

- 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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Roll No.

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 Oxides d) None of these
- Q.2 Which of the following is absorbed in the upper part of the respiratory system
- a) CO b) NO₂
 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

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.

- 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.