

TSPSCPCB Asst Environmental Engg 502

Topic:- Concerned Subject

1) Under what legal enactment are Indian Forests protected? [Question ID = 11242]

1. Forest Conservation Act [Option ID = 14962]
2. Environmental Protection Act [Option ID = 14963]
3. Wildlife Protection Act [Option ID = 14964]
4. Reserved Forests Act [Option ID = 14965]

Correct Answer :-

- Forest Conservation Act [Option ID = 14962]

2) What would be the preferred food of Dugong dugong, the sea cow? [Question ID = 11243]

1. Small fish [Option ID = 14966]
2. Coral reefs [Option ID = 14967]
3. Sea weed [Option ID = 14968]
4. Sea grass [Option ID = 14969]

Correct Answer :-

- Sea grass [Option ID = 14969]

3) Which were the top timber species that were harvested by the British? [Question ID = 11244]

1. Teak, sal and deodar [Option ID = 14970]
2. Teak, bamboo and sal [Option ID = 14971]
3. Bamboo, sal and rosewood [Option ID = 14972]
4. Bamboo and rosewood [Option ID = 14973]

Correct Answer :-

- Teak, sal and deodar [Option ID = 14970]

4) Which list protects animals in India? [Question ID = 11245]

1. Red list [Option ID = 14974]
2. Scheduled list [Option ID = 14975]
3. Protection list [Option ID = 14976]
4. Endangered list [Option ID = 14977]

Correct Answer :-

- Scheduled list [Option ID = 14975]

5) From the list below, identify the most appropriate set of keystone species [Question ID = 11246]

1. Ficus, Termite Mound [Option ID = 14978]
2. Ficus, Gaur [Option ID = 14979]
3. Peacock, Cobra [Option ID = 14980]
4. Cobra, Neem [Option ID = 14981]

Correct Answer :-

- Ficus, Termite Mound [Option ID = 14978]

6) What is MRR technique? [Question ID = 11247]

1. Mark, Release, Recapture [Option ID = 14982]
2. Mark, Rescue, Restore [Option ID = 14983]
3. Mark, Revive, Rescue [Option ID = 14984]
4. Mark, Recapture, Release [Option ID = 14985]

Correct Answer :-

- Mark, Release, Recapture [Option ID = 14982]

7) What does the Ramsar Convention address? [Question ID = 11248]

1. Protection of water bodies [Option ID = 14986]
2. Protection of rivers [Option ID = 14987]
3. Protection of wetlands [Option ID = 14988]
4. Protection of seas [Option ID = 14989]

Correct Answer :-

- Protection of wetlands [Option ID = 14988]

8) Who drafts or develops the Red List of Species [Question ID = 11249]

1. Government of India [Option ID = 14990]
2. The United National Environment Programme [Option ID = 14991]
3. The International Union for the Conservation of Nature [Option ID = 14992]
4. Biodiversities [Option ID = 14993]

Correct Answer :-

- The International Union for the Conservation of Nature [Option ID = 14992]

9) How many international conventions govern the protection of nature? [Question ID = 11250]

1. 7 [Option ID = 14994]
2. 8 [Option ID = 14995]
3. 6 [Option ID = 14996]
4. 4 [Option ID = 14997]

Correct Answer :-

- 7 [Option ID = 14994]

10) Which of the following is NOT considered a planetary boundary [Question ID = 11251]

1. Ozone depletion in the upper atmosphere [Option ID = 14998]
2. Global biodiversity loss [Option ID = 14999]

3. Worsening air pollution in cities [Option ID = 15000]
4. Increasing levels of nitrogen in terrestrial ecosystems [Option ID = 15001]

Correct Answer :-

- Worsening air pollution in cities [Option ID = 15000]

11) Which of the following is NOT a major risk associated with global warming: [Question ID = 11252]

1. Increase in the incidence of malaria [Option ID = 15002]
2. Increase in water shortage [Option ID = 15003]
3. Increase in the incidence of nitrogen loading in streams and rivers [Option ID = 15004]
4. Increased morbidity from heat waves, droughts and floods [Option ID = 15005]

Correct Answer :-

- Increase in the incidence of nitrogen loading in streams and rivers [Option ID = 15004]

12) The intersection of economic and environment considerations gives rise to ----- development [Question ID = 11253]

1. Bearable [Option ID = 15006]
2. Equitable [Option ID = 15007]
3. Sustainable [Option ID = 15008]
4. Viable [Option ID = 15009]

Correct Answer :-

- Viable [Option ID = 15009]

13) One of the major negative outcomes of construction of embankments on both sides of Kosi river in Bihar is: [Question ID = 11254]

1. Degradation of river bed [Option ID = 15010]
2. Aggradations of river bed [Option ID = 15011]
3. Reduced availability of water in the downstream reaches [Option ID = 15012]
4. Political problems between the states of Bihar and West Bengal [Option ID = 15013]

Correct Answer :-

- Aggradations of river bed [Option ID = 15011]

14) Construction of a large number of dams in Columbia river basin has affected the livelihood of Native Americans in that area because [Question ID = 11255]

1. There is a significant decrease in the population of anadromous fish [Option ID = 15014]
2. Many of them became sick because of malaria [Option ID = 15015]
3. The lands where they were growing crops were inundated [Option ID = 15016]
4. They were relocated to areas which were inhabitable [Option ID = 15017]

Correct Answer :-

- There is a significant decrease in the population of anadromous fish [Option ID = 15014]

15) Salmon population has come down drastically in Columbia river basin due to construction of large number of dams. This is because [Question ID = 11256]

1. People had easy access to the river and this resulted in over fishing [Option ID = 15018]
2. Salmon could not jump over the dams! [Option ID = 15019]
3. Increased depth of water in reservoirs exerted tremendous pressure and salmon could not withstand this [Option ID = 15020]
4. Construction of dams resulted in the increase in GHGs, and this killed salmon [Option ID = 15021]

Correct Answer :-

- Salmon could not jump over the dams! [Option ID = 15019]

16) There are many proponents for “busting of dams” because they have caused an ecological havoc. However, from an eco-hydrological point of view, one needs to be cautious about dam removal because [Question ID = 11257]

1. The new eco system created may not match with what one had before construction of dam [Option ID = 15022]
2. Removal of dams may decrease the availability of water in the basin [Option ID = 15023]
3. Neither reason (a) nor reason (b) [Option ID = 15024]
4. Both reasons (a) and (b) [Option ID = 15025]

Correct Answer :-

- The new eco system created may not match with what one had before construction of dam [Option ID = 15022]

17) Pick the wrong statement from the set below, with regard to DDT [Question ID = 11258]

1. It is an endocrine disrupting compound [Option ID = 15026]
2. Causes breast cancer [Option ID = 15027]
3. Causes egg shell thinning in birds [Option ID = 15028]
4. It does not remain in the environment for a long time [Option ID = 15029]

Correct Answer :-

- It does not remain in the environment for a long time [Option ID = 15029]

18) Which of the following emissions will increase if we increase the use of bio- diesel blends [Question ID = 11259]

1. Total unburned hydrocarbons [Option ID = 15030]
2. Carbon monoxide [Option ID = 15031]
3. Particulate matter [Option ID = 15032]
4. Oxides of nitrogen [Option ID = 15033]

Correct Answer :-

- Oxides of nitrogen [Option ID = 15033]

19) Opponents of increased usage of bio-diesel in India are most likely to cite the following reason in their arguments [Question ID = 11260]

1. There is no real benefit in terms of GHG reduction [Option ID = 15034]
2. There is a likelihood of increase in food insecurity [Option ID = 15035]
3. Fuel insecurity will increase [Option ID = 15036]
4. There is a likelihood of increase in air pollution [Option ID = 15037]

Correct Answer :-

- There is a likelihood of increase in food insecurity [Option ID = 15035]

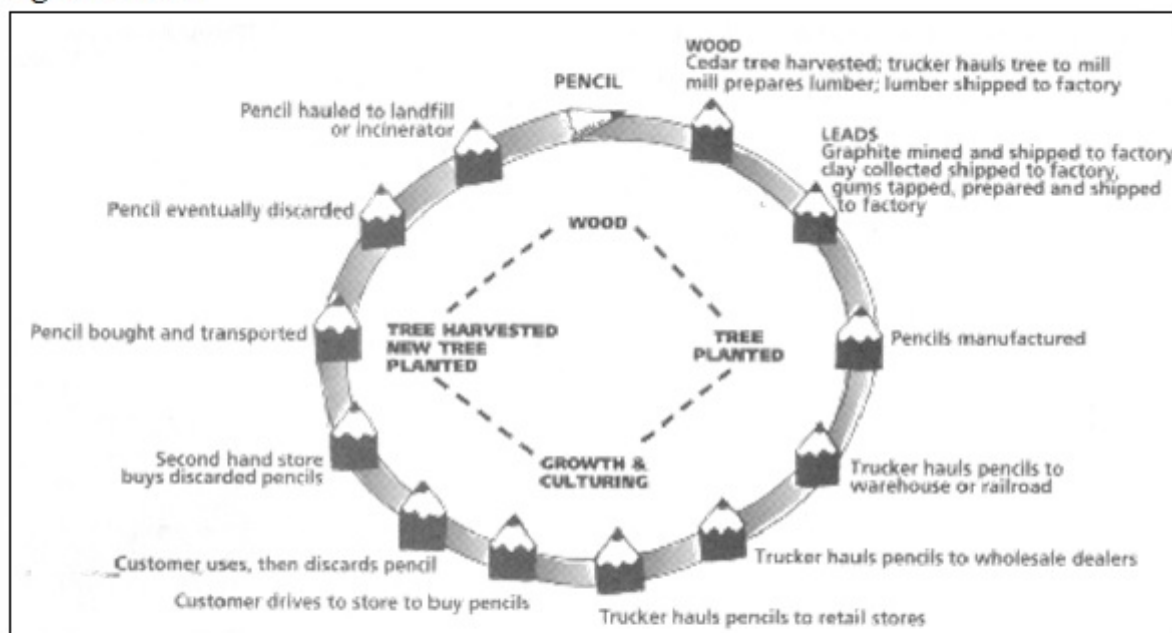
20) In a given process, which of following is ideally LEAST of the relevant factors from a life cycle analysis perspective [Question ID = 11261]

1. Toxic exposure to workers [Option ID = 15038]
2. Long term environmental impacts [Option ID = 15039]
3. Proximity to raw materials [Option ID = 15040]
4. Cost of pollution control [Option ID = 15041]

Correct Answer :-

- Cost of pollution control [Option ID = 15041]

21) Consider the lifecycle analysis (LCA) of a simple manual pencil shown in the figure below.



The following are statements that are made with reference to the above figure:

- i) Pencil manufacture has no long-term ecological impacts.
- ii) Raw materials are all locally available.
- iii) Transportation costs are externalized and do not belong in this LCA.
- iv) Customer has a responsibility in managing waste from pencil usage.
- v) Waste Management during pencil manufacture is required.

Which of the statement above are explicitly FALSE based on the LCA shown?

[Question ID = 11392]

1. i, ii, iii [Option ID = 15562]
2. i, ii, iv [Option ID = 15563]
3. i, ii, v [Option ID = 15564]
4. i, ii, iii, iv, v [Option ID = 15565]

Correct Answer :-

- i, ii, iii [Option ID = 15562]

22) Which component of the environmental management system does the term 'green chemistry' primarily apply to? [Question ID = 11263]

1. Remediation [Option ID = 15046]
2. Process Design [Option ID = 15047]
3. Safety [Option ID = 15048]
4. Risk Assessment [Option ID = 15049]

Correct Answer :-

- Process Design [Option ID = 15047]

23) Which of the following is not likely to be a part of the risk assessment process of the use of hazardous materials (pollutants) in the environment? [Question ID = 11264]

1. Cost of the material [Option ID = 15050]
2. Exposure of material to a receptor [Option ID = 15051]
3. Atmospheric transport of material [Option ID = 15052]
4. Biodegradability of the material [Option ID = 15053]

Correct Answer :-

- Cost of the material [Option ID = 15050]

24) Which of the following is an example of responsible environmental management? [Question ID = 11265]

1. Dumping wastewater in sea. [Option ID = 15054]
2. Disposal of wastewater in local lakes. [Option ID = 15055]
3. Burning of solid waste in local communities. [Option ID = 15056]
4. Decentralized community waste management facilities. [Option ID = 15057]

Correct Answer :-

- Decentralized community waste management facilities. [Option ID = 15057]

25) Which of the following can be considered as an "End of a Pipeline" treatment process? [Question ID = 11266]

1. Green Chemistry approach to reduce pollution [Option ID = 15058]
2. Catalytic convertors in automobiles to reduce emissions [Option ID = 15059]
3. Soil excavation to remove historical contamination [Option ID = 15060]
4. Usage of personal respiratory protection masks [Option ID = 15061]

Correct Answer :-

- Catalytic convertors in automobiles to reduce emissions [Option ID = 15059]

26) Which of the following is NOT TRUE with reference to environmental liability for a historically contaminated site? [Question ID = 11267]

1. The regulatory agency always takes responsibility for site remediation [Option ID = 15062]
2. People living in the affected area bear the primary liability. [Option ID = 15063]
3. Current owner may take the liability costs [Option ID = 15064]
4. The original polluter may take responsibility [Option ID = 15065]

Correct Answer :-

- People living in the affected area bear the primary liability. [Option ID = 15063]

27) Which of the following environmental option is potentially the least expensive and time consuming? [Question ID = 11268]

1. Dredging and relocation to another site [Option ID = 15066]
2. Dumping and containing hazardous waste in a landfill [Option ID = 15067]
3. Incineration of biomedical waste [Option ID = 15068]
4. Monitored natural recovery [Option ID = 15069]

Correct Answer :-

- Monitored natural recovery [Option ID = 15069]

28) In which world region do we currently witness the highest growth rates in urban population? [Question ID = 11269]

1. Latin America [Option ID = 15070]
2. Australasia [Option ID = 15071]
3. Asia [Option ID = 15072]
4. Europe [Option ID = 15073]

Correct Answer :-

- Asia [Option ID = 15072]

29) Changes in the level of urbanization describe... [Question ID = 11270]

1. The proportion of the population living in urban centers. [Option ID = 15074]
2. The number of urban centers in a country. [Option ID = 15075]
3. A factor of reclassification from rural to urban areas. [Option ID = 15076]
4. The net balance of rural-urban migration. [Option ID = 15077]

Correct Answer :-

- The proportion of the population living in urban centers. [Option ID = 15074]

30) Two aspects of the rapid growth in the world's urban population over the last 50–100 years are... [Question ID = 11271]

1. significantly higher mortality rate and the unprecedented size of the largest cities [Option ID = 15078]
2. the increase in the number of large cities and the disproportionately high fertility rates in cities [Option ID = 15079]
3. the youth bulge and environmental pollution [Option ID = 15080]
4. the increase in the number of large cities and the historically unprecedented size of the largest cities [Option ID = 15081]

Correct Answer :-

- the increase in the number of large cities and the historically unprecedented size of the largest cities [Option ID = 15081]

31) What is meant by the "urban environment"? [Question ID = 11272]

1. the natural elements (air, water, land, climate, flora, fauna) as part of the city [Option ID = 15082]

2. the built environment (physical environment constructed/modified for human habitation & activity) [Option ID = 15083]
3. the social environment as determined by urban lifestyles [Option ID = 15084]
4. the physical environment in urban areas: mix of natural elements and the built environment [Option ID = 15085]

Correct Answer :-

- the physical environment in urban areas: mix of natural elements and the built environment [Option ID = 15085]
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32) The city of Freiburg in Germany became known as the "environmental capital" as far back as 1992. Which one of the following policies was part of the new agenda?

[Question ID = 11273]

1. restoration and preservation of water bodies to secure clean drinking water [Option ID = 15086]
2. afforestation in and around the city to reduce the effects of acid rain [Option ID = 15087]
3. implementation of a smog and ozone warning system [Option ID = 15088]
4. construction of the first municipal photovoltaic power plant in Germany [Option ID = 15089]

Correct Answer :-

- implementation of a smog and ozone warning system [Option ID = 15088]
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33) The Sustainable Development Goals (SDGs) are considered the Post 2015 Global Agenda aimed at resolving the social, economic and environmental problems troubling the world. What is the role assigned to cities and urban development in this new agenda? [Question ID = 11274]

1. cities and urban development is viewed as a key policy area of cross-cutting nature that is relevant in all the 17 goals [Option ID = 15090]
2. urban development is considered in specific targets of some goals like good jobs and economic growth, good health, clean water and sanitation, responsible consumption, clean energy, and poverty alleviation [Option ID = 15091]
3. sustainable cities and communities are considered as very important and thus are a goal by itself [Option ID = 15092]
4. cities and urban development are not worth to be considered as there are too many other problems that need to be addressed first and relate indirectly to improve cities [Option ID = 15093]

Correct Answer :-

- sustainable cities and communities are considered as very important and thus are a goal by itself [Option ID = 15092]
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34) Identify the three factors that are seen as crucial in determining the generation of CO₂ emissions in cities.

[Question ID = 11275]

1. lifestyles, consumption patterns and urban form [Option ID = 15094]
2. energy sources, spatial form and proportion of poor population [Option ID = 15095]
3. spatial form, application of technology and lifestyles [Option ID = 15096]
4. lifestyles, spatial form and energy sources [Option ID = 15097]

Correct Answer :-

- lifestyles, spatial form and energy sources [Option ID = 15097]

35) "Resilience" is one of the central concepts and approaches to prepare cities and their populations for climate-related disasters. What does "resilience" mean applied to climate-related disasters in an urban area? [Question ID = 11276]

1. it refers to the capacity of a city's infrastructure and services to withstand disasters as well as how communities and institutions are expected to cope with such an event [Option ID = 15098]
2. it refers to the adaptive capacity of the urban authorities in disaster preparedness and management [Option ID = 15099]
3. it refers to the reduction of disaster risks and the vulnerability of infrastructures and communities [Option ID = 15100]
4. it is a two-pronged long-term strategy focusing on mitigation of the urban carbon footprint and improvements in urban governance [Option ID = 15101]

Correct Answer :-

- it refers to the capacity of a city's infrastructure and services to withstand disasters as well as how communities and institutions are expected to cope with such an event [Option ID = 15098]

36) Turbidity in raw water [Question ID = 11277]

1. makes the disinfection process ineffective [Option ID = 15102]
2. results in corrosion [Option ID = 15103]
3. results in odor problems [Option ID = 15104]
4. results in alkalinity [Option ID = 15105]

Correct Answer :-

- makes the disinfection process ineffective [Option ID = 15102]

37) Hypochlorite is used in water treatment for [Question ID = 11278]

1. Disinfection [Option ID = 15106]
2. a coagulant [Option ID = 15107]
3. an auxiliary chemical [Option ID = 15108]
4. a coagulant aid [Option ID = 15109]

Correct Answer :-

- Disinfection [Option ID = 15106]

38) Mottling teeth is associated with the presence of [Question ID = 11279]

1. Chlorides in water [Option ID = 15110]
2. Calcium in water [Option ID = 15111]
3. Magnesium in water [Option ID = 15112]
4. Fluorides in water [Option ID = 15113]

Correct Answer :-

- Fluorides in water [Option ID = 15113]

39) Infectious hepatitis is

[Question ID = 11280]

1. a bacterial disease [Option ID = 15114]
2. a protozoal disease [Option ID = 15115]
3. a viral disease [Option ID = 15116]
4. due to blood infection [Option ID = 15117]

Correct Answer :-

- a viral disease [Option ID = 15116]

40) Reverse osmosis process can remove only [Question ID = 11281]

1. Turbidity [Option ID = 15118]
2. Turbidity, dissolved solids and bacteria [Option ID = 15119]
3. bacteria [Option ID = 15120]
4. colour [Option ID = 15121]

Correct Answer :-

- Turbidity, dissolved solids and bacteria [Option ID = 15119]

41) Attributes of a good water supply system should include [Question ID = 11282]

1. quality and quantity, affordability, reliability [Option ID = 15122]
2. affordability and reliability only [Option ID = 15123]
3. reliability only [Option ID = 15124]
4. Quantity and affordability only [Option ID = 15125]

Correct Answer :-

- quality and quantity, affordability, reliability [Option ID = 15122]

42) In a constructed wetland the oxygen is supplied by [Question ID = 11283]

1. Surface aerators [Option ID = 15126]
2. natural aeration [Option ID = 15127]
3. Compressed aerators [Option ID = 15128]
4. oxidizing agents [Option ID = 15129]

Correct Answer :-

- natural aeration [Option ID = 15127]

43) Manganese is a pollutant commonly found [Question ID = 11284]

1. Ground water [Option ID = 15130]
2. Surface water [Option ID = 15131]
3. Sea water [Option ID = 15132]
4. Lake water [Option ID = 15133]

Correct Answer :-

- Ground water [Option ID = 15130]

44) A census town in India is: [Question ID = 11285]

1. A continuous urban spread comprising one or more towns and their adjoining out growth(s) [Option ID = 15134]

2. Areas around a core city or town, such well recognized places, like, Railway colony, university campus, port area, etc., lying outside the limit of town. [Option ID = 15135]
3. All villages with a minimum population of 5,000 persons in the preceding Census, at least 75% of male main working population engaged in non-agricultural activities and a population density of at least 400 persons per sq km. [Option ID = 15136]
4. All places with a municipality, corporation, cantonment board, notified town area committee, etc. [Option ID = 15137]

Correct Answer :-

- All villages with a minimum population of 5,000 persons in the preceding Census, at least 75% of male main working population engaged in non-agricultural activities and a population density of at least 400 persons per sq km. [Option ID = 15136]

45) Severe demand-supply gap in water is expected in the following river basin in India in future [Question ID = 11286]

1. Godavari [Option ID = 15138]
2. Subarnarekha [Option ID = 15139]
3. Brahmaputra [Option ID = 15140]
4. Ganga [Option ID = 15141]

Correct Answer :-

- Ganga [Option ID = 15141]

46) Following is not a principle of Integrated Water Management [Question ID = 11287]

1. Provide equitable access to water for all stake holders. [Option ID = 15142]
2. Manage in an integrated way, recognizing that water has multiple uses [Option ID = 15143]
3. Water should not be treated as an economic good [Option ID = 15144]
4. Manage at the lowest appropriate level [Option ID = 15145]

Correct Answer :-

- Water should not be treated as an economic good [Option ID = 15144]

47) When an area gets urbanized, following component in the water balance gets reduced [Question ID = 11288]

1. Evapo-transpiration [Option ID = 15146]
2. Run-off [Option ID = 15147]
3. Imported potable water [Option ID = 15148]
4. Wastewater generation [Option ID = 15149]

Correct Answer :-

- Evapo-transpiration [Option ID = 15146]

48) In Water Sensitive Urban Design (WSUD), storm water is [Question ID = 11289]

1. directly let into nearby streams / water bodies through efficient drainage system [Option ID = 15150]
2. mixed with domestic waste water to reduce the concentrations by dilution and then let into water bodies [Option ID = 15151]
3. storm water is treated and majority of it is used for recharging aquifers [Option ID = 15152]
4. storm water is treated and is then let into streams / water bodies [Option ID = 15153]

Correct Answer :-

- storm water is treated and majority of it is used for recharging aquifers [Option ID = 15152]

49) In stakeholders meetings, city officials are typically concerned with [Question ID = 11290]

1. job creation [Option ID = 15154]
2. costs & ease of maintenance [Option ID = 15155]
3. provision of basic services [Option ID = 15156]
4. awareness [Option ID = 15157]

Correct Answer :-

- costs & ease of maintenance [Option ID = 15155]

50) Dimensions of kinematic viscosity (M: mass; L: length; T: time) [Question ID = 11393]

1. L^2T^{-1} [Option ID = 15566]
2. L^2T [Option ID = 15567]
3. ML^2T^{-1} [Option ID = 15568]
4. $ML^{-1}T^{-2}$ [Option ID = 15569]

Correct Answer :-

- L^2T^{-1} [Option ID = 15566]

51) A flow field in which the divergence of velocity vector is zero represents always [Question ID = 11292]

1. an irrotational flow [Option ID = 15162]
2. an incompressible flow [Option ID = 15163]
3. an unsteady compressible flow [Option ID = 15164]
4. a steady and compressible flow [Option ID = 15165]

Correct Answer :-

- an incompressible flow [Option ID = 15163]

52) Mach number represents a ratio of [Question ID = 11293]

1. inertia to elastic force [Option ID = 15166]
2. inertia to gravity force [Option ID = 15167]
3. inertia to viscous force [Option ID = 15168]
4. inertia to pressure force [Option ID = 15169]

Correct Answer :-

- inertia to viscous force [Option ID = 15168]

53)

The x and y components of velocity in a two-dimensional incompressible flow are given by $u = 3x + 2y$; $v = 2x - 3y$

The vorticity in the flow field is given by

[Question ID = 11394]

1. 1 [Option ID = 15570]
2. $\frac{1}{2}$ [Option ID = 15571]
3. 0 [Option ID = 15572]
4. -1 [Option ID = 15573]

Correct Answer :-

- -1 [Option ID = 15573]

54) The laminar boundary layer thickness on flat plate varies as (in terms of distance x from the leading edge) [Question ID = 11395]

1. $\frac{1}{x}$ [Option ID = 15574]
2. $\frac{1}{\sqrt{x}}$ [Option ID = 15575]
3. $\sqrt{x}$ [Option ID = 15576]
4. x^2 [Option ID = 15577]

Correct Answer :-

- $\sqrt{x}$ [Option ID = 15576]

55) In a pipeline, the flow turns turbulent when the Reynolds number (based on the pipe diameter) crosses a critical value which lies between [Question ID = 11296]

1. 500 – 800 [Option ID = 15178]
2. 1000 – 1200 [Option ID = 15179]
3. 1500 – 1800 [Option ID = 15180]
4. 2000 - 2700 [Option ID = 15181]

Correct Answer :-

- 2000 - 2700 [Option ID = 15181]

56) In a steady flow through a straight nozzle, the center line velocity changes from 1 m/s to 10 m/s in 0.3 m length. Change in the magnitude of convective acceleration is [Question ID = 11396]

1. 200 m/s^2 [Option ID = 15578]
2. 235 m/s^2 [Option ID = 15579]
3. 270 m/s^2 [Option ID = 15580]

4. 305 m/s^2 [Option ID = 15581]

Correct Answer :-

- 270 m/s^2 [Option ID = 15580]

57) The Reynolds number of a flow through a pipe is 32. The Darcy-Weisbach friction factor, f is equal to [Question ID = 11298]

1. 1.0 [Option ID = 15186]
2. 2.0 [Option ID = 15187]
3. 4.0 [Option ID = 15188]
4. 8.0 [Option ID = 15189]

Correct Answer :-

- 2.0 [Option ID = 15187]

58)

The specific speed of a pump is defined as (Q = flow rate in m^3/s ; N = speed of the pump in rpm; H = head developed by the pump in meters)

[Question ID = 11397]

1. $\frac{N\sqrt{Q}}{H^{3/4}}$ [Option ID = 15582]
2. $\frac{NQ}{H^{3/4}}$ [Option ID = 15583]
3. $\frac{\sqrt{NQ}}{H^{3/4}}$ [Option ID = 15584]
4. $\frac{NQ^{3/4}}{\sqrt{H}}$ [Option ID = 15585]

Correct Answer :-

- $\frac{N\sqrt{Q}}{H^{3/4}}$ [Option ID = 15582]

59) Draft tube is a conduit [Question ID = 11300]

1. in a pumping scheme and connects the sump and the pump impeller [Option ID = 15194]
2. in a pumping scheme and connects the air chamber with the delivery line [Option ID = 15195]
3. in a hydro-electric scheme and connects the runner exit to the tail race [Option ID = 15196]
4. in a hydro-electric scheme and connects the penstock and the surge tank [Option ID = 15197]

Correct Answer :-

- in a hydro-electric scheme and connects the runner exit to the tail race [Option ID = 15196]

60) The Froude number, F in an open channel is defined as (V = velocity; P = wetted perimeter; D = hydraulic depth; R = hydraulic radius; g = acceleration due to gravity) [Question ID = 11398]

1. $\frac{V}{\sqrt{gP}}$ [Option ID = 15586]
2. $\frac{V}{\sqrt{gR}}$ [Option ID = 15587]
3. $\frac{V}{\sqrt{gD}}$ [Option ID = 15588]
4. $\frac{V}{\sqrt{gP^2 / R}}$ [Option ID = 15589]

Correct Answer :-

- $\frac{V}{\sqrt{gD}}$ [Option ID = 15588]

61) The flow in a rectangular channel is subcritical. If the width is contracted at a certain section, the water surface [Question ID = 11302]

1. at a downstream section will drop [Option ID = 15202]
2. at a down stream section will rise [Option ID = 15203]
3. at an upstream stream section will drop [Option ID = 15204]
4. remains same at the down stream section [Option ID = 15205]

Correct Answer :-

- at a downstream section will drop [Option ID = 15202]

62) In a uniform open channel flow in a wide rectangular channel, the flow depth is 1 m and the bed slope is 0.0001. The average bed shear stress is [Question ID = 11399]

1. 0.9810 N/m² [Option ID = 15590]
2. 9.810 N/m² [Option ID = 15591]
3. 98.10 N/m² [Option ID = 15592]
4. 981.0 N/m² [Option ID = 15593]

Correct Answer :-

- 0.9810 N/m² [Option ID = 15590]

63) The flow profile on the upstream side of sluice gate on a mild channel is classified as [Question ID = 11304]

1. H2 [Option ID = 15210]
2. M3 [Option ID = 15211]

3. M2 [Option ID = 15212]
4. M1 [Option ID = 15213]

Correct Answer :-

- M1 [Option ID = 15213]

64) The sequent depth ratio in a hydraulic jump formed in a horizontal rectangular channel is 2.0. The Froude number of supercritical stream is [Question ID = 11400]

1. $\frac{1}{2}$ [Option ID = 15594]
2. $\sqrt{2}$ [Option ID = 15595]
3. $\sqrt{3}$ [Option ID = 15596]
4. 2 [Option ID = 15597]

Correct Answer :-

- $\sqrt{3}$ [Option ID = 15596]

65) COD > BOD₅ for domestic wastewater because

[Question ID = 11401]

1. Nitrification of NH_3 [Option ID = 15598]
2. Presence of non-biodegradable organic matter [Option ID = 15599]
3. Presence of chemically degradable organic matter [Option ID = 15600]
4. Presence of colour [Option ID = 15601]

Correct Answer :-

- Presence of non-biodegradable organic matter [Option ID = 15599]

66) The Stoke's Law of settling is applicable for [Question ID = 11307]

1. Flocculent suspension [Option ID = 15222]
2. Discrete particles [Option ID = 15223]
3. Zone settling [Option ID = 15224]
4. Compression settling [Option ID = 15225]

Correct Answer :-

- Discrete particles [Option ID = 15223]

67) The water distribution system is designed for [Question ID = 11308]

1. Annual average water demand [Option ID = 15226]
2. Peak daily demand [Option ID = 15227]
3. Peak hourly demand [Option ID = 15228]
4. Peak weekly demand [Option ID = 15229]

Correct Answer :-

- Peak hourly demand [Option ID = 15228]

68)

The ultimate BOD of a wastewater having BOD₅ of 200 mg/L and rate constant of 0.23/d is

[Question ID = 11402]

1. 192 mg/L [Option ID = 15602]
2. 292 mg/L [Option ID = 15603]
3. 392 mg/L [Option ID = 15604]
4. 92 mg/L [Option ID = 15605]

Correct Answer :-

- 292 mg/L [Option ID = 15603]

69) The volume of an extended aeration plant with a biomass concentration of 4 kg/ m³, to remove 400 kg/d of BOD at a BOD removal rate of 0.1/d is

[Question ID = 11403]

1. 100 m³ [Option ID = 15606]
2. 1000 m³ [Option ID = 15607]
3. 10,000 m³ [Option ID = 15608]
4. 100,000 m³ [Option ID = 15609]

Correct Answer :-

- 1000 m³ [Option ID = 15607]

70) The two major components of the atmosphere are: [Question ID = 11311]

1. Nitrogen and Helium [Option ID = 15238]
2. Oxygen and Ozone [Option ID = 15239]
3. Nitrogen and Carbon dioxide [Option ID = 15240]
4. Nitrogen and Oxygen [Option ID = 15241]

Correct Answer :-

- Nitrogen and Oxygen [Option ID = 15241]

71) The primary pollutant formed due to incomplete combustion of Carbon in fuel is [Question ID = 11312]

1. Sulphur trioxide [Option ID = 15242]
2. peroxyacetyl nitrate [Option ID = 15243]
3. ozone [Option ID = 15244]
4. CO [Option ID = 15245]

Correct Answer :-

- CO [Option ID = 15245]

72) The pollutant responsible for silvering of lower surface of leaves is**[Question ID = 11414]**

1. SO₂ [Option ID = 15650]
2. NO₂ [Option ID = 15651]
3. PAN [Option ID = 15652]
4. O₃ [Option ID = 15653]

Correct Answer :-

- PAN [Option ID = 15652]

73) The plume shape during neutral or slightly stable atmospheric conditions is [Question ID = 11314]

1. Fanning [Option ID = 15250]
2. Coning [Option ID = 15251]
3. Looping [Option ID = 15252]
4. Lofting [Option ID = 15253]

Correct Answer :-

- Coning [Option ID = 15251]

74) In urban air pollution the most poisonous gas is [Question ID = 11405]

1. CO [Option ID = 15614]
2. SO₂ [Option ID = 15615]
3. HC [Option ID = 15616]
4. NO₂ [Option ID = 15617]

Correct Answer :-

- CO [Option ID = 15614]

75) The United Nations conference on environment held at Stockholm in the year [Question ID = 11316]

1. 1952 [Option ID = 15258]
2. 1962 [Option ID = 15259]
3. 1972 [Option ID = 15260]
4. 1982 [Option ID = 15261]

Correct Answer :-

- 1972 [Option ID = 15260]

76) Indian national ambient air quality standard for 8-hour average carbon monoxide pertaining to sensitive area is [Question ID = 11406]

1. 5 mg/m³ [Option ID = 15618]

2. 2 mg/m^3 [Option ID = 15619]
3. 1 mg/m^3 [Option ID = 15620]
4. 10 mg/m^3 [Option ID = 15621]

Correct Answer :-

- 1 mg/m^3 [Option ID = 15620]

77) India started adopting European emission and fuel regulations for four-wheeler vehicles from the year [Question ID = 11318]

1. 1998 [Option ID = 15266]
2. 2000 [Option ID = 15267]
3. 2001 [Option ID = 15268]
4. 2005 [Option ID = 15269]

Correct Answer :-

- 2000 [Option ID = 15267]

78) The Environmental (Protection) Act is passed in the year [Question ID = 11319]

1. 1986 [Option ID = 15270]
2. 1990 [Option ID = 15271]
3. 1974 [Option ID = 15272]
4. 1981 [Option ID = 15273]

Correct Answer :-

- 1986 [Option ID = 15270]

79) The various unit operations exist in a sewage treatment plant as follows: (i) screening(ii) grit chamber (iii) secondary sedimentation (iv) aeration (v) primary sedimentation. The correct sequence of these unit operations is:

[Question ID = 11320]

1. i, ii, iii, iv, v. [Option ID = 15274]
2. i, ii, v, iv, iii. [Option ID = 15275]
3. iv, i, ii, iii, v. [Option ID = 15276]
4. i, ii, iii,v, iv [Option ID = 15277]

Correct Answer :-

- i, ii, v, iv, iii. [Option ID = 15275]

80) Color of fresh sewage is [Question ID = 11321]

1. green [Option ID = 15278]
2. brown [Option ID = 15279]
3. grey [Option ID = 15280]
4. white [Option ID = 15281]

Correct Answer :-

- grey [Option ID = 15280]

81) If the sewage contains greases and fatty oils, they are removed in [Question ID = 11322]

1. grit chambers [Option ID = 15282]
2. detritus tanks [Option ID = 15283]
3. sedimentation tanks [Option ID = 15284]
4. skimming tanks [Option ID = 15285]

Correct Answer :-

- skimming tanks [Option ID = 15285]

82) Activated sludge is the [Question ID = 11323]

1. aerated sludge in the aeration unit [Option ID = 15286]
2. sludge settled in the humus tank [Option ID = 15287]
3. sludge in the secondary tank after aeration and rich in microbial mass [Option ID = 15288]
4. sludge in the secondary tank after aeration and rich in nutrients [Option ID = 15289]

Correct Answer :-

- sludge in the secondary tank after aeration and rich in microbial mass [Option ID = 15288]

83) Secondary treatment of sewage removes [Question ID = 11324]

1. suspended organic matter [Option ID = 15290]
2. dissolved and colloidal organic matter [Option ID = 15291]
3. harmful bacteria [Option ID = 15292]
4. fats and grease [Option ID = 15293]

Correct Answer :-

- dissolved and colloidal organic matter [Option ID = 15291]

84) This is not part of advanced wastewater treatment processes [Question ID = 11325]

1. electro dialysis [Option ID = 15294]
2. ion exchange [Option ID = 15295]
3. carbon adsorption [Option ID = 15296]
4. Screening [Option ID = 15297]

Correct Answer :-

- Screening [Option ID = 15297]

85) The minimum DO prescribed for a river stream to avoid fish kill is [Question ID = 11326]

1. 2 ppm [Option ID = 15298]
2. 4 ppm [Option ID = 15299]
3. 6 ppm [Option ID = 15300]
4. 8 ppm [Option ID = 15301]

Correct Answer :-

- 4 ppm [Option ID = 15299]

86) High COD to BOD ratio of an organic pollutant represents [Question ID = 11327]

1. high biodegradability of the pollutant [Option ID = 15302]
2. low biodegradability of the pollutant [Option ID = 15303]
3. presence of free oxygen for aerobic decomposition [Option ID = 15304]
4. presence of toxic material in the pollutant [Option ID = 15305]

Correct Answer :-

- low biodegradability of the pollutant [Option ID = 15303]

87) Dried sludge is a good [Question ID = 11328]

1. fuel [Option ID = 15306]
2. soil builder [Option ID = 15307]
3. manure [Option ID = 15308]
4. filler for low lying area [Option ID = 15309]

Correct Answer :-

- manure [Option ID = 15308]

88) Which one of the following substances stores more heat energy than all other atmospheric constituents combined? [Question ID = 11329]

1. Carbon dioxide [Option ID = 15310]
2. Ozone [Option ID = 15311]
3. Water vapor [Option ID = 15312]
4. Nitrogen [Option ID = 15313]

Correct Answer :-

- Water vapor [Option ID = 15312]

89) Vertical mixing due to buoyancy is increased when atmospheric conditions are: [Question ID = 11330]

1. Unstable [Option ID = 15314]
2. Neutral [Option ID = 15315]
3. Stable [Option ID = 15316]
4. Extremely stable [Option ID = 15317]

Correct Answer :-

- Unstable [Option ID = 15314]

90) Main photochemical oxidant is [Question ID = 11331]

1. Ozone [Option ID = 15318]
2. hydrogen peroxide [Option ID = 15319]
3. nitrogen dioxide [Option ID = 15320]
4. alkyl nitrate [Option ID = 15321]

Correct Answer :-

- Ozone [Option ID = 15318]

91) Greenhouse effect is the result of [Question ID = 11332]

1. Over crop production [Option ID = 15322]
2. Large amount of fuel consumption [Option ID = 15323]
3. Volcanic eruption [Option ID = 15324]
4. Green cover [Option ID = 15325]

Correct Answer :-

- Large amount of fuel consumption [Option ID = 15323]

92) Photochemical smog is produced by [Question ID = 11333]

1. Complex chemical reaction between hydrocarbon and oxides of nitrogen [Option ID = 15326]
2. Complex chemical reaction between carbon monoxide and hydrocarbon [Option ID = 15327]
3. Complex chemical reaction between carbon monoxide and nitrogen [Option ID = 15328]
4. Complex chemical reaction between SO_x and NO_x [Option ID = 15329]

Correct Answer :-

- Complex chemical reaction between hydrocarbon and oxides of nitrogen [Option ID = 15326]

93) Carbon monoxide emissions are high when [Question ID = 11334]

1. Vehicle is cruising [Option ID = 15330]
2. Vehicle is accelerating [Option ID = 15331]
3. Vehicle is decelerating [Option ID = 15332]
4. Vehicle is idling [Option ID = 15333]

Correct Answer :-

- Vehicle is idling [Option ID = 15333]

94) Method used for measurement of nitrogen dioxide concentration is [Question ID = 11335]

1. Chemi-luminescence method [Option ID = 15334]
2. Non-dispersive infrared analyzer [Option ID = 15335]
3. Flame ionization detection method [Option ID = 15336]
4. Obscuration method [Option ID = 15337]

Correct Answer :-

- Chemi-luminescence method [Option ID = 15334]

95) If the CO content in the air breathed is 100 ppm, the saturation value of COHb in the blood is . [Question ID = 11336]

1. 20% [Option ID = 15338]
2. 15% [Option ID = 15339]
3. 10% [Option ID = 15340]
4. 5% [Option ID = 15341]

Correct Answer :-

- 10% [Option ID = 15340]

96) The effect of earth's rotation on wind speed and direction is called as [Question ID = 11337]

1. Coriolis effect [Option ID = 15342]
2. Gravitational effect [Option ID = 15343]
3. Centrifugal effect [Option ID = 15344]
4. La Nina [Option ID = 15345]

Correct Answer :-

- Coriolis effect [Option ID = 15342]

97) Ringlemann's scale is used to measure [Question ID = 11338]

1. Grade of exhaust emission [Option ID = 15346]
2. Grade of stack emission [Option ID = 15347]
3. Grade of smoke density [Option ID = 15348]
4. Turbidity [Option ID = 15349]

Correct Answer :-

- Grade of smoke density [Option ID = 15348]

98) The photochemical reaction results in formation of [Question ID = 11407]

1. Only CO [Option ID = 15622]
2. **Both O₃ and PAN** [Option ID = 15623]
3. Both PAN and CO [Option ID = 15624]
4. **Both O₃ and CO** [Option ID = 15625]

Correct Answer :-

- **Both O₃ and PAN** [Option ID = 15623]

99) Commonly used controlling unit for removal of particulates of size > 50 micron is [Question ID = 11340]

1. Gravity settling chamber [Option ID = 15354]
2. Cyclone [Option ID = 15355]
3. Fabric filter [Option ID = 15356]
4. Electrostatic precipitator [Option ID = 15357]

Correct Answer :-

- Gravity settling chamber [Option ID = 15354]

100) In unit operations, removal of pollutant is taking place due to [Question ID = 11341]

1. Physical forces [Option ID = 15358]
2. Chemical process [Option ID = 15359]
3. Biological Process [Option ID = 15360]
4. Combination of chemical and biological process [Option ID = 15361]

Correct Answer :-

- Physical forces [Option ID = 15358]

101) Theoretical oxygen demand of one mole of glucose is [Question ID = 11342]

1. 180 g [Option ID = 15362]
2. 192 g [Option ID = 15363]
3. 32 g [Option ID = 15364]
4. 1.06 g [Option ID = 15365]

Correct Answer :-

- 192 g [Option ID = 15363]

102) Clariflocculator is mainly used for the removal of [Question ID = 11343]

1. Colloidal particles [Option ID = 15366]
2. Easily settleable particles [Option ID = 15367]
3. Pathogens [Option ID = 15368]
4. Organic Matter [Option ID = 15369]

Correct Answer :-

- Colloidal particles [Option ID = 15366]

103) For the treatment of wastewater containing large quantity of colloidal organic matter, the following system is most suitable [Question ID = 11344]

1. Conventional activated sludge process [Option ID = 15370]
2. Extended aeration process [Option ID = 15371]
3. Contact stabilization process [Option ID = 15372]
4. Trickling filter [Option ID = 15373]

Correct Answer :-

- Contact stabilization process [Option ID = 15372]

104) If the sludge volume index is 100, then the concentration of biomass in the returned sludge is [Question ID = 11345]

1. 10,000 mg/L [Option ID = 15374]
2. 2000 mg/L [Option ID = 15375]
3. 1000 mg/L [Option ID = 15376]
4. 100 mg/L [Option ID = 15377]

Correct Answer :-

- 10,000 mg/L [Option ID = 15374]

105) There is no emission standard for [Question ID = 11346]

1. Primary pollutants [Option ID = 15378]
2. Secondary pollutants [Option ID = 15379]
3. Volatile organic compounds [Option ID = 15380]
4. Particulate matter [Option ID = 15381]

Correct Answer :-

- Secondary pollutants [Option ID = 15379]

106) For the removal of gaseous pollutants, one can use [Question ID = 11347]

1. Settling chambers [Option ID = 15382]
2. Bag filters [Option ID = 15383]
3. Electrostatic precipitators [Option ID = 15384]
4. Adsorption towers [Option ID = 15385]

Correct Answer :-

- Adsorption towers [Option ID = 15385]

107) Landfill leachate is [Question ID = 11348]

1. Solid waste generated in the landfill [Option ID = 15386]
2. Gaseous waste generated in the landfill [Option ID = 15387]
3. Liquid waste oozing out of the landfill [Option ID = 15388]
4. Solid waste deposited in the landfill [Option ID = 15389]

Correct Answer :-

- Liquid waste oozing out of the landfill [Option ID = 15388]

108) The two most important primary pollutants that contribute to the formation of acid rain are [Question ID = 11408]

1. CO_2 and SO_2 [Option ID = 15626]
2. NO_x and SO_2 [Option ID = 15627]
3. NO and NO_2 [Option ID = 15628]
4. NO_x and CO_2 [Option ID = 15629]

Correct Answer :-

- NO_x and SO_2 [Option ID = 15627]

109) The presence of nitrates in excess of permissible limit causes [Question ID = 11350]

1. Skeletal fluorosis [Option ID = 15394]
2. Methemoglobinemia [Option ID = 15395]
3. Laxative action [Option ID = 15396]
4. Respiratory problem [Option ID = 15397]

Correct Answer :-

- Methemoglobinemia [Option ID = 15395]

110) Solar radiation that reaches the surface of the Earth comprises of [Question ID = 11351]

1. X-rays and Visible rays [Option ID = 15398]
2. γ -rays, X-rays, Visible rays and UV-rays [Option ID = 15399]
3. X-rays, UV-rays, visible rays and IR rays [Option ID = 15400]
4. UV rays, visible rays and IR rays [Option ID = 15401]

Correct Answer :-

- UV rays, visible rays and IR rays [Option ID = 15401]

111) Major Green House Gases due to human activity are [Question ID = 11409]

1. CH_4 and H_2O [Option ID = 15630]
2. N_2O , CH_4 and H_2O [Option ID = 15631]
3. N_2O , CH_4 and CO_2 [Option ID = 15632]
4. CO_2 , N_2O , CH_4 and H_2O [Option ID = 15633]

Correct Answer :-

- CO_2 , N_2O , CH_4 and H_2O [Option ID = 15633]

112) Oxidation states of sulfur in sulfur based air pollutants responsible for Acid Rain are [Question ID = 11353]

1. +2 and +4 [Option ID = 15406]
2. -2, +2 and +4 [Option ID = 15407]
3. -2, +4 and +6 [Option ID = 15408]
4. +2, +4 and +6 [Option ID = 15409]

Correct Answer :-

- -2, +4 and +6 [Option ID = 15408]

113) The sequence (or order) of different radicals produced in the photochemical smog formation reactions are [Question ID = 11410]

1. $\text{RCH}_2^* \rightarrow \text{RCH}_2\text{O}_2^* \rightarrow \text{RCH}_2\text{O}^* \rightarrow \text{HO}_2^* \rightarrow \text{HO}^*$ [Option ID = 15634]
2. $\text{OH}^* \rightarrow \text{HO}_2^* \rightarrow \text{RCH}_2\text{O}^* \rightarrow \text{RCH}_2\text{O}_2^* \rightarrow \text{RCH}_2^*$ [Option ID = 15635]
3. $\text{RCH}_2\text{O}_2^* \rightarrow \text{RCH}_2^* \rightarrow \text{RCH}_2\text{O}^* \rightarrow \text{HO}_2^* \rightarrow \text{HO}^*$ [Option ID = 15636]
4. $\text{OH}^* \rightarrow \text{HO}_2^* \rightarrow \text{RCH}_2\text{O}_2^* \rightarrow \text{RCH}_2\text{O}^* \rightarrow \text{RCH}_2^*$ [Option ID = 15637]

Correct Answer :-

- $\text{RCH}_2^* \rightarrow \text{RCH}_2\text{O}_2^* \rightarrow \text{RCH}_2\text{O}^* \rightarrow \text{HO}_2^* \rightarrow \text{HO}^*$ [Option ID = 15634]

114) Different types of chemical bonds present in a molecule of peroxy acetyl nitrate (PAN) [one of the dangerous carcinogenic pollutants] are [Question ID = 11355]

1. 7 single + 2 double + 1 coordinate bonds [Option ID = 15414]
2. 7 single + 1 double + 2 coordinate bonds [Option ID = 15415]
3. 7 single + 3 double bonds [Option ID = 15416]
4. 5 single + 1 double bonds and a nitrate ion [Option ID = 15417]

Correct Answer :-

- 7 single + 2 double + 1 coordinate bonds [Option ID = 15414]

115) The precise estimation of total organic loading of water is given by the following method [Question ID = 11356]

1. BOD [Option ID = 15418]

2. COD [Option ID = 15419]
3. wet oxidation with peroxodisulphate [Option ID = 15420]
4. gas chromatography [Option ID = 15421]

Correct Answer :-

- wet oxidation with peroxodisulphate [Option ID = 15420]

116) The naturally occurring chelating agent that holds the metal ions in natural water and soil is [Question ID = 11357]

1. Sodium tripolyphosphate [Option ID = 15422]
2. fulvic acid [Option ID = 15423]
3. EDTA [Option ID = 15424]
4. sodium nitrilotriacetate [Option ID = 15425]

Correct Answer :-

- fulvic acid [Option ID = 15423]

117) The following gas can be estimated by fluorescence technique after its reaction with ozone [Question ID = 11411]

1. NO_2 [Option ID = 15638]
2. CO_2 [Option ID = 15639]
3. CO [Option ID = 15640]
4. NO [Option ID = 15641]

Correct Answer :-

- NO [Option ID = 15641]

118) The exhaust gas of an automobile was found to contain 3% by volume of CO at a temperature of 80° C. Express the concentration in $\mu\text{g m}^{-3}$. (M. Wt. of CO = 28)**[Question ID = 11412]**

1. 19.39 [Option ID = 15642]
2. 29.09 [Option ID = 15643]
3. 38.60 [Option ID = 15644]
4. 14.48 [Option ID = 15645]

Correct Answer :-

- 29.09 [Option ID = 15643]

119) In the determination of elements by atomic absorption spectroscopy, the line source is made intermittent by [Question ID = 11360]

1. golly cell [Option ID = 15434]
2. nebuliser [Option ID = 15435]
3. chopper [Option ID = 15436]
4. thermo couple [Option ID = 15437]

Correct Answer :-

- chopper [Option ID = 15436]

120) SODAR is useful for the study of [Question ID = 11361]

1. lower atmosphere [Option ID = 15438]
2. middle atmosphere [Option ID = 15439]
3. upper atmosphere [Option ID = 15440]
4. ionosphere [Option ID = 15441]

Correct Answer :-

- lower atmosphere [Option ID = 15438]

121) Solar constant refers to [Question ID = 11362]

1. the amount of solar radiation incident on a plane perpendicular to the incident beam [Option ID = 15442]
2. the amount of total radiation emitted by sun [Option ID = 15443]
3. average radiation emitted from sun [Option ID = 15444]
4. average radiated received at any angle by a receiving surface [Option ID = 15445]

Correct Answer :-

- the amount of solar radiation incident on a plane perpendicular to the incident beam [Option ID = 15442]

122) Aerosol is [Question ID = 11363]

1. dispersion of solid and liquid particles suspended in gas [Option ID = 15446]
2. dispersion of air molecules in atmosphere [Option ID = 15447]
3. dispersion of fine solid particles in a liquid [Option ID = 15448]
4. dispersion of colloids in liquids [Option ID = 15449]

Correct Answer :-

- dispersion of solid and liquid particles suspended in gas [Option ID = 15446]

123) Abnormal. Surface temperature on Venus is explained by [Question ID = 11364]

1. Normal green house effect [Option ID = 15450]
2. runoff green house effect [Option ID = 15451]
3. Stefan Boltzmann law [Option ID = 15452]
4. wiens law [Option ID = 15453]

Correct Answer :-

- runoff green house effect [Option ID = 15451]

124) An effective pH for a good coagulation is [Question ID = 11365]

1. 5 to 5.5 [Option ID = 15454]
2. 9 to 9.5 [Option ID = 15455]
3. 7.5 to 8 [Option ID = 15456]
4. 10 to 10.5 [Option ID = 15457]

Correct Answer :-

- 7.5 to 8 [Option ID = 15456]

125) M P N is a measure of [Question ID = 11366]

1. Turbidity in water [Option ID = 15458]
2. Fecal coliforms in water [Option ID = 15459]
3. Nitrates in water [Option ID = 15460]
4. Phosphates in water [Option ID = 15461]

Correct Answer :-

- Fecal coliforms in water [Option ID = 15459]

126) The influent turbidity to mechanical filters should not exceed [Question ID = 11367]

1. 1 mg/l [Option ID = 15462]
2. 10 mg/l [Option ID = 15463]
3. 100 mg/l [Option ID = 15464]
4. 50 mg/l [Option ID = 15465]

Correct Answer :-

- 10 mg/l [Option ID = 15463]

127) Which one of the following is not a coagulant [Question ID = 11368]

1. Copper sulphate [Option ID = 15466]
2. Alum [Option ID = 15467]
3. Ferric Chloride [Option ID = 15468]
4. Ferrous sulphate [Option ID = 15469]

Correct Answer :-

- Copper sulphate [Option ID = 15466]

128) Prechlorination in water is done to [Question ID = 11369]

1. To kill bacteria and virus [Option ID = 15470]
2. to reduce inorganic matter [Option ID = 15471]
3. to kill algae and protect filters [Option ID = 15472]
4. to increase alkalinity [Option ID = 15473]

Correct Answer :-

- to kill algae and protect filters [Option ID = 15472]

129) Chlorides in waste water is [Question ID = 11370]

1. Toxic [Option ID = 15474]
2. Biodegradable [Option ID = 15475]
3. Non biodegradable [Option ID = 15476]
4. Corrosive [Option ID = 15477]

Correct Answer :-

- Non biodegradable [Option ID = 15476]

130) Entamoeba histolitica is a [Question ID = 11371]

1. bacteria [Option ID = 15478]
2. Cyst of protozoa [Option ID = 15479]
3. virus [Option ID = 15480]
4. Fungus [Option ID = 15481]

Correct Answer :-

- Cyst of protozoa [Option ID = 15479]

131) Activated sludge process is an [Question ID = 11372]

1. attached growth system [Option ID = 15482]
2. anaerobic system [Option ID = 15483]
3. suspended growth system [Option ID = 15484]
4. Chemical treatment system [Option ID = 15485]

Correct Answer :-

- suspended growth system [Option ID = 15484]

132) Bacillus is a [Question ID = 11373]

1. Virus [Option ID = 15486]
2. Bacteria [Option ID = 15487]
3. Protozoa [Option ID = 15488]
4. Medicinal drug [Option ID = 15489]

Correct Answer :-

- Bacteria [Option ID = 15487]

133) Clay liners in land filling are provided [Question ID = 11374]

1. To strength the base [Option ID = 15490]
2. To construct bunds [Option ID = 15491]
3. As a mix with solid wastes [Option ID = 15492]
4. To prevent leachate [Option ID = 15493]

Correct Answer :-

- To prevent leachate [Option ID = 15493]

134) Langley's is a measure of [Question ID = 11375]

1. Solar radiation [Option ID = 15494]
2. Rainfall intensity [Option ID = 15495]
3. Wind speed [Option ID = 15496]
4. Earth quake intensity [Option ID = 15497]

Correct Answer :-

- Solar radiation [Option ID = 15494]

135) The size dependent collection efficiency of particles is the following [Question ID = 11376]

1. Grade efficiency [Option ID = 15498]
2. Overall collection efficiency [Option ID = 15499]

3. Murphree efficiency [Option ID = 15500]
4. Structure efficiency [Option ID = 15501]

Correct Answer :-

- Grade efficiency [Option ID = 15498]

136) Cyclone separators use the following force to separate the particulates [Question ID = 11377]

1. Gravity [Option ID = 15502]
2. Centrifugal [Option ID = 15503]
3. Electro-static [Option ID = 15504]
4. Electromagnetic [Option ID = 15505]

Correct Answer :-

- Centrifugal [Option ID = 15503]

137) In wet scrubbers, the particle separation takes place on [Question ID = 11378]

1. Fibers [Option ID = 15506]
2. Droplets of liquid [Option ID = 15507]
3. Filter medium [Option ID = 15508]
4. Surface [Option ID = 15509]

Correct Answer :-

- Droplets of liquid [Option ID = 15507]

138) In the efficiency equation for electrostatic precipitators "u" represents the following [Question ID = 11379]

1. Settling velocity of particle [Option ID = 15510]
2. Migration velocity of particle [Option ID = 15511]
3. Relative velocity of gas and particles [Option ID = 15512]
4. Size of the particle [Option ID = 15513]

Correct Answer :-

- Migration velocity of particle [Option ID = 15511]

139) As per hazardous waste (Management and Handling) Rules 1989, the hazardous waste has been put into the following number of categories [Question ID = 11380]

1. 16 [Option ID = 15514]
2. 14 [Option ID = 15515]
3. 18 [Option ID = 15516]
4. 10 [Option ID = 15517]

Correct Answer :-

- 18 [Option ID = 15516]

140) The following is a chemical method of hazardous waste treatment [Question ID = 11381]

1. Neutralization [Option ID = 15518]
2. Distillation [Option ID = 15519]

3. Filtration [Option ID = 15520]
4. Absorption [Option ID = 15521]

Correct Answer :-

- Neutralization [Option ID = 15518]

141) Cyanide removal by adsorption is done on [Question ID = 11382]

1. Silica gel [Option ID = 15522]
2. Activated alumina [Option ID = 15523]
3. Activated carbon [Option ID = 15524]
4. Fly ash [Option ID = 15525]

Correct Answer :-

- Activated carbon [Option ID = 15524]

142) In ecosystem consumers are also known as [Question ID = 11383]

1. Heterotrophs [Option ID = 15526]
2. Phagotrophs [Option ID = 15527]
3. Photosynthetic autotrophs [Option ID = 15528]
4. Predators [Option ID = 15529]

Correct Answer :-

- Heterotrophs [Option ID = 15526]

143) An ecosystem is a layered structure with the following number of layers [Question ID = 11384]

1. Single layered [Option ID = 15530]
2. Double layered [Option ID = 15531]
3. Multi layered [Option ID = 15532]
4. Five [Option ID = 15533]

Correct Answer :-

- Double layered [Option ID = 15531]

144) In general the colour of pigment comes from the wavelength of light [Question ID = 11385]

1. Absorbed [Option ID = 15534]
2. Reflected [Option ID = 15535]
3. Deflected [Option ID = 15536]
4. Refracted [Option ID = 15537]

Correct Answer :-

- Reflected [Option ID = 15535]

145) In photosynthesis, the conversion of unusable sunlight energy into usable chemical energy is associated with the action of green pigment called [Question ID = 11386]

1. Chlorobenzene [Option ID = 15538]
2. Chloroamine [Option ID = 15539]

3. Chlorophyll [Option ID = 15540]
4. Corotenoid [Option ID = 15541]

Correct Answer :-

- Chlorophyll [Option ID = 15540]

146) Ecosystem productivity is measured in terms of [Question ID = 11413]

1. $\text{Kcal/m}^2\cdot\text{year}$ [Option ID = 15646]
2. $\text{Lumens/m}^2\cdot\text{year}$ [Option ID = 15647]
3. $\text{Kg/m}^2\cdot\text{year}$ [Option ID = 15648]
4. $\text{m}^3/\text{m}^2\cdot\text{year}$ [Option ID = 15649]

Correct Answer :-

- $\text{Kcal/m}^2\cdot\text{year}$ [Option ID = 15646]

147) Biogeochemical cycles mean cycling of the following through a system [Question ID = 11388]

1. Energy [Option ID = 15546]
2. Biological organisms [Option ID = 15547]
3. Matter [Option ID = 15548]
4. Chemicals [Option ID = 15549]

Correct Answer :-

- Matter [Option ID = 15548]

148) When fresh water from rivers meets the ocean water, it is called [Question ID = 11389]

1. Bay [Option ID = 15550]
2. Straight [Option ID = 15551]
3. Delta [Option ID = 15552]
4. Estuary [Option ID = 15553]

Correct Answer :-

- Estuary [Option ID = 15553]

149) Generally, adsorbent is a solid which can be used many times by a process of [Question ID = 11390]

1. Dissolution [Option ID = 15554]
2. Oxidation [Option ID = 15555]
3. Reduction [Option ID = 15556]
4. Regeneration [Option ID = 15557]

Correct Answer :-

- Regeneration [Option ID = 15557]

150) In the dilution technique, lapse rate is defined as [Question ID = 11391]

1. Change of moisture content with height [Option ID = 15558]
2. Change of air pressure with height [Option ID = 15559]
3. Change of air temperature with height [Option ID = 15560]
4. Change of flow direction [Option ID = 15561]

Correct Answer :-

- Change of air temperature with height [Option ID = 15560]
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