.1 compulsorily.**Answer ONE question from each unit.***Mechanical Engineering****Air Pollution & Control****Maximum : 60 Marks**

(1X12 = 12 Marks)

(4X12=48 Marks)

1. Answer all questions

(1X12=12 Marks)

a	List the green house gases.
b	What are the natural sources of air pollution?
c	Write the examples of secondary air pollutants.
d	Explain the effect of moisture and relative humidity on pollutant dispersion.
e	Define wind rose diagrams.
f	Define particulate matter?
g	Describe the adiabatic lapse rate.
h	Explain the principle involved in settling chambers.
i	List out the various source correction methods for air pollution
j	Write the sources of SO_x emissions
k	What are the adverse effects of NO_x ?
l	What are the various solvents used to remove SO_x from air?

UNIT – I

2	Explain the effects of air pollutants on the following:	
a	Acid rains.	6M
b	Materials	6M

(OR)

3.a	Discuss the classification of air pollutants.	6M
3.b	Explain stationary and mobile sources of air pollution.	6M

UNIT – II

4	Discuss in detail about meteorology and plume dispersion.	12M
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(OR)

5	Explain the influence of meteorological phenomena on air quality..	12M
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UNIT – III

6.a	Describe the various types of plume behavior.	8M
6.b	Discuss the limitations of Gaussian plume model	4M

(OR)

7	With neat sketches, discuss the working of following equipments	
a	Electrostatic precipitators	6M
b	Cyclone separators	6M

UNIT – IV

8	Explain the following methods of control of SO_x emissions.	
a	Wet method	6M
b	Dry method.	6M

(OR)

9	Discuss about the following:	
a	Monitoring of sulfur oxides.	6M
b	Monitoring of SPM	6M