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Question Paper Code: 59172

B.E./B.Tech. DEGREE EXAMINATION, NOV 2018

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)

- _____ are the entrances in the leaf bottom through which CO_2 enters to play its role in photosynthesis. CO1- R
(a) Epidermis (b) Palisade (c) Stomata (d) none of these
- Among the following, a secondary pollutant is _____. CO1- R
(a) PAN (b) SO_2 (c) CO (d) Aerosol
- Which of the following plume rise pattern occurs under extreme inversion condition? CO2- R
(a) Coning (b) Fanning (c) Fumigating (d) Lofting
- 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
- The particulate collected from the scrubbers are CO3- R
(a) Wet (b) Dry (c) Gaseous (d) All the above
- 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. 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) 200-400⁰ 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. 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. List out the effect of air pollution on human health. CO1- U
12. Mention the different types of lapse rate. CO2-U
13. List out the operating problems faced in Bag house filter. CO3- U
14. Define condensation. 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 sources and classification of Air Pollutants. CO1- U (16)
- Or
- (b) Write about gaseous pollutant monitoring process. CO1- U (16)
17. (a) How will you measure meteorological variables? Explain them. CO2-U (16)
- Or
- (b) Explain in detail about wind rose system with sketch. CO2-U (16)
18. (a) Explain about the factors affecting selection of Control Equipment. CO3- U (16)
- Or
- (b) Explain in detail about Cyclonic separator process with neat sketch. CO3- U (16)

19. (a) Explain about absorption process with neat sketch. 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)

