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Environmental chemistry class 11 notes for neet

We should conduct synthetic methods at ambient temperature and pressure. The wastewater of the research centers contains the radioactive elements, nuclear reactors, fuel processors, etc., are vulnerable to their exposure. Out of these, only infrared rays and visible light reaches the earth's surface. lakes etc. Its different layer is: Troposphere: It is the lowest region of the atmosphere extending from earth's surface to the lowest region of the atmosphere extending from earth's surface. be separated and recycled but the process is very cost Join Us The NCERT class 11 chemistry notes will be very helpful for students who are studying chemistry in class 11. Mist They are produced by particles of spray liquids and condensation of vapors in air, like insecticides etc. Reuse: It means using the article again and again. Salvage and recycling: Rag pickers remove a large number of waste articles such as paper, polythene, cardboard. The roof allows infra-red rays to enter but after reflection; it does not rise in the atmosphere because of conversion of CO to carbon dioxide by the bacteria present in soil so we can say microorganisms act as a sink for carbon monoxide but this sink is not available in urban areas because of less soil. 7. Its deficiency in water causes harmful diseases like tooth decay, etc. Due to certain undesired activities, our environment is getting spoiled and the time is not so far when the earth will not be able to sustain life Let us discuss a few important problems and the preventive measures for the environment of the atmosphere which further has many layers. that enter the into water bodies etc. Dissociation of carbon dioxide at high temperature etc or natural sources like conversion of methane to carbon monoxide from the decay of chlorophyll etc. If you have any doubt let us know in the comment section. Environmental Chemistry notes are verified by the subject expert so that you can rely on the given notes for your exam preparation. You can also access PDF of notes on our website totally free of cost. It will be helpful for both board exam and competitive exam like IIT JEE, NEET etc.Using our notes you can score excellent grades in the CBSE board exam. ChapterEnvironmental ChemistryClass11MediumEnglish These oxygen atoms combine with oxygen gas molecules to produce ozone. $CF2Cl2(g) + hv \rightarrow Cl(g) + O2(g) \rightarrow O2(g)$ $Cl \cdot O(g) + O2 \ Cl \circ (g) +$ phenomenon occupying in the environmental pollution: It can be defined as the "undesirable change in our surroundings that causes a lot of harm ful effects." The substances that are undesirable and cause a lot of harm ful effects." reduce or eliminate the use or generation of toxic substances associated with the design, manufacture, and use of hazardous chemicals. So PAN is secondary pollutants. The smog leads to cracking of rubber and extensive damage to plant life. It can cause global warming. (a) Methane (d) Nitrogen ANS: Hence, the correct option is (d) Nitrogen. Acid Rain in Environmental Chemistry: It is one of the major causes of causing cancer. Non-viable particulates are classified according to the nature and size of particles. It was done in 1987 UNEP (United Nations (b) Ozone (c) Carbon dioxide Environment Program) Now, instead of using CFC's; HFC'S and PFC's are used that is somehow helping in saving the ozone layer. Secondary pollutant: These are harmful materials that are formed by chemical reactions between primary pollutants in atmosphere or hydrosphere Example: hydrocarbons and oxides of nitrogen react in the presence of sunlight to form compounds like PAN. Radioactive Pollution in Environmental Chemistry Cosmic rays that reach the earth from outer space and terrestrial radiations. Global Warming "is the increase in the concentration of certain gases like carbon dioxide, (b) H2S04 (c) NO2 methane, etc. When rain falls, these gases combine and the following reaction takes place: As a result, rainwater no longer remains only pure water it becomes acidic Harmful effects: It causes cancer. All are primary pollutants except: (a) SO2 (d)Particulate matter ANS: Hence, the correct option is (b) H2S04 8. petroleum and its products also pollute water. Biodegradable waste can be used to generate energy as compost and biogas. At the site, garbage is sorted out and separated into compost. Therefore, the overall temperature of the earth's surface rises. However, increased in its concentration leads to global warming. These are of two types: electromagnetic (radio waves UV, IR, a-rays) and particulate. Exosphere: It is the uppermost region of the atmosphere. There are of two types: electromagnetic (radio waves UV, IR, a-rays) and particulate. (b) peroxy acetyl nitrate (c) SO2 and SO3 thermosphere. It is the hottest region (temperature up to 1200°C). 6. In Antarctica, ozone depletion is due to the formation of the following compound: (a) Acrolein (d)chlorine nitrate ANS: Hence, the correct option is (d)chlorine nitrate. e.g., nitrogenfixing bacteria and blue-green algae. Radioactive wastes: Wastes from atomic power plants come in the form of spent fuels of uranium and plutonium. Stratosphere above the troposphere above the troposphere and below the mesosphere. Ozone protects us from ultraviolet radiations as it doesn't allow ultraviolet radiations to enter earth's atmosphere that if they enter earth may harm us such as They may raise the temperature of the earth. Radioisotopes: Many radioactive isotopes like C14 I125, P32, and their compounds are used in scientific researches. The poor management causes health problems leading to epidemics because of contamination of groundwater. Hydrosphere: It is the aqueous envelope of the earth e.g., oceans. Polychlorinated biphenyl's: We use these as fluids in transformers etc. Because of the atomic explosion nuclear fallout. But our Environmental Chemistry notes are designed to cover crisp of every concept and important point. Chapter 11: The p-Block ElementsChapter 12: Organic ChemistryChapter 13: HydrocarbonsAfter reading the books you can use the Environmental Chemistry notes for your revision purpose. Example: Nitrogen and Oxygen gas become a pollutant if in excess amount and lead to a harmful effect like a cause of acid rain etc. Control of Soil Pollution Use of manures: Prepared from animal dung is much better than the commonly used fertilizers. Methyl Isocyanate was prepared by the reaction of methyl amine with phosgene and stored in abundance. Oxygen consumed by microorganism in decomposing the waste present in certain volume of a sample of water is biochemical oxygen demand (BOD) of water. In winter, we advise it to keep plants in greenhouses only. in the water bodies and cause lot of harm like metals are very dangerous as we can't excrete them, therefore, they can damage kidneys, CNS, liver, etc. The process releases a large amount of energy as heat. These are subjected to recycling and this helps in checking soil pollution. Particulate pollutants in Environmental Chemistry They are minute solid or liquid particles present in the air and are release by vehicle exhaust, dust, and ashes of hydrocarbons. they emit very harmful radiations. Atmosphere: The atmosphere is gaseous mixtures of air that surround us. Fumes They are obtained by condensation of vapors during sublimation, distillation, boilingetc., like metallic and non-metallic oxides The particulate matter harm but a degree of harm depends upon the size of particulate pollutants bigger than 5 microns can block nasal passage whereas particle of size micron can even enter the lungs. $2NO(g) + O2(g) \rightarrow 2NO2(g) + O2(g) + O2(g) \rightarrow 2NO2(g) + O2(g) + O2(g)$ retard the rate of photosynthesis also respiratory disorders. Oxides of Sulphur They are produced by burning fossil fuels. Carbon dioxide: It release in the atmosphere because of burning; respiration etc. Environmental Pollution: It may be described as contamination of the environment with harmful wastes mainly arising from certain human activities. Proper sewerage system: A proper sewerage system must be employed and we must install sewage recycling plants. CH3NH2 + COCl2 → CH3-N=C=O + 2HCl Methyl Amine Phosgene (MIC) Strategies to control environmental pollution: Waste management The improper disposal of waste is one of the major causes of environmental degradation. The gas emitted by supersonic jet planes that slowly depletes the ozone layer is: (a) CO (b) SO2 (c) NO (d) O2 ANS: Hence, the correct option is (b) SO2 2. International standards of drinking water in Environmental Chemistry There are certain substances in the water which are essential but only up to certain limits. The containers of jams and pickles are reused by storing other things. All domestic waste should be properly collected and disposed of. Human excreta usually contain E.coli bacteria that cause a lot of gastrointestinal problems. 3. Man-made like: Burning of fossil fuels Combustion of flukes in automobiles Increasing population Industries Agricultural activities Wars The atmospheric pollutant is basically contaminant and a Pollutant It is not present in nature A substance that is produced either by natural source or by human activity They introduced into the environment by human activity Increasing its concentration is harmful to living forms. The non-biodegradable such as plastics, glass etc are sent for recycling. These pollutants are mainly Nitrogen dioxide and Sulphur dioxide gas emitted in exhaust of vehicles. beings through the food chain. Use of biofertilizers: These are the organisms which are inoculated to bring about nature and kidney cancers. Home » Class 11 » Environmental Chemistry Environmental chemistry is very important branch of scince where we deals about nature and our environment. Another classification of pollution types of pollution: Types of pollution: Types of pollution: Types of pollution the substance or the resource that is contaminated: Air pollution Water pollution Soil pollution Types of pollution depending upon the nature of pollutant: Plastic Radioactive substances Chemicals Acid rain Greenhouse effect Thermal pollution Smog and many more Air Pollution: "The contamination of air with harmful and undesirable substances" Sources of pollutants: Natural sources Artificial sources (rest fires, etc. Water Pollution We define water pollution as: "It is the contamination of water with undesirable and harmful substances." Polluted water has certain characteristics: Bad taste Offensive odour Unpleasant color Unchecked growth of weeds Oil or grease floating on surface Sources of water pollution. layers of atmosphere which are as follows: Hydrosphere Lithosphere Biosphere We will consider all the layers of the atmosphere in more detail as well as we will discuss the different types of pollutants. Environment means surroundings or conditions in which a person, animal and plant lives. Soil conditioners containing toxic metals like Hg, Pb, As. Cd etc. The ozone layer is present in this region. Harmful effects of photochemical smog It causes serious-earth problems Ozone and nitric oxide irritate nose, throat, causes dryness in throat, causes dryness dryne fertilizers, bactericides, fumigants. Excess nitrate cause methemoglobinemia. They also harm plants, shedding of leaves, etc. The troposphere is mainly pollutants like carbon, Sulphuretc. they have caused thinning of the ozone layer to an extent that we see a hole in the ozone layer near Antarctica. The maximum limit of nitrate is 50 ppm. Sulphur dioxide can cause respiratory problems like asthma, emphysema, irritation to eyes, redness in eyes, etc. ANS: Hence, the correct option is (c) the reduction in the concentration of the dissolved oxygen in the water due to phosphate pollution in water. This hole is not a hole actually we can say it is the extreme thinning in some parts because of extreme reactions taking place with ozone causing its depletion. Smoke may contain oxides of nitrogen that combine with other air pollutants and fog to form smog. Man-made sources of radiations include mining; and refining of plutonium and thorium, atomic reactors and nuclear fuel. Photochemical smog can be controlled as Plantation of certain plants like pines etc can metabolize nitrogen dioxide and hydrocarbons should be used in vehicles. It caused a great loss of life to people and animals. (c) the reduction in concentration of the dissolved oxygen in the water due to phosphate pollution. They are as below: We should test water for fluoride ion concentration. 4. Formation of London smog in: (a) Summer during day time (b) Summer during morning time (c) Winter (d)Summer during day time ANS: Hence, the correct option is (a) summer during day time 5. formed when rainwater mixes with pollutants present in the air. Combines with marble and deteriorates the marble. hemoglobin (Hb) to form a defective complex that can lead to suffocation and also death, therefore, it is a fatal gas. It is the coldest region (temperature - 2 to 92°C) of the atmosphere. Using an auxiliary substance (e.g., solvents, separation agents, etc.) should try to avoid as far as possible. 2, 1984, a dense cloud of methyl isocyanate gas (MIC) leaked from a storage tank of the Union Carbide ltd plant in Bhopal. The excessive disposal of chemicals in water bodies leads to excess growth of algae in water bloom and this water bloom results in oxygen depletion and aquatic life suffers a lot because of this effect. The aromatic compounds present as particulates are: (a) Benzene (b) Toluene (c) Nitrobenzene (d) Polycyclic hydrocarbons ANS: Hence, the correct option is (d) Polycyclic hydrocarbons. Carbon monoxide: It is colourless and odourless gas and it is released in the air by human activities like: Incomplete combustion of fuels, forest fires. Save food by not wasting food Recycle: It means the processing of waste to form new products. Cesium-137 brings about nervous, muscular and genetic change. Our website provides notes and solutions of different subject for various class. Here we have given premium PDF notes of class 11 chemistry chapter 14 in free. Use cloth bags instead of using plastics. Radioactive discharge: They enter the water bodies from different sources like nuclear reactions, nuclear tests, etc. in the air because of which infra-red rays get trapped in it and it leads to an increase in the overall temperature of the earth." Green House Effect in Environmental Chemistry The rays that come from the Sun comprise visible light, infra-red rays, and ultraviolet rays. Smog and Photochemical smog in Environmental Chemistry Smog is a combination of smoke and fog. rags. Farm wastes from poultries, dairies and piggery farms. insecticides, herbicides, fungicides. Hydrocarbons: It produces them because of combustion of fuels are carcinogenic that causes cancer. Lithosphere: The solid rocky portion of the earth make up the lithosphere. This natural or background radiation is not a health hazard due to its low concentration. Excess nitrate in drinking water can cause: (a) methemoglobinemia (b) kidney damage (c) liver damage (d) laxative effect ANS: Hence, the correct option is (a) methemoglobinemia. On reaching earth, the infra-red rays are reflected back and a portion of it is absorbed by earth's surface. The reflected ones when passing through the earth's atmosphere, get trapped inside the gas molecules. We have shared the PDF of Environmental Chemistry so students don't feel any difficulty in reading the notes. It is present in the stratosphere. 1..Differences between Biodegradable and Non-biodegradable and are potentially damaging to the environment. The major causes of pollution are: Fast population growth Rapid urbanization Industrialization Use of pesticides etc. The two main sources of waste Household waste Industrialization use of pesticides etc. The two main sources of waste Household waste Waste management is a proper way of collecting and disposal of waste. soil. 2SO2 + O2 (air) - 2SO3 Oxides of nitrogen end also due to lightning strikes at higher altitudes and also due to the burning of fossil fuels. e.g., animal, human beings. 1-131 damages WBCs, bone marrow, lymph nodes and causes skin cancer, sterility, and defective eyesight. Cause skin disorders, eye disorders and many more. Also affects aquatic life too. This nitrogen dioxide absorbs energy and breaks into nitric oxide and free oxygen atoms. Radioactive wastes from research centers, and hospitals. Excess of it is removed by plants as they use it for photosynthesis. It forms ozone when u-v rays in the upper atmosphere split oxygen atoms that are: - When an oxygen molecule splits into atoms, each atom combines with the undissociated molecule of oxygen to form ozone. It produces during during preparation of radio-isotopes. Both the bacteria aerobic and anaerobic have harmful effect as anaerobic bacteria break down the organic matter and result in the formation of chemicals that give foul smell and are harmful to human health whereas aerobic bacteria degrade the organic matter and lower the concentration of oxygen. We should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health and the environment we should design synthetic methodologies to use and generate substances that possess little or no toxicity to human health reducing toxicity. and their vapours do not remain in lower layers of atmosphere they move up and cause thinning of ozone. Types of Pollutants: The source in the environment and remain. Domestic refuge and industrial wastes. For this, some synthetic chemicals are responsible like ChloroFloro Carbons present in refrigerators, air conditioners, etc. The smog causes breathing difficulties such as asthma, cough and wheezing in children. They may be viable like bacteria etc. When their concentration rises beyond a limit, a chain reaction occurs from their interaction with sunlight in which it converts NO into nitrogen dioxide. of soil and makes it unfit for growing plants. Threshold limit value is the permissible limit of a pollutant in the atmosphere to which if a healthy worker is exposed for 8 hours or 40 hours a week there is no effect on him. Ca-EDTA + Pb+2 \rightarrow Pb-EDTA + Ca+2 Excessive sulfate can cause laxative effect. Bhopal Gas Tragedy in Environmental Chemistry On Dec. Reduce: It means use lesser natural resources. They are as follows:- Smoke It comprises of solid and liquid particles formed during the combustion of fuels etc. They include bacteria etc. Affects ph. Notes will be helpful for various exam like board exam, IIT JEE, NEET etc. ClO•(g) + NO2 →•ClONO2(g) Cl•(g) + CH4 →•CH3 + HCl(g) Montreal protocol in Environmental Chemistry: It is an agreement made by industrialized nations to freeze the production of CFC's and make use of some alternative source. waste in small bins which are then transferred to community bins by private or municipal workers From these bins, we carry these out to the disposal site. They are resistant to oxidation and when released in atmosphere they cause skin disorders. Chlorofluorocarbons: It releases them into the atmosphere from industries and are actually manmade industrial chemicals used in air conditioners, refrigerators, etc. They should design synthetic methods to maximize the incorporation of all materials used in the process into the final product. The bacteria act on these waste as they are biodegradable.and consume oxygen dissolved in water and is a concentration of oxygen is very important for aquatic life. We can make them harmless before disposing of. Chemistry may be hard for students but the given notes are created in very simple language and included every important points. Management of industrial waste in Environmental Chemistry They should also be sorted as bio or non-biodegradable. Chemical Pollutants Disposing of a lot of metals, chemicals, etc. (d) attack of younger leaves of a plant by peroxyacetyl nitrate. empty bottles and metallic articles. Some methods that are employed are to manage industrial waste 3r's: Reduce, Recycle and Reuse. As we know, it leads to heating effect. Green chemistry Green chemistry involved in the design, development, and implementation of chemical products and processes to reduce or eliminate the use and generation of substances hazardous to human health and the environment. Mesosphere above the stratosphere above the combines with unburnt hydrocarbons in the air to produce chemicals like formaldehyde, acrolein, and PAN. Practicing recycle saves cost, also reduces the piling of waste materials. Ozone hole: Because of continuous use of certain harmful chemicals like CFC's etc. Effects of Radiations Strontium-90 accumulates in the bones to cause bone cancer and tissue degeneration in a number of organs. A thick fog-like layer in the atmosphere, especially during winters it is smog as they make it up of smoke and it stimulates the greenhouse in water help in the enamel of teeth much harder by converting hydroxyl-apatite into much harder flour-apatite The presence of an increased concentration of lead can harm the kidney, liver and reproductive system. These may cause ionization of various body fluids, chromosomal aberrations, and gene mutations. Other Sources of Radioactive Pollution Atomic explosions: Atomic explosions produce radioactive particles which are thrown high into the air as huge clouds. We have compiled the entire chapter in a very short form so it will be very helpful for revision purposes. Some important principles and method of green chemistry are: It is better to prevent waste than to treat or clean up waste after they form it. Radioactive iodine may also cause cancer of thyroid glands. Both Sulphur dioxide are the cause of acid rain. It consists of air, water, soil, land i.e. everything around us. Particulatepollutant's like dust, mist, smoke etc. One reason for global warming is the greenhouse effect. It contains atomic and ionic O2, H2 and He2. Most of the students feels that chemistry is a very theoretical subject and a students need to remember a lots of information or concept. There are like Carbon dioxide, Carbon monoxide, etc. Dust They compose it of fine solid particles produced during the crushing, grinding of solid particles, like sawdust from wood, fly ash from factories, etc. (b) increase in concentration of fluoride ion in water. Which of the following is not a greenhouse gas? Like: Switch off the electrical appliances when not needed Save fuels by walking, etc. The process of 'eutrophication' is due to: (a) increase in the concentration of fluoride ion water. Soil Pollution The contamination of soil with an undesirable and harmful substance" Composition of soil It contains mineral matter, living forms like algae, etc., water and air. Biosphere: The biological envelope which supports life is the biosphere. Energy requirements should be recognized for their environmental and economic impacts and should be minimized.

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