

- Q.26 Describe the process of sulphur reduction during combustion along with chemical reaction involve.
 Q.27 Differentiate between Activated sludge system & Trickling filters.
 Q.28 Describe BOD & COD measure of organic content of waste water.
 Q.29 What are oxygen demand waste with reference to water pollution? Discuss in brief.
 Q.30 Discuss the grab and composite method for waste water sampling.
 Q.31 Discuss the incineration technique for solid waste disposal.
 Q.32 What are the methods of collection of solid waste? Describe transfer station with respect to solid waste management?
 Q.33 Discuss in brief the human health issues resulting from solid waste pollution.
 Q.34 Discuss in brief the effect of air pollution on human health and material.
 Q.35 Discuss the method used for analysis of Sulphur oxide content in air pollutants.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
 Q.36 Discuss in Detail any five technique for collection of particulate pollutants.
 Q.37 Define coal gasification and fuel oil gasification. discuss in detail the process of Hydrodesulphurization of coal.
 Q.38 Describe primary treatment process of waste. Discuss the sedimentation process and its design in detail.

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6th Sem / Branch : Chem. P & P Found & Forg.
Sub.: Pollution control in Chemical Process industry/ Env. Engg. & Safety

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Which pollutant is responsible for causing fading in acetate, cotton & rayon fibers-
 a) Nitrogen Oxides b) Carbon Oxides
 c) Sulphur Oxidas d) None of these
 Q.2 Which of the following is absorbed in the upper part of the respiratory system
 a) CO b) NO_2
 c) Ozone d) Sulphur dioxide
 Q.3 Temperature requirement is higher in which of the following process
 a) Thermal incineration b) Catalytic oxidation
 c) Absorption d) None of these
 Q.4 Which of the following is not a gas Absorption Equipment.
 a) Packed Tower
 b) Electrostatic Precipitator
 c) Spray Tower
 d) Venturi Scrubber
 Q.5 Which of the following method is used primarily for treating industrial waste containing finely divided suspended solids & oily matter
 a) Flotation

- b) Activated sludge process
 c) Trickling filter
 d) None of these
- Q.6 Flame Ionization detector technique is used for
 a) Hydrocarbon b) Carbon oxide
 c) Nitrogen oxide d) Sulphur oxide
- Q.7 Which of following involve burning of solid waste at high temperature
 a) Composting
 b) Incineration
 c) Electrostatic precipitation
 d) Thermal Precipitation
- Q.8 In Sulphur reduction during combustion which of the following is used
 a) Magnesium oxide
 b) Calcium carbonate
 c) Phosphorus pentoxide
 d) Ferrous oxide
- Q.9 Which of the following is not a part of Activated sludge treatment plant
 a) Aeration tank b) Thickener
 c) Sludge digestion d) Demister
- Q.10 Which of following contain particles of size ranging from 1 to 200 micrometers.
 a) Smoke b) Dust
 c) Fumes d) Aerosol
- Q.12 The affinity of _____ for hemoglobin is 210 times greater than that of oxygen.
- Q.13 Name any two effects of Air pollutant on human health.
- Q.14 _____ is used for the removal of any entrained water droplets in centrifugal scrubbers.
- Q.15 Define Adsorption.
- Q.16 Name two catalyst used for catalytic oxidation of pollutant gases.
- Q.17 _____ is defined as volume in ml occupied by one gram of sludge after it has settled in one litre cylinder for 30 minutes.
- Q.18 Which equation is used to describe the growth kinetics of microorganism in secondary treatment of waste water?
- Q.19 Non-Putrescible solid waste are referred as _____
- Q.20 Name two metal oxides used as catalyst or adsorbent for desulphurization of flue gas.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Classify the different types of gaseous pollutant and particulate matter with brief description.
- Q.22 Describe the flame Ionization detector (with diagram) used for the determination of gaseous pollutant.
- Q.23 Discuss the Absorption in liquid and Adsorption on solid for collection of gaseous air pollutant.
- Q.24 Describe the particulate control by electrostatic precipitator and spray tower technique.
- Q.25 What is combustion technique for control of gaseous pollutant? Define thermal incinerators.

- SECTION-B**
- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Name any two types of damage caused by air pollutants on vegetation.

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