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- 58.** Maximum allowable concentration of iron in water is
 (a) 1.0 ppm (b) 0.05 ppm
 (c) 0.3 ppm (d) 0.03 ppm
- 59.** Maximum safe permissible limit of chlorides in domestic water supplies is
 (a) 0.5 mg/l (b) 2.5 mg/l
 (c) 200 mg/l (d) 100 mg/l
- 60.** Soap is a sodium salt of
 (a) acetic acid (b) stearic acid
 (c) formic acid (d) oxalic acid
- 61.** A pathogenic organism of unicellular/protozoal group is
 (a) escherichia coli
 (b) salmonella typhi
 (c) entamoeba histolytica
 (d) none of the above
- 62.** The bacteria which survive in the presence as well as absence of oxygen, are called
 (a) anaerobic (b) aerobic
 (c) facultative (d) E-coli
- 63.** Waters required for pulp and paper industry should generally be free from
 (a) iron (b) manganese
 (c) hardness (d) all of the above
- 64.** Breweries and distilleries preferably require
 (a) hard waters (b) soft waters
 (c) potable waters (d) none of the above
- 65.** The design period for a water supply project is taken as
 (a) 10 years (b) 10 to 15 years
 (c) 15 to 20 years (d) 20 to 30 years
- 66.** The calcium carbonate in water
 (a) causes bad taste
 (b) softens water
 (c) increases hardness of water
 (d) causes turbidity
- 67.** Red colour in water denotes the presence of
 (a) iron (b) manganese
 (c) sodium chloride (d) calcium carbonate
- 68.** The presence of hydrogen sulphide in water causes
 (a) softening (b) alkalinity
 (c) acidity (d) bad taste
- 69.** The colour of water is expressed in numbers of a
 (a) silica scale
 (b) pH value
 (c) platinum cobalt scale
 (d) none of the above
- 70.** High turbidity of water can be determined by
 (a) turbidity tube
 (b) Jackson's turbidimeter
 (c) Baylis turbidimeter
 (d) Hellipe turbidimeter
- 71.** Which of the following compounds does not provide free chloride?
 (a) CaCl_2 (b) NHCl_2
 (c) HOCl (d) NaOCl
- 72.** Membrane filter technique is used for testing
 (a) E-coli
 (b) copper
 (c) pathogenic bacteria
 (d) boron
- 73.** Bio-chemical oxygen demand (B.O.D.) of safe drinking water must be
 (a) 15 (b) 10
 (c) 5 (d) zero
- 74.** Ground water is generally free from
 (a) suspended impurities
 (b) dissolved impurities
 (c) both (a) and (b) above
 (d) none of the above
- 75.** The impurities caused by dispersion of solid particles that are large enough to be removed by filtration and settling, are known as
 (a) suspended impurities
 (b) colloidal impurities
 (c) dissolved impurities
 (d) none of the above
- 76.** The suspended impurity causing odour, turbidity and colour in water is
 (a) bacteria (b) algae and protozoa
 (c) clay and silt (d) metals
- 77.** The colloidal impurities in water are
 (a) very finely divided dispersion of particles in water
 (b) electrically charged and remain in a continuous motion
 (c) having size between 1 micron to 1 milli micron
 (d) all of the above
- 78.** In water analysis, the test carried out is
 (a) physical test
 (b) chemical test
 (c) biological test
 (d) all of the above

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- 79.** Dissolved impurity in water is
(a) silt
(b) Clay
(c) Calcium carbonate
(d) algae
- 80.** Turbidity
(a) is a measure of the resistance of water to the passage of light through it
(b) is expressed in parts per million or milligrams per liter
(c) produced by one milligram of silica in one liter of water is the unit of turbidity
(d) all of the above
- 81.** The turbidimeter which is used for the measurement of turbidity from 0-1000 ppm, is
(a) Jackson's Turbidimeter
(b) Baylis turbidimeter
(c) Hellige turbidimeter
(d) All of the above
- 82.** Most desirable temperature of water for public supply is
(a) between 4.4°C to 10°C
(b) between 10°C to 26°C
(c) above 26°C
(d) none of the above
- 83.** Taste and colour of water is due to
(a) calcium
(b) manganese
(c) iron oxide sodium
(d) chlorides of
- 84.** Goaty water refers to
(a) taste of water (b) colour of water
(c) odour of water (d) turbidity of water
- 85.** Alkalinity in water is expressed as milligrams per liter in terms of equivalent
(a) calcium carbonate sodium carbonate
(b) sodium carbonate
(c) magnesium carbonate
(d) all of the above
- 86.** If the hardness of a sample of water expressed in ppm of calcium carbonate is 50, the sample will be
(a) Hard water
(b) Soft water
(c) Moderately hard water
(d) None of the above
- 87.** If total hardness of water is greater than is total alkalinity, carbonate hardness will be equal to
(a) total hardness
(b) total alkalinity
(c) total hardness-total alkalinity
(d) none of the above
- 88.** Nitrogen is present in water, in the form of
(a) free ammonia (b) albuminoid nitrogen
(c) nitrites (d) all of the above
- 89.** The permissible amount of nitrites present in potable water is
(a) nil (b) 5 ppm
(c) 10 ppm (d) 20 ppm
- 90.** Natural mineral contaminant in water is
(a) calcium (b) flourine
(c) iron (d) sodium
- 91.** Mottling of teeth is associated with the presence of in water
(a) chlorides (b) flourides
(c) calcium (d) sulphur
- 92.** High quantities of copper is likely to
(a) effect human lungs and other respiratory organs
(b) cause cavities in the teeth
(c) produce laxative effect on human body
(d) all of the above
- 93.** Dissolved oxygen level in natural unpolluted water at normal temperature is found of the order of
(a) 1 mg/l (b) 10 mg/l
(c) 100 mg/l (d) 1000 mg/l
- 94.** Pump commonly used of lifting water in water supply mains is
(a) axial flow pump
(b) centrifugal pump
(c) reciprocating pump
(d) rotary type pump
- 95.** The source of power for pumping is mostly
(a) steam engine (b) diesel engine
(c) electric motor (d) all of the above
- 96.** If the diameter of the main pipe is taken less than the economical diameter, then
(a) head loss will be high
(b) cost of pipe will be less
(c) cost of pumping will be more
(d) all of the above

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- 114.** High lift pumps are generally required to feed water into the
(a) treatment plant (b) distribution system
(c) both (a) and (b) (d) none of the above
- 115.** Low lift pumps are generally required to feed water into
(a) the treatment plant
(b) the distribution system
(c) both (a) and (b) above
(d) none of the above
- 116.** Examples of the displacement pumps are
(a) reciprocating pumps
(b) centrifugal pumps
(c) rotary pumps
(d) both (a) and (b) above
- 117.** Efficiency of closed impeller type of centrifugal pumps, when compared to that of open impeller types, is
(a) much high (b) much less
(c) almost equal (d) none of the above
- 118.** The driving motor is placed below the pump bowl in a
(a) turbine pump (b) submersible pump
(c) monoblock pump (d) none of the above
- 119.** The pump, suitable for lifting water from very deep tubewells of the order of 100 to 150 m deep, is
(a) submersible pump
(b) jet pump
(c) air-lift pump
(d) hydraulic ram
- 120.** Valve provided on the suction pipe in a tube well is
(a) air relief valve
(b) reflux valve
(c) pressure relief valve
(d) sluice valve
- 121.** Pressure relief valve is provided to prevent
(a) the increase of pressure after certain safe limit
(b) back flow, when the pump is stopped
(c) the water flowing out of the suction pipe
(d) none of the above
- 122.** Factor for the selection of pumping station site, is
(a) distance of the source of contamination of pollution
(b) height above the H.F.L. of the river
(c) future expansion
(d) proximity of the site from the railway station
(e) all of the above
- 123.** Sluice valves in main water supplies are
(a) used to regulate the flow
(b) spaced about 5 km apart
(c) generally provided at the summits
(d) all of the above
- 124.** Air inlet valve is provided in water mains at
(a) summit of the pipe
(b) downstream of the sluice valve
(c) both (a) and (b) above
(d) upstream of the sluice valve
- 125.** The F/M ratio is controlled in the activated sludge process by adjusting the
(a) flow rate
(b) volume of aeration tank
(c) amount of sludge wasting
(d) BOD
- 126.** The pipe joint commonly used in pumping stations, is
(a) flexible joint (b) expansion joint
(c) flanged joint (d) socket and spigot joint
- 127.** Scour valves are provided
(a) at every summit of rising mains
(b) at every depression and dead ends to drain out the waste water that may collect there
(c) at street corners to control the flow of water
(d) all of the above
- 128.** Factor considered in the selection of site for intake point is that it should be
(a) nearer to the treatment plant
(b) in pure zone of the water source
(c) upstream of the point of disposal of waste water
(d) all of the above
- 129.** Most commonly used section in the grade aqueduct, is
(a) circular (b) rectangular
(c) parabolic (d) all of the above
- 130.** Advantage of pressure conduit, is that
(a) flow is independent of grade of hydraulic grade line
(b) it is economical, since it follows shorter routes
(c) less chances of water pollution, as it is closed
(d) all of the above
- 131.** Selection of material for pipe depends on
(a) carrying capacity of the pipe
(b) durability and life of the pipe
(c) effect of water to be conveyed on the pipe material
(d) all of the above

- 132.** The commonly used material for water supply pipes having property of not easily corroded, strong, long life but heavy and brittle is
 (a) steel
 (b) cast iron
 (c) wrought iron
 (d) reinforced cement concrete
- 133.** Maximum pressure which the pipe can withstand without any leakage during hydrostatic pressure test, is called
 (a) working pressure (b) test pressure
 (c) design pressure (d) none of the above
- 134.** The type of joint used in joining the plain ends of cast iron pipes, is
 (a) flanged joints
 (b) flexible joint
 (c) dresser coupling joint
 (d) socket and spigot joint
- 135.** Steel pipes are
 (a) generally laid under ground and no expansion joint is required
 (b) connected by riveted or welded joints
 (c) suitable for withstanding high internal pressure
 (d) all of the above
- 136.** Asbestos pipes are joined by means of
 (a) flanged joint (b) flexible joint
 (c) simplex joint (d) dresser coupling joint
- 137.** PVC pipes can withstand pressure upto
 (a) 20 m head of water
 (b) 50 m head of water
 (c) 100 m head of water
 (d) 150 m head of water
- 138.** Service connections to consumer houses, are generally provided with
 (a) Copper pipes
 (b) PVC pipes
 (c) Galvanized iron pipes
 (d) Cast iron pipes
- 139.** Most dangerous metal for human health is
 (a) zinc (b) copper
 (c) lead (d) iron
- 140.** In order to consider temperature changes, metal pipes are usually provided with
 (a) expansion joints (b) contraction joints
 (c) anchorages (d) pressure relief valves
- 141.** A G.I. pipe has coating of
 (a) zinc (b) lead
 (c) silver (d) aluminium
- 142.** The suitable layout of a distribution system for haphazardly developing city is
 (a) dead end system (b) grid iron system
 (c) ring system (d) radial system
- 143.** For towns and cities having well planned roads, the suitable layout of distribution system is
 (a) dead end system
 (b) grid iron system
 (c) ring system
 (d) radial system
- 144.** The layout of a distribution system, in which water flow towards the outer periphery, is
 (a) dead end system (b) grid iron system
 (c) ring system (d) radial system
- 145.** The type of layout system of pipes to be adopted depends upon
 (a) topography of the town
 (b) location of source of supply
 (c) elevation of source of supply
 (d) all of the above
- 146.** First stage in the treatment of water is
 (a) screening (b) sedimentation
 (c) filtration (d) coagulation
- 147.** To remove very fine suspended particles from water, the method adopted is
 (a) screening (b) sedimentation
 (c) coagulation (d) filtration
- 148.** The fine screens are generally not used these days, in water treatment as the fine suspended impurities are removed in
 (a) filtration (b) sedimentation
 (c) aeration (d) disinfection
- 149.** Settling velocity of inorganic particles in a sedimentation tank of a water treatment plant is governed by
 (a) Darcy's law (b) Dupit's law
 (c) Stoke's law (d) None of the above
- 150.** Settling velocity of inorganic particles of less than 0.1 mm dia, varies with the dia(d), in proportion to
 (a) d^3
 (b) d^2
 (c) d
 (d) None of the above

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- 151.** Water sedimentation process, involves the settling of the impurities in a tank, under the action of
(a) sun rays
(b) gravitational force
(c) biological action
(d) flow velocity of particles.
- 152.** The settling velocity of particles in a sedimentation tank depends on
(a) depth of tank (b) surface area of tank
(c) Both (a) and (b) (d) None of the above
- 153.** In plain sedimentation tank under normal conditions, impurities are removed upto
(a) 50% (b) 60%
(c) 70% (d) 80%
- 154.** The velocity of flow of water in a sedimentation tank is about
(a) 5 to 15 cm/sec (b) 5 to 15 cm/min
(c) 10 to 30 cm/sec (d) 15 to 30 cm/min
- 155.** The detention time of a settling tank may be defined as the time for
(a) which a water is detained in the tank
(b) particle to travel along its length
(c) flow of water to fill the tank fully
(d) All of the above
- 156.** Detention time for plain sedimentation tank usually ranges from
(a) 2 to 4 hours (b) 4 to 8 hours
(c) 8 to 12 hours (d) 12 to 16 hours
- 157.** If the temperature of a sedimentation tank is increased, the sedimentation speed will
(a) get hastened
(b) get slowed down
(c) not be affected at all
(d) None of these
- 158.** Surface loading or overflow rate of a sedimentation tank, passing a discharge Q and having length = L , depth = D , width = B is given by
(a) $\frac{Q}{B.D}$ (b) $\frac{Q}{B.L}$
(c) $Q.B.D$ (d) $\frac{Q}{B.D.L}$
- 159.** The efficiency of sediment removal in a continuous sedimentation tank does not depend upon the
(a) discharge through the tank
(b) width of the tank
(c) length of the tank
(d) depth of the tank.
- 160.** Flowing through period of a sedimentation tank, when compared to its detention time, is always
(a) more (b) less
(c) equal (d) uncertain
- 161.** The detention time for a sedimentation tank may vary between
(a) 1-2 hr (b) 2-4 hr
(c) 4-8 hr (d) 16-25 hr
- 162.** Methods of de-salination of water is
(a) distillation (b) electro-dialysis
(c) reverse osmosis (d) All of the above
- 163.** The most widely used coagulant for water-treatment, is
(a) lime and soda
(b) ferrous sulphate
(c) chlorinated coppers
(d) alum
- 164.** Coagulants, used in water treatment function are better when the raw water is
(a) acidic (b) alkaline
(c) neutral (d) None of the above
- 165.** A clariflocculator is a
(a) plain sedimentation unit
(b) aeration unit
(c) coagulation-sedimentation unit
(d) None of the above
- 166.** Particles of around 1 micron (10^{-6} m) size are best removed by
(a) filtration
(b) plain sedimentation
(c) chemical precipitation
(d) chemical coagulation
- 167.** Slow sand filters when compared to rapid gravity filters, may normally, filter
(a) 5 times slower (b) 10 times slower
(c) 20 times slower (d) 30 times slower
- 168.** Slow sand filters remove bacteria, to as much as
(a) 80-90% (b) 90-95%
(c) 98-99% (d) None of these
- 169.** A coagulating agent is
(a) Ferric sulphate (b) Ferric chloride
(c) Lime (d) Copper sulphate
- 170.** Alum is most effective as a coagulant in pH range of water
(a) 2 to 4 (b) 4 to 6
(c) 6 to 8 (d) 8 to 10

- 171.** The alum when mixed with water as a coagulant,
- increases pH value of water
 - decreases pH value of water
 - does not affect pH value of water
 - None of the above
- 172.** The quantity of coagulant required for coagulation of water increases with
- increases in temperature of water
 - decrease in temperature of water
 - increase in turbidity of water
 - None of the above
- 173.** The best coagulant for removing colour is
- lime
 - alum
 - calcium carbonate
 - sodium chloride
- 174.** The under drainage system in rapid sand filters
- only collects the filtered water
 - only allows back washing for cleaning the filter
 - Both (a) and (b) above
 - None of the above
- 175.** The water applied over a rapid sand filter is
- raw water from the source
 - disinfected raw water
 - raw water after coagulation
 - All of the above
- 176.** Double filtration is used to increase the filtration capacity of
- slow sand filters
 - rapid sand filters
 - rapid gravity filters
 - pressure filters
- 177.** In rapid sand filters, the maximum permissible loss of head is
- 1 m
 - 2 m
 - 3 m
 - 5 m
- 178.** The advantage of rapid sand filters is
- rapid rate of infiltration
 - small space required
 - effective in highly turbid water
 - All of the above
- 179.** The disadvantage of rapid sand filters is
- costly maintenance
 - skill in handling
 - cleaning is difficult
 - bacteria removal efficiency is low
 - All of the above
- 180.** Distribution of wash water is provided in
- slow sand filter
 - rapid sand filter
 - rapid gravity filter
 - All of the above
- 181.** For removing fine and light colloidal impurities from water, the dosage of coagulant Primarily depends on
- colour
 - pH value
 - temperature
 - time of settlement
- 182.** A pressure filter is a compact unit, which carries out the job, as accomplished by a
- flocculation tank
 - sedimentation tank
 - filtration unit
 - All of the above in one unit
- 183.** A roughening filter, as used in treating water supplies, is like a
- slow sand filter
 - rapid gravity filter
 - rapid gravity filter with coarser sand
 - None of the above
- 184.** The process of killing pathogenic bacteria from water is called
- sedimentation
 - filtration
 - coagulation
 - disinfection
- 185.** When chlorine is added beyond the break-point, the process of treating the water is known as
- plain chlorination
 - post chlorination
 - super chlorination
 - dechlorination
- 186.** The process of removing excess chlorine form water is called
- plain chlorination
 - post chlorination
 - dechlorination
 - super chlorination
- 187.** Dechlorination of water is done through the use of
- sodium thiosulphate
 - sodium sulphate
 - activated carbon
 - all of the above
- 188.** Hardness due to calcium bicarbonates can be removed by
- boiling
 - lime process
 - lime-soda process
 - zeolite process

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- 189.** Harmful bacteria is
(a) coliform bacteria
(b) streptococcus bacteria
(c) Both (a) and (b) above
(d) None of the above
- 190.** Ultraviolet rays are preferred for disinfection of water for
(a) domestic supply (b) fishing ponds
(c) swimming pools (d) paper industry
- 191.** ppm is the same as
(a) 5 grams per gallon of water
(b) 5 grams per litre of water
(c) 5 milligrams per litre of water
(d) 5 kg per tonne of water
- 192.** Sulphur dioxide in air produces
(a) aggravation of asthma and chronic bronchitis
(b) impairment of pulmonary function
(c) sensory irritation
(d) All of the above
- 193.** The efficiency of disinfection by chlorine in water treatment increases by
(a) decrease in time of contact
(b) decrease in temperature of water
(c) increases in temperature of water
(d) None of the above
- 194.** The process, which involves chlorination beyond break point chlorination is known as
(a) prechlorination
(b) super chlorination
(c) post chlorination
(d) dechlorination
- 195.** The treatment of water with bleaching powder is known as
(a) prechlorination
(b) dechlorination
(c) super chlorination
(d) hypochlorination
- 196.** Chemical compounds, which can be used for dechlorination of water is
(a) carbon dioxide (b) bleaching powder
(c) sulphur dioxide (d) chloramines
- 197.** The suitable method for disinfection of swimming pool water is
(a) ultra violet rays treatment
(b) lime treatment
(c) chlorination
(d) use of potassium permanganate.
- 198.** Compounds used in algae control
(a) ferric sulphate (b) calcium chloride
(c) copper sulphate (d) ferric chloride
- 199.** Activated carbon is used in water treatment for removing
(a) colour (b) tastes and odours
(c) turbidity (d) corrosiveness
- 200.** Iron and manganese can be removed from waters, by
(a) boiling
(b) aeration followed by coagulation
(c) chlorination
(d) activated carbon addition
- 201.** The process of desalination of water, which makes use of microporous membranes is
(a) electrodialysis (b) solar distillation
(c) freezing (d) None of the above
- 202.** Zeolite is
(a) hydrated alumino-silicate
(b) dehydrated calcium silicate
(c) hydrated silicate
(d) silicon carbide
- 203.** Potassium permanganate is used for
(a) dechlorination (b) improving colour
(c) reducing acidity (d) reducing hardness
- 204.** Zeolite process
(a) results in a water of zero hardness
(b) is not suitable for public supplies water
(c) when zeolite becomes inactive it may be reactivated by flushing with brine solution
(d) All of the above
- 205.** Temporary hardness of water can be removed by
(a) boiling (b) adding lime
(c) Both (a) and (b) (d) None of the above
- 206.** The major disadvantage of lime soda process is
(a) large quantity of sludge is formed, which creates a disposal problem.
(b) water can not be reduced to zero hardness.
(c) it is unsuitable for turbid and acidic water
(d) None of the above
- 207.** Strongly saline water may be desalinated by
(a) electrolysis
(b) evaporation and condensation
(c) freezing, washing and thawing
(d) Both (b) or (c) above

- 208.** Chemical compound widely used for algae control is
 (a) sodium sulphate (b) sodium chloride
 (c) calcium chloride (d) copper sulphate
- 209.** Flouridation water is done to make the fluoride content
 (a) more than 1 mg/litre
 (b) less than 1 mg/litre
 (c) nil
 (d) None of the above
- 210.** The process of removing extra common salt of sodium chloride from the water is known as
 (a) de-salination (b) aeration
 (c) coagulation (d) sedimentation
- 211.** The specific gravity of sewage is
 (a) zero (b) slightly less than 1
 (c) equal to 1 (d) slightly greater than 1
- 212.** In sewage having fully oxidised organic matter, the nitrogen is found in the form of
 (a) nitrites (b) nitrates
 (c) free ammonia (d) albuminoid nitrogen
- 213.** For detecting the nitrates in sewage, the colour may be developed by adding
 (a) potassium permanganate
 (b) sulphuric acid and naphthamine
 (c) phenol disulphuric acid and potassium
 (d) none of the above
- 214.** To test Chemical Oxygen Demand (C.O.D.) of sewage, organic matter is oxidised by potassium dichromate in the presence of
 (a) hydrochloric acid (b) sulphuric acid
 (c) nitric acid (d) citric acid
- 215.** The digested sludge from septic tanks is generally removed after a minimum period of
 (a) 3 years (b) 4 years
 (c) 5 years (d) 6 years
- 216.** Colours of fresh and septic sewage respectively are
 (a) gray and blue
 (b) blue and gray
 (c) blue and dark green
 (d) dark green and blue
- 217.** The characteristics of fresh and septic sewage respectively are
 (a) alkaline and acidic
 (b) acidic and alkaline
 (c) both acidic
 (d) both alkaline
- 218.** The most frequent method of bacterial reproduction is by
 (a) binding (b) cell division
 (c) sexual process (d) colony formation
- 219.** Aerobes which feed on bacteria and algae and have a rigid shell structure, are called
 (a) algae (b) protozoa
 (c) crustaceans (d) fungi
- 220.** The temperature affects the
 (a) viscosity of sewage
 (b) solubility of gases in sewage
 (c) biological activity of bacterias in sewage
 (d) all of the above
- 221.** The amount of oxygen consumed by the aerobic bacterias which causes the aerobic biological decomposition of sewage, is called
 (a) Bio-chemical oxygen demand
 (b) Chemical oxygen demand
 (c) Dissolved oxygen
 (d) None of the above
- 222.** If BOD of town is 10,000 kg/day and BOD per capita per day is 0.02 kg, then population equivalent of town is
 (a) 2000 (b) 5000
 (c) 50,000 (d) 5,00,000
- 223.** The rate of BOD exerted at any time is
 (a) directly proportional to BOD satisfied
 (b) directly proportional to BOD remaining
 (c) inversely proportional to BOD remaining
 (d) inversely proportional to BOD satisfied
- 224.** The relative stability of a sewage sample whose DO is same as the total oxygen required to satisfy BOD, is
 (a) 1 (b) 10
 (c) 100 (d) zero
- 225.** The rate of BOD is not governed by
 (a) characteristics of sewage
 (b) temperature of sewage
 (c) bacterial population
 (d) pressure of sewage
- 226.** Select the incorrect statement
 (a) Aerobic bacteria flourish in the presence of oxygen
 (b) Anaerobic bacteria flourish in the absence of oxygen
 (c) Facultative bacteria flourish in the presence as well as absence of oxygen
 (d) none of the above

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- 227.** Temperature variations affect the
(a) biological activity of bacteria in sewage
(b) viscosity of sewage
(c) solubility gases in sewage
(d) all of the above
- 228.** The pH of fresh sewage is usually
(a) less than 7 (b) more than 7
(c) equal to 7 (d) equal to zero
- 229.** Chlorine content in ordinary municipal sewage as compared to usual tolerable limit is
(a) more (b) less
(c) equals (d) uncertain
- 230.** Pathogenic bacteria, enter waste waters, primarily from
(a) industrial wastes
(b) both industrial as well as domestic wastes
(c) domestic wastes
(d) infiltration in sewers from the surrounding soils.
- 231.** Chemical Oxygen Demand (COD) of sewage is the oxygen required to oxidise biologically
(a) active organic matter
(b) inactive organic matter
(c) both (a) and (b) above
(d) none of the above
- 232.** Biochemical Oxygen Demand (BOD) of sewage is the oxygen required to oxidise biologically
(a) active organic matter
(b) inactive organic matter
(c) both (a) and (b) above
(d) none of the above
- 233.** The microbial utilisation of organics is a
(a) first order reaction
(b) second order reaction
(c) third order reaction
(d) none of the above
- 234.** Dissolved oxygen in streams is
(a) maximum at noon
(b) minimum at noon
(c) maximum at midnight
(d) same throughout the day.
- 235.** Algae dies out, though fishes life may survive, in a river zone, known as
(a) zone of degradation
(b) zone of active decomposition
(c) zone of recovery
(d) none of the above
- 236.** The biochemical treatment of sewage effluent is a process of
(a) oxidation (b) reduction
(c) dehydration (d) alkalinization
- 237.** The unit working in anaerobic conditions is
(a) sludge settling tank
(b) sludge digestion tank
(c) activated sludge treatment
(d) trickling filters
- 238.** In sludge digestion, gas produced mainly is
(a) nitrogen (b) methane
(c) carbon dioxide (d) ammonia
- 239.** Breaking of the organic solids into stable organic solids or mineral compounds through biological activities in the presence of oxygen, is called
(a) de-oxidation (b) de-aeration
(c) decomposition (d) oxidation
- 240.** In the design and operation of an oxidation pond, the important factor is
(a) surface area
(b) depth and shape
(c) inlets and outlets
(d) control of weeds and vegetation around to edges to prevent mosquito breeding
(e) all of the above
- 241.** Chlorine is used in treatment of sewage to
(a) aid flocculation
(b) help grease separation
(c) increase the BOD
(d) cause bulking of activated sludge
- 242.** Sludge volume index is defined as ratio of
(a) percentage of sludge by volume to percentage of suspended solids by weight
(b) percentage of sludge by volume to percentage of suspended solids by weight
(c) percentage of suspended solids by weight to percentage of sludge by volume
(d) none of the above
- 243.** When there is no recirculation of sewage, then circulation factor is
(a) zero (b) one
(c) infinity (d) none of the above
- 244.** The sewage is treated by aerobic bacterial action in
(a) settling tank (b) trickling filter
(c) oxidation pond (d) all of the above