



QUESTION BANK (2021-2022)

B. Tech. SIXTH SEMESTER (Chemical Technology)

Subject : Environmental Engineering

UNIT – I : ENVIRONMENTAL POLLUTANTS

- Que. 1 The secondary pollutant among the following is
A. carbon dioxide
B. methane
C. sulphur dioxide
D. peroxy acetyl nitrate
- Que. 2 If the pollutants are settled by virtue of its weight or by impact on a solid or a liquid surface, the air pollutants are referred as aerosols
A. True
B. False
- Que. 3 In sewage, the inhoff cone is used to measure
A. total solids
B. total organic solids
C. total inorganic solids
D. settleable solids
- Que. 4 The correct relation between theoretical oxygen demand (TOD), Biochemical oxygen demand, Chemical oxygen demand (COD) is given by
A. $TOD > BOD > COD$
B. $TOD > COD > BOD$
C. $BOD > COD > TOD$
D. $COD > BOD > TOD$
- Que. 5 Which one of the following terms correctly describes 'Biomagnifications' ?
A. Reproduction of micro-organisms
B. observation of micro-organisms under a microscope
C. concentration of toxic materials in the food chain
D. ability of micro-organisms to form zooleal film
- Que. 6 Standard 5 day BOD at 20°C, when compared to ultimate BOD, is about
A. 48%
B. 88%
C. 68%
D. None of these
- Que. 7 Precursors to photochemical oxidants are
A. NO_x, VOCs and sunlight
B. SO₂, CO₂ and sunlight
C. H₂S, CO and sunlight
D. SO₂, NH₃ and sunlight
- Que. 8 Presence of nitrogen in a waste water sample is due to the decomposition of
A. vitamins
B. fats
C. proteins
D. carbohydrate

- Que. 9 The relative stability of a sewage sample, DO equals the total oxygen required to satisfy its BOD is
- A. zero
 - B. 100%
 - C. 1%
 - D. infinity
- Que. 10 The 5 days BOD of waste water sample at 20 °C is 200 mg/l and is 67 % of ultimate. If $\theta = 1.056$, find BOD 3 days at 30 °C.
- A. 244 mg/l
 - B. 299 mg/l
 - C. 204 mg/l
 - D. 249 mg/l

UNIT – II : NATURAL PROCESS OF WATER AND AIR POLLUTION CONTROL

- Que. 11 The upward vertical rise prevails in which of the following plume?
- A. Trapping
 - B. Fanning
 - C. Looping
 - D. Neutral
- Que. 12 The plume rise (Δh) depends on
- A. temperature of plume
 - B. diameter of stack
 - C. All of them
 - D. wind velocity
- Que. 13 When an atmosphere has an isothermal profile, it is
- A. very stable
 - B. slightly stable
 - C. unstable
 - D. very unstable (turbulent)
- Que. 14 The maximum ground level concentration is _____ to the square of the height of the chimney.
- A. inversely proportional
 - B. directly proportional
 - C. equal
- Que. 15 During temperature inversion in atmosphere, air pollutants tend to
- A. accumulate above inversion layer
 - B. accumulate below inversion layer
 - C. disperse laterally
 - D. disperse vertically
- Que. 16 When ambient lapse rate exceeds the adiabatic Lapse Rate, then the ambient lapse rate is referred as
- A. dry adiabatic lapse rate
 - B. Super adiabatic lapse rate
 - C. saturated adiabatic lapse rate
 - D. Sub adiabatic lapse rate
- Que. 17 Coning plume occurs under which conditions?
- A. Super adiabatic
 - B. Sub adiabatic
 - C. Neutral
 - D. Inversion

- Que. 18 When waste water enters a flowing river, the rapid depletion of dissolved oxygen is due to
A. microbial activity
B. the suspended particles in river and water
C. change in temperature of river water
D. respiratory activity of aquatic plants
- Que. 19 Which of the following statements are correct - In dissolved oxygen sag curve, the sag results because
A. it is a function of a rate of addition of oxygen from the stream
B. it is a function of rate of addition of oxygen to the stream
C. it is a function of both addition and depletion of oxygen from the stream
D. the rate of addition of oxygen is linear, but the rate of depletion is non-linear

UNIT – III : AIR POLLUTION MANAGEMENT

- Que. 20 Increase in flow velocity increases efficiency of settling chamber.
A. True
B. False
- Que. 21 Particulate matter (fly ash) carried in effluent gases from the furnaces burning fossil fuels are better removed by
A. Cotton bag house filter
B. Electrostatic precipitator (ESP)
C. Cyclone
D. Wet – Scrubber
- Que. 22 Which of the following is an inorganic pollutant?
A. Carbon monoxide
B. Carbonyl compounds
C. Aromatic hydrocarbons
D. None of the mentioned
- Que. 23 Identify the correct statement regarding the Electrostatic precipitator.
A. Minimum particle size removal is less than $0.5\mu\text{m}$
B. They can be operated at high temperature
C. It has a low maintenance cost
D. It does not cause any freezing problem
- Que. 24 The normal operating velocity at which the gas is passed through the bag varies from
A. 0.1 to 4 m/sec
B. 0.1 to 4 m/min
C. 0.4 to 1 m/sec
D. 0.4 to 1 m/min
- Que. 25 Settling chamber can be connected with other control equipments in series to increase efficiency.
A. True
B. False
- Que. 26 The method used to control air pollution at planning stage is
A. use of chimneys
B. Source correction methods
C. use of air pollution control devices
D. Zoning
- Que. 27 The following are all principles used to control particulate matter, except _____.
A. gravity
B. centrifugal force
C. infrared analysis
D. electrostatic attraction

UNIT – IV : WATER POLLUTION MANAGEMENT

- Que. 28 Pick the incorrect statement:
A. anaerobic bacteria flourish in the presence of oxygen
B. anaerobic bacteria flourish in the absence of oxygen
C. facultative bacteria flourish in the presence of oxygen
D. None of them
- Que. 29 The biochemical treatment of sewage effluents is essentially a process of
A. oxidation
B. dehydration
C. reduction
D. alkalization
- Que. 30 Which of the following has minimum detention period?
A. Grit chamber
B. Sedimentation tank
C. Oxidation ditch
D. Oxidation pond
- Que. 31 The wastewater treatment units which work on aerobic decomposition of organic matter are
A. grit chamber
B. trickling filters
C. sedimentation tanks
D. sludge digestion tanks
- Que. 24 The secondary treatment of waste water is caused by
A. bacteria
B. algae
C. coagulants
D. none of these
- Que. 32 The watery residue from the sedimentation process is termed as
A. Rubbish
B. Sludge
C. Leachate
D. Refuse
- Que. 33 The process in which the semipermeable membrane allows water molecules to pass through it and retains the ions is called as
A. Ion Exchange
B. Electrodialysis
C. Reverse Osmosis
D. Electrolytic recovery
- Que. 34 In facultative stabilization pond, the sewage is treated by
A. Aerobic bacteria only
B. Algae only
C. Dual action of aerobic bacteria and anaerobic bacteria
D. Sedimentation

UNIT –V : SOLID WASTE POLLUTION MANAGEMENT

- Que. 35 Which of the following is the oldest and the most common method used to dump solid wastes?
A. River
B. Ocean
C. Landfill
D. None of them

- Que. 36 Bangalore method and Indore method of disposing solid wastes are
A. Identical
B. Different as Bangalore method does not contain human excreta
C. Different as Bangalore method is an anaerobic method
D. Different as Indore method involves incineration process
- Que. 37 The term 'Refuse' does not include
A. Non -Putrescible solid waste
B. Putrescible solid waste
C. Ashes
D. Excreta
- Que. 38 Ex-situ Bio Remediation techniques commonly require the contaminated site to be excavated which increases costs.
A. True
B. False
- Que. 39 The method or equipment best used to dispose of solid waste is _____.
A. anaerobic digestion
B. rotary kiln incinerator
C. electrostatic precipitators
D. wet scrubbers
- Que. 40 Which of the hazardous pollutant occurs in plastic?
A. Lithium
B. PCBs
C. Lead
D. Copper
- Que. 41 Which of the following statements is incorrect for plastic wastes?
A. It is used to make compost
B. It lasts for a longer period of time
C. Toxic fumes are produced when burnt
D. All of the above
- Que. 42 Biodegradation occurs naturally with the addition of nutrients or bacteria during
A. Bioattenuation
B. Biostimulation
C. Biosparging
D. Bioventing

UNIT –VI : POLLUTION CONTROL IN SELECTED PROCESS INDUSTRIES & MAJOR ISSUES

- Que. 43 The most common impacts of radioactive radiations which appear late in the life are
A. damage of genes causing dangerous mutagenic effects leading to birth of abnormal offsprings
B. shortened life span and increased probability of developing cancers and cataracts
C. both A and B
D. none of these
- Que. 44 The poisonous gas responsible for causing catastrophic Bhopal gas tragedy in India was
A. methane and carbon monoxide both
B. sulphur dioxide
C. methyl isocyanate
D. methyl isobutyl ketone

- Que. 45 In which among the following method environmental parameters are given but no background information is provided?
- A. Simple Checklist
 - B. Descriptive Checklist
 - C. Checklist Method
 - D. Battelle Columbus method
- Que. 46 The purpose of 'screening' during the EIA process under Indian EIA notification 2006 is to
- A. decide as to whether an environment impact assessment is required for the project
 - B. decide as to whether for proposed project falls under category 'A' or 'B'
 - C. both A and B
 - D. none of these
- Que. 47 Which among the following depends on the expertise, background and experience of experts?
- A. Questionnaire Method
 - B. Ad Hoc Method
 - C. Checklist Method
 - D. Leopold Matrix
- Que. 48 Which among the following is the simplest EIA methodology?
- A. Network Method
 - B. Battelle Columbus Method
 - C. EIA Methodology
 - D. Overlay Method
- Que. 49 How many interactions are there in Leopold Matrix?
- A. 88
 - B. 100
 - C. 8800
 - D. 78
- Que. 50 The ____ contains the specification with guidelines for Environmental Auditing.
- A. ISO 14000-1409
 - B. ISO 14020-14019
 - C. ISO 14000-1409
 - D. ISO 14010-14019