



B.E DEGREE EXAMINATIONS: APRIL 2018

(Regulation 2014)

Eighth Semester

CIVIL ENGINEERING

U14CETE53: Air Pollution Management

COURSE OUTCOMES

- CO1:** Identify the impact on human being , flora and fauna due to air pollution
CO2: Perform quantitative measurements of the dispersion of pollutants in the atmosphere
CO3: Select suitable equipment for air pollution control
CO4: Implement town planning rules and regulation with respect to air pollution
CO5: Assess the ill effects of noise pollution

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match list I and list II

CO2 [K₂]

List I		List II	
A .looping		i. weak lapse condition	
B. coning		ii. strong lapse condition	
C. fanning		iii. Inversion condition	
D. lofting		iv. inversion below lapse aloft	

- | | A | B | C | D |
|----|-----|----|-----|----|
| a) | ii | i | iii | iv |
| b) | iii | iv | ii | i |
| c) | ii | iv | iii | i |
| d) | iii | i | ii | iv |

2. Dry adiabatic lapse rate expand and cooling at _____

CO2 [K₁]

- | | |
|---------------|---------------|
| a) 9.8°C / km | b) 7.5°C / km |
| c) 8°C / km | d) 6°C / km |

3. Pick up the correct statement from the following CO5 [K₂]
1. Level of noise recommended in most countries is above 120 dB
 2. A safe level of noise depends on level of noise and exposure to noise
 3. Sound which has Jarring effect on ears is pleasant sound
 4. The most aggressive sounds are caused by frequency
- a) 1,3 b) 1,4
c) 1,2 d) 2,3
4. The process of reducing a gas to a liquid CO3 [K₁]
- a) Condensation b) Absorbent
c) Cyclones d) Emissions
5. Assertion (A): Activated alumina is used as a catalyst for removing gaseous pollutant called hydrocarbons from the air CO3 [K₂]
Reason (R): The concentration of hydrocarbon emitted from automobiles is 300-1000 mg/l.
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true
6. The Pollution Prevention Act CO4 [K₁]
- a) 1990 b) 1994
c) 1991 d) 1992
7. Arrange the process involved in particulate matter sampling CO1 [K₂]
1. collection of sample
 2. allow it to cool
 3. remove the probe
 4. weight the thimble with the sample
- a) 2-3-4-1 b) 1-3-2-4
c) 3-4-2-1 d) 4-1-3-2
8. Resource Conservation and Recovery Act in CO4 [K₁]
- a) 1984 b) 1988
c) 1986 d) 1985
9. Assertion (A): Noise pollution is an unwanted accumulation of noise in the atmosphere. CO5 [K₂]
Reason (R): It interferes with communication.
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true

10. Sound becomes hazardous noise pollution at decibels CO5 [K₁]
- a) above 30 b) above 80
- c) above 100 d) above 120

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. How inhalation of carbon monoxide affects human health? CO1 [K₂]
12. What are natural contaminants? CO1 [K₂]
13. List out any four sampling methods. CO2 [K₁]
14. What is adiabatic lapse rate? CO2 [K₂]
15. What is a wind rose? CO3 [K₁]
16. What causes condensation? CO3 [K₂]
17. What is the Air Quality Index for Health? CO4 [K₁]
18. How do you Measure Air Quality CO4 [K₂]
19. What problems does noise pollution cause for animals? CO5 [K₂]
20. What are the laws regarding noise pollution? CO5 [K₁]

Answer any FIVE Questions:-
PART C (5 x 14 = 70 Marks)
(Answer not more than 300 words)

Q.No. 21 is Compulsory

21. Briefly explain greenhouse effect CO1 [K₂]
22. Write down the effects of air pollution on human beings, animals and vegetation. CO1 [K₂]
23. Explain Gaussian model and Lagrangian dispersion model CO2 [K₂]
24. Explain in detail about electrostatic precipitation method with their merits and demerits. CO3 [K₃]
25. What are the various methods to control gaseous pollution in industries? Explain any three of them CO3 [K₃]
26. Explain in detail about control methods and prevention of noise pollution. CO5 [K₂]
27. Give the guide line for town planning regulation of new industries in general CO4 [K₂]
