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Question Paper Code: 59111

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

Elective

Civil Engineering

15UCE911- AIR POLLUTION MANAGEMENT

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The conditions for formation of Photochemical Smog are CO1- R
(a) Air Stagnation (b) Abundant sunlight
(c) High concentration of hydrocarbon (d) All of the above
2. The minimum size of smoke particle is CO1- R
(a) 0.2 μ m (b) 1 μ m (c) 0.8 μ m (d) 0.5 μ m
3. The permissible concentration of PM 10 in the air is CO2- R
(a) 60 μ g/m³ (b) 40 μ g/m³ (c) 50 μ g/m³ (d) 20 μ g/m³
4. Phenomenon in which pollutant that are emitted into atmosphere are brought rapidly to ground level when air destabilizes is called CO2- R
(a) Fumigation (b) Lofting (c) Trapping (d) Coning
5. Identify the correct statement regarding Electrostatic precipitator. CO3- R
(a) Minimum particle size removal is <0.5 μ m
(b) They can be operated at high temperature
(c) It has low maintenance cost
(d) It does not cause any freezing problem

6. When environmental Lapse Rate (ELR) is less than Adiabatic Lapse Rate (ALR), then which of the following occurs? CO3- R
- (a) Sub adiabatic lapse rate (b) Super adiabatic lapse rate
(c) Neutral lapse rate (d) Adiabatic lapse rate
7. Which of the following catalyst is used for removing hydrocarbon from gaseous pollutant in combustion unit? CO4- R
- (a) Platinum (b) Activated alumina
(c) Vanadium (d) Potassium permanganate
8. The effectiveness of catalytic combustion reduces by particulate matter present in the Gases and fumes, this is due to----- CO4- R
- (a) Coating (b) Scouring (c) eroding (d) Corrugation
9. Non-Dispersive Ultraviolet (NDUV) analysers are primarily used to detect which of the following two gases? CO5- R
- (a) Oxygen and Carbon Dioxide (b) Oxygen and Nitrogen Dioxide
(c) Nitrogen Dioxide and Sulphur Dioxide (d) Sulphur Dioxide and Oxygen
10. At what decibel does a healthy human ear responds as painful CO5- R
- (a) ZerodB (b) 100-110dB (c) 130-140dB (d) 50dB

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Explain Global Warming and acid rain with neat diagram CO1-U (8)
12. List and explain the important meteorological parameters that influences air pollution. CO2-U (8)
13. How is the particulate emission control obtained? Explain the working of Electrostatic precipitator in detail. CO3-U (8)
14. Explain ambient air quality standards and emission standards. CO4-U (8)
15. Explain the sources and their harmful effects of Noise pollution CO5-U (8)

