

**Hall Ticket Number:**

--	--	--	--	--	--	--	--	--

**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  $\text{SO}_x$  emissions
- What are the adverse effects of  $\text{NO}_x$ ?
- What are the various solvents used to remove  $\text{SO}_x$  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.

- Electrostatic precipitators
- Cyclone separators

12M

**UNIT IV**8. Explain the following methods of control of  $\text{SO}_x$  emissions.

- Wet method
- Dry method.

12M

**(OR)**

9. a) Discuss about the following:

- Monitoring of sulfur oxides.
- Monitoring of SPM

12M



**Hall Ticket Number:**

--	--	--	--	--	--	--	--	--

**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 $\text{SO}_x$ emissions
k	What are the adverse effects of $\text{NO}_x$ ?
l	What are the various solvents used to remove $\text{SO}_x$ 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
---	---	-----

**(OR)**

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

**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 $\text{SO}_x$ 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