A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59172

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2019

Open elective

Computer Science and Engineering

15UCE972 – AIR POLLUTION AND CONTROL ENGINEERING

(Common to ECE, EEE, EIE,MECH ,IT and Chemical Engineering branches)

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The regions of atmosphere beyond 700 km is termed as _____ CO1- R

   (a) Ionosphere (b) Exosphere (c) Thermosphere (d) none of these

2. Among the following, a secondary pollutant is_____ CO1- R

   (a) PAN (b) SO_2 (c) CO (d) Aerosol

3. The instrument which is used to measure solar radiation is called CO2- R

   (a) Pyranometer (b) Manometer (c) Radometer (d) Anemometer

4. Double inversion is caused when _____ and _____ occurs simultaneously. CO2- R

   (a) Radiance and Subsidence (b) Subsidence and Pressure

   (c) Pressure and Temperature (d) Radiation and Temperature

5. The particulate collected from the scrubbers are CO3- R

   (a) Wet (b) Dry (c) Gaseous (d) All the above

6. Spray tower is a type of CO3- R

   (a) scrubbers (b) Wet precipitators (c) fabric filter (d) cyclone separators

7. The gas that degrades very slowly is CO4- R

   (a) Ketone (b) HCl (c) Phenol (d) PAH

8. The operating temperature for halogenated hydrocarbons in catalytic oxidation process is CO4- R

(a) 200-400^0 F (b) 400-800^0 F (c) 900-1200^0 F (d) Above 1200^0 F

9. The pollution standard index scale has been from CO5- R

(a) 0-200 (b) 0-300 (c) 0-400 (d) 0-500

10. Normal level of lead in the blood stream is_____ CO5-R

(a) 5-10 μg/dL (b) 0-10 μg/dL (c) 2-7 μg/dL (d) 0-5 μg/dL

PART – B (5 x 2= 10 Marks)

11. Define Air quality standards. CO1- U

12. What is inversion? Write the different types of inversion CO2-U

13. On what principles the cyclone separator works.. CO3- U

14. Mention the different adsorption isotherms CO4- U

15. Write any four indoor air quality standards. CO5- U

PART – C (5 x 16= 80 Marks)

16. (a) Explain in detail about the structure and composition of atmosphere with neat sketch. CO1- U (16)

Or

(b) Write down the effects of air pollutants on Aesthetic values and visibility. CO1- U (16)

17. (a) How will you measure meteorological variables? Explain them. CO2-U (16)

Or

(b) Discuss in detail about the concept of Temperature Inversion along with its types. CO2-U (16)

18. (a) Explain about the factors affecting selection of Control Equipment. CO3- U (16)

Or

(b) Explain in detail about the principle, process, working, types and applications of an Electrostatic Precipitator. CO3- U (16)

19. (a) Explain the design factors and consideration in biofilteration process. CO4- U (16)

Or

(b) Explain in detail about SO_X removal process. CO4- U (16)

20.	(a)	Write about radon pollution and its control.	CO5- U	(16)
		Or		
	(b)	Write about the sources and effects of noise pollution.	CO5- U	(16)

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