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**Reg. No. :**

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**Question Paper Code: U9174**

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Open elective

21UCE974-AIR POLLUTION AND CONTROL ENGINEERING

(Common to All branches)

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Delhi air pollution comes under which scales of air pollution? CO 1- U  
(a) Micro scale            (b) Meso scale            (c) Macro Scale            (d) Global Scale
2. Photochemical smog comes under which scales of air pollution? CO 1- U  
(a) Micro scale            (b) Meso scale            (c) Macro Scale            (d) Global Scale
3. Plume is an emission and dispersion of CO 1- U  
(a) smoke            (b) Vapor            (c) smoke or vapor            (d) None of these
4. The stability of air is measuring the \_\_\_\_\_ of the atmosphere at CO 1- U  
various heights  
(a) Temperature            (b) Atmospheric layers            (c) Unstable air            (d) Stable air
5. The particles are subjected to the electric field and removed by the mechanism CO 1- U  
of \_\_\_\_  
(a) Inertial deposition            (b) Electrostatic Attraction  
(c) Brownian Diffusion            (d) Direct Interception
6. When the particulate is combustible or flammable, which type of control CO 1- U  
devices is used?  
(a) ESP            Cyclone separator            (c) Wet Scrubber            (d) Filtration
7. Which of the following is not adopted for removal of gaseous CO 1- U  
pollutants?  
(a) ESP            (b) Biofiltration            (c) Adsorption            (d) All the above

8. Chemisorption is the chemical interaction between the \_\_\_\_\_ CO 1- U  
 (a) gas and solid (b) gas and droplets (c) solid and droplets (d) gas and surface
9. A complex mixture of solid or liquid particles suspended air is called CO 1- U  
 (a) Particulate matter (b) suspended solids (c) solids (d) None of the above
10. The outdoor air through building envelope openings is known as CO 1- U  
 (a) radon (b) Air condition (c) Circulation (d) Ventilation

PART – B (5 x 2= 10 Marks)

11. Differentiate between primary and secondary pollutants. CO 1- U
12. Mention the different types of lapse rates. CO 1- U
13. What is the main objective using air pollution control device? CO 1- U
14. Differentiate Absorption and Adsorption. CO 1- U
15. Define Noise Pollution. CO 4- U

PART – C (5 x 16= 80Marks)

16. (a) Discuss about the characteristics of sampling system. CO 1- U (16)  
 Or  
 (b) Explain about the different types of Ambient monitoring stations. CO 1- U (16)  
 Also mention about the frequency of sampling.
17. (a) Write in detail about the effects of meteorological parameters on air pollution. CO 1- U (16)  
 Or  
 (b) Write in detail about atmospheric stability and explain the relationship between the ELR and ALR. CO 1- U (16)
18. (a) Explain in detail about the principle, process, working, types and applications of an Electrostatic Precipitator. CO4 - U (16)  
 Or  
 (b) Explain the principle of operation and working of a settling chamber. How its efficiency can be improved? CO4 - U (16)
19. (a) Briefly explain the process of incineration to control gaseous pollutants with neat sketch. CO4 - U (16)  
 Or  
 (b) Explain the types of scrubbing devices used in control of gaseous pollutant with a help of neat sketch. CO4 - U (16)

20. (a) Explain briefly on Indoor Air Pollution in India and their implications on Health along with its Control. CO4 - U (16)
- Or
- (b) Explain the effects of Noise pollution and list the standards. CO4 - U (16)

