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Question Paper Code: 59172

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

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: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Acid rain is caused by increase in the atmospheric concentration of _____ CO1- R
(a) Ozone and dust (b) SO₂ and NO₂ (c) SO₃ and CO (d) CO₂ and CO
2. Among the following, a secondary pollutant is _____ CO1- R
(a) PAN (b) SO₂ (c) CO (d) Aerosol
3. Which of the following plume rise pattern occurs under extreme inversion condition? CO2- R
(a) Coning (b) Fanning (c) Fumigating (d) Lofting
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. The most effective unit for capturing dust in a cement plant is CO3- R
(a) Venturi scrubber (b) Bag filter (c) ESP (d) All the above
7. Silica gel is used to adsorb CO4- R
(a) iron oxide (b) HF (c) NO_x (d) HC

8. The operating temperature for halogenated hydrocarbons in catalytic oxidation process is CO4- R
 (a) 200-400⁰ F (b) 400-800⁰ F (c) 900-1200⁰ F (d) Above 1200⁰ 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. Level of noise recommended is most----- CO5-R
 (a) 30-40dB (b) 95-100dB (c) 85-90dB (d) 75-80dB

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Explain about the effects of air pollutants on human health and vegetation. CO1- U (8)
12. With neat sketch, explain plume behavior. CO2-U (8)
13. Write in detail about the operation and maintenance to be adopted for Venturi particulate scrubber? CO3- U (8)
14. Explain the design factors and consideration in biofiltration process. CO4- U (8)
15. Explain briefly on Indoor Air Pollution in India and their implications on Health along with its Control. CO5- U (8)

