اللجنة الأكاديمية للهندسة المدنية

سنوات ميد

هندسة البيئة

سيرين شتات

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سنوات مادة هندسة البيئة لكل الفصول السابقه مع فصول الاونلاين

في ميزان حسنات والديّ , نسأل الله القبول

#لجنة_المدني

#سيفلتيي

Ch1:Introduction plus water quality parameters

.1The continued presence of toxic substances will lead to

a. Consumption of more chloride for disinfection

b. Shield pathogens and prevent killing them

c. Development of a specific bacteria capable of decomposing and utilizing toxic substances

d. Necessity for dilution as a treatment technology

.2 The settleable suspended solids with diameter 0.15 to 0.2 mm are generally

a. inorganic

b. Organic

c. Algae

d Fungi

.3 Gas and heat transfer are considered as mechanisms in nature self purification and belongs to

a. Chemical processes

b. Biological processes

c. Physical processes

d. All above

4. Cadmium is one of the

a.Secondary pollutants according to EPA

b. Toxic organic water contaminant

c. Primary pollutants as classified in EPA

d. All above

.5 Carbon dioxide is dissolved from the atmosphere and produced by decomposition of

a. inorganic matter

b. organic matter

c. incineration of biosolids

d. corrosion of metals

6.Potable water is

a)Tasty water

b)Wholesome water

c)Mineral water

d)Water free from disease producing elements and bacteria

7.Environmental engineering uses environmental science principles, along with engineering concepts and techniques, to

a)Assess the impacts of societal activities on the environment ,

b)Assess the impact of the environment on people ,

c)Protect both human and environmental health .

d)All above

8.The turbidity is measured based on the

a)Light absorbing properties

b)Light scattering properties

c)Particle size

d)Total solids value

9.The suspended solids are mostely responsible for **خطأ شائع(a)**

a)Turbidity

b)Colour

c)Odour

d)Taste

10.If free molecular oxygen is added to the substrate, the waste products will be

a)Oxidized compounds –end products (H2O and CO2 (

b)Reduced compounds- end products (H2O and CO2 (

c)Decomposition of all substrate- end products (H2O and H2S (

d)None of the above

11.What is the unit of turbidity

a)TU

b)MTU

c)NTU

d)IU

12.An ecosystem can be defined as ;

a)Organisms or species populations

b)Community interactions

c)The sum of all earth's ecosystems

d)Provides knowledge on ability of natural systems for self-purification

13.An example of the physical elements which considered as a constituent of abiotic component is;

a. Heat ,

b.Humidity ,

c.Radiation

d.Wind

14.Fossil Fuels can be defined as ;

a.A hydrocarbon deposit responsible of global warming

b.Renewable fuels

c.Any combustible organic material, as oil, coal, or natural gas

d.All of the above

15.Always the Total Suspended Solids value will be

a)Less than total dissolved solids

b)Greater that the total dissolved solids

c)Less than the Total Solids

d)Greater than Total Solids

16..The turbidity affects the aquatic life in the water

a)True

b)False

17.Light is a sub component of _____ which is considered as a constituents of the abiotic group in ecosystem

a)Physical elements

b)chemical elements

c)biological elements

d)Nutrients

.18_____is a branch of biology covering relations among living systems as well as between these and their surroundings – Provides knowledge on ability of natural systems for selfpurification .

a)meteorology

b)geochemistry

c)microbiology

d)ecology

19.Environmental engineering utilizes the following sciences except

a)environmental science

b)engineering principles

c)social sciences

engineering design and operation

.20When external food sources are interrupted, organisms will use stored food for maintenance energy through

a)Catabolism

b)Menabolism

c)Endogenous catabolism

d)All of the above

21.High total dissolved solids may affect the aesthetic quality of the water, interfere with washing clothes and corroding plumbing fixtures. For aesthetic reasons, a limit of _____ mg/l has been established as part of the EPA Secondary Drinking Water Standards.

a) 250 mg/l

b) 350mg/l

c) 450mg/l

d) 500mg/l

22.NTU – Nephelometry Turbidity Unit – used to indicate the test is run according to_____ principle

a)Scattering mode

b)Absorbing mode

c)Mixed

No relation

33.In testing water quality for odor measurements, the range used for Threshold Odor Numbers

)TON) determination is ;

a) 50-1

b) 100-1

c) 150-1

d)1-200

.24In Total Dissolved Solids (TDS) determination experiment, The filtrate (i.e., filtered liquid) is added to a preweighed ceramic dish that is placed in a drying oven at a temperature of 103 C. After the sample dries, the temperature is increased to 180 C to remove _____

a)water stored at the surface of fiber filter

b)an occluded water

c)impurities available inside the fiber filter

d)none of the above

CH2: Biological water quality

.1Waterborne diseases can be found as

a) Protozoal

b) Viral

c) Bacterial

d) All above

.2 Contaminated water causes waterborne diseases is (are (

a) Water mixed with human feces

b) Water mixed with animal feces

c) Soil erosion source

d) All above

.3 RCL term describes which of the following

a) Primary pollutant

b) Secondary pollutant

c) EPA water quality standards

d) All above

4.Careful design of treatment system will ensure no mixing of potable and nonpotable water by

a) All pipes should be made of concrete and be installed above the ground

b) A bypass pipes should be constructed around the treatment units

c) Wall construction between treated and untreated waters

d) Plants must have adequate power supplies to prevent any interruptions in supply resulting from weather or natural disasters

.5 Volatile Organic chemicals (VOCs) are

a) Industrial chemicals

b) Found in both SW and GW

c) Carcinogenic

d) All of the above

6.Trihalomethans can be defined as：

a) May enter water from domestic processes ,

b) The most common source is through chlorination of water

c) Hybochloroform is the most common occurring of trihalomethans

d. All above

7.Under adverse environmental circumstances, aquatic protozoa form cysts which are

a) Fatal at high doses

b)Removed by coagulation

c)Cause gastrointestinal disorder

d)Difficult to disinfect

8.Viruses are single-cell microorganisms usually colorless. It is a completely self-contained and selfreproducing unit

a) True

b) False

9.Bacteria are single-cell microorganisms usually colorless. It is a completely self-contained and self-reproducing unit

a) True

b) False

10.The group of organisms which are best suited as indicator organisms is

a)Best Fecal Coliform

b)Fecal Coliform

c)Nonfecal Coliform

d)All above

11.The most common symptoms of most diseased transmitted by waterborne pathogenic bacteria are ;

a)Gastrointestinal disorder

b)disorders of the nervous system

c)bones problems

d)physiological problems among dialysis patients

12.Cadmium is one of the

a)Secondary pollutants according to EPA

b) Toxic inorganic water contaminant

c) Primary pollutants as classified in EPA

d) All above

13.Ninety-nine percent of all known bacteria are considered beneficial to humans, or at least harmless.

a) True

b) False

.14 Infections of waterborne diseases are normally caused and spread through the fecal and urinary discharges of sick persons and carriers .

a)True

b)False

.15is single-cell microorganisms usually colorless. It is a completely self-contained and self-reproducing unit

a) Bacteria

b)Virus

c)Helminthes

d)protozoa

16.When water is chlorinated, color-causing organic matter may form chlorinated organic compounds such as _____

a)Trihalomethanes

b)Chlorinated hydrocarbons

c)Hydro chloride

d)Hydrofluoro carbons

17.Chlorine is often added to wastewater for disinfection before effluent discharge .A potential problem with this procedure is

a)Toxic chlorinated hydrocarbons may be formed

b)Chlorine contributes to depletion of the ozone layer

c)Chlorine gas is poisonous and may threaten nearby homes

d)Chlorine is a nonrenewable resources and may soon be depleted

CH3: Chemical water quality

.1 The conductivity is maximum for _____ water

a) Distilled

b) Deionized

c) Ground

d) Sea

2. Which of the following organic materials are resistant to degradation .

a) Woody plants

b) Tannic and lignic acid ,

c) Cellulose and phenols

d) All above

3.Phosphates sources in water and wastewater can be

a) From dissolution of minerals from soil and atmosphere

b) from detergents in WW, fertilizers and insecticides from agricultural land

c) from microbial decomposition of organics

d) from decay vegetation and agriculture Lands

.4 alkalinity indicates a solution’s power to react

a) base and buffer its pH

b) with acid and "buffer" its pH — that is, the power to keep its pH from changing.

c)Ions and buffer its changes

d) Cations and buffer its changes

5.Temporary hardness is due to the presence of:

a. bicarbonates of calcium and magnesium

b. chloride of calcium and magnesium

c. sulphate of calcium and magnesium

d. sodium chloride

6. Conductivity of a substance is defined as the ability or power to conduct or transmit .

a. heat

b. electricity

c. sound

d. all of the above

7.the increased level of BOD in water indicates ;

a) It is not fit for potable uses

b) It is fit for potable uses

c) It tastes better

d) pleasant smells

8.Microbial Utilization of organics can be accompanied by

a) Oxidation

b) Reduction

c) Oxidation and reduction

d)none of the above

9.The amount of oxygen consumed during microbial utilization of organics is called

a)Biochemical Oxygen Demand (BOD .(

b) Chemical Oxygen Demand (COD (

c) Total Organic Content (TOC (

d) Nonbiodegradable Organics (NBO)

10.particle mass Dissolved Oxygen (DO) in the water mainly depends upon organic content of the water

a) True

b) False

11.Pure water has a

a) bitter test

b) flat taste

c) laxative taste

d)tasteless

12. Toxic metals are considered as

a) posing a danger to organisms near the top of the chain

b) biodegradable

c) Cumulative toxin concentration In the food chain

d) A+C

13.Which of the following Organics that are toxic to MO ;

a) Organic pesticides (cumulative toxins ;(

b) Organic insecticides

c) Herbicides

d) All above

14.Which of the following organic materials are resistant to degradation .

a) Woody plants

b) Tannic and lignic acid ,

c) Cellulose and phenols

d)All above

15.Phosphates sources in water and wastewater can be

a) From dissolution of minerals from soil and atmosphere

b) from detergents in WW, fertilizers and insecticides from agricultural land

c)from microbial decomposition of organics

d)from decay vegetation and agriculture Lands

16.Most fish tolerate pH between

a) 7-5

b) 9-5

c)11-5

d)5-12

.17The limit of Ca in drinking water in India is

a) 30mg/l

b) 75mg/l انتبه الدكتور كل فصل بغيرها

c)250mg/l

d)200 mg/l

18.Specific conductance and TDS are not related one to one, the conversion constant used is;

a. 0.55 to 0.91

b. 0.055to 0.99

c. 0.055to 0.019

d. 0.055 to 0.09

19.Normal pH values in sea water are about ;

a. 8.1at the surface and decrease to about 7.7 in deep water

b. 7.7at the surface and increase to about 7.7 in deep water

c.No changes

d. 8.1at the surface and decrease to about 7.1 in deep water

20.The term Alka-Seltzer expresses ;

a.Ability of water to carry ions

b.Ability of water to absorb the acid

c.Ability of water to dissolve solids

d.Ability of water to absorb heat

.21At high pH Carbonic acid ionized to form

a)Bicarbonate

b)Carbonate ions

c)A+ B

d)Hydroxyl ion

.22The measurement of conductivity may lead the estimation of

a)Total solids

b)Total dissolved solids

c)Total suspended solids

d)Total colloidal solids

.23Chlorine is often added to wastewater for disinfection before effluent discharge. A potential problem with this procedure is

a)Toxic chlorinated hydrocarbons may be formed

b)Chlorine contributes to depletion of the ozone layer

c)Chlorine gas is poisonous and may threaten nearby homes

d)Chlorine is a nonrenewable resources and may soon be depleted

24.Alkalinity Reacts with many metals in water resulting in precipitates which foul pipes

a)True

b)false

25.A natural water with a hardness of 150-300 mg/L is

a)soft water

b)moderately hard

c)hard

d)very hard

26.Fluoride concentration >2.0mg/L results in

a)dental problems

b)discoloration of teeth

c)bon impartment

d)all above

27.alkalinity indicates a solution's power to react

a)base and buffer its pH

b)with acid and "buffer" its pH — that is, the power to keep its pH from changing.

c) Ions and buffer its changes

d) Cations and buffer its changes

.28Specific conductance (SC) is function of

a)valance

b)mobility

c)number of ions

d)all above

29.The alkalinity rang for the fresh water is…… ppm .

a) 100-20

b) 20-1

c) 300-200

d)1-15

30.Water with magnesium hardness when associated with magnesium sulphate has a a) bitter tastes

b)laxative taste

c)surfactant taste

d)chemical taste

.31Excessive amount of any metals in water is

a)Non toxic

b)Hazardous

c)Toxic

d)Nonhazardous

.32Specific conductance (SC) is function of انتبه عكس السؤال يلي فوق

a)valance

b)immobility

c)number of cations

d)all above

CH4: Solid waste management

1. The first objective of solid waste management (SWM) is

a. prevent the spread of disease

b. to dispose of the discarded materials in a manner that is environmentally acceptable

c. to remove discarded materials from inhabited places in a timely manner:

d. all above

.2 The second upper part in the solid waste management hierarchy is

a. recycling

b. reuse

c. land filling

d. resource recovery

3.Usual range for solid waste generation rate are between

a) 3.0-1.0kg/cap-day

b) 2.5-1.5kg/cap-day

c) 3.0-1.5kg/cap-day

d)2.0-3.0 kg/cap-day

.4The thickness of daily soil cover in sanitary landfills is

a) 10cm

b) 15cm

c) 20cm

d) 25cm

.5Parameters such as well-compacted solid wastes, well-compacted cover material (soil), good housekeeping, and timely (daily) covering of the solid waste are of great significance for;

a) Selection of sanitary land filling site

b)Leaching prevention

c)achieving insect, rodents and fire control

d)all above

.6In natural clay solid waste landfill, the thickness of natural clay between the bottom of the land fill and the upper surface groundwater level is ;

a) 1.5m

b) 2.0m

c) 2.5m

d) 3.0m

.7Which of the following cannot be considered as on the objectives of Wastewater management :

a.Protect drinking water supply; surface & ground .

b.Protect public health hazard

c.Comply with laws or regulations governing pollution control and hazardous wastes .

d.Avoid nuisance due to odor or unsightly appearance

.8The main idea in wastewater treatment is the _____ of waste material or pollutant so that it will not be harmful to humans or the environment when disposed of.

a) conversion

b)Stabilization

c)biodegradation

d)recycling

.9_____is used in typical wastewater treatment plants to increase the solids concentration at the end of a particular process step

a)sludge digestion unit

b)sludge dewatering unit

c)sludge thickener unit

d)activated sludge unit

.10Which of the following component of the environment that highly affected by humankind pollution based on the amount of pollutants produced in lb/person/day

a) air

b)land (total (

c)water

d)land (collected)

.11The most unfavorable practice in the solid waste management hierarchy is

a) recycling

b) reuse

c) land filling

d) resource recovery

Online (new questions)

1. the predominant solid waste management practice in jordan is

a.incineration

b.recycling

c.anaerobeic digestion

c.land disposal

2.the corrosiveness of biogas is due to :

a.methane

b.carbondioxide

c.hydrogen sulfide

d.oxygen

3.the main purpose of a material recovery facility is :

a.to safly dispose mixed municipal solid waste

b.to safly dispose hazardous waste

c.to recover separate streams of recyclables from mixed waste

d.to produce fertilizres from organic waste

4.what can you do if your tap water contaminated ?

a.evaporating your water

b.boling your water

c.adding some chemicals

d.demineralizing your water

5.modern WT system are very effective in destroying helinthal pathogens .the pose has primarily to persons expse to untreated water .E.g. sewerage plant operators polluted from cattle feedlots .the most effective way to protect them is through :

a.rely on the technology and minimize the exposure of personal as possible

b.improve their immunity by providing all necessary vaccines

c.wearing safety and protective tools

d.regular check up for water borne diseases

وَآخِرُ دَعْوَاهُمْ أَنِ الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ

نسأل الله ان يتقبلها في ميزان حسنات والديّ

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