

**1) Which of the following is released into the environment as e-waste because of improper disposal of old parts of the computer?**

- a) Plutonium
- b) Beryllium
- c) Cadmium
- d) Both b and c

**Answer: d)**

Harmful Effects Caused by Improper Computer & Electronic Waste affects nearly every system in the human body because they contain a plethora of toxic components including Mercury, Lead, Cadmium, Beryllium, Barium and Lithium.

**2) Which of the following two can be found as pollutants in drinking water in some parts of India?**

- a) Arsenic and Fluoride
- b) Arsenic and Uranium
- c) Uranium and Formaldehyde
- d) Fluoride and Uranium

**Answer: a)**

Drinking water in some parts of India has contaminants like Arsenic, Fluoride other than many other contaminants. The sources of Arsenic are run off from orchards. The sources of fluoride are erosion of natural deposits, discharge from fertilizers and aluminium factories.

**3) Which of the following protocol is designed to protect the ozone layer by phasing out substances responsible for ozone-depletion?**

- a) Nagoya Protocol
- b) Bretton Woods Conference
- c) Kyoto Protocol
- d) Montreal Protocol

**Answer: d)**

The Montreal Protocol on Substances that Deplete the Ozone Layer is an international treaty designed to protect the ozone layer by phasing out the production of

numerous substances that are responsible for ozone depletion. It was agreed on 16 September 1987 and entered into force on 16 September 1989.

**4) The Climate of which of the following national park varies from tropical to sub-tropical, temperate and arctic?**

- a) Mrugavani National Park
- b) Namdapha National Park
- c) Mouling National Park
- d) Kaziranga National Park

**Answer: b)**

In the Namdapha National Park, located in Arunachal Pradesh, the climate varies from tropical to subtropical, temperate and arctic. It is tropical and subtropical in the southern region while it is of arctic type in the northern part of the park.

**5) Which of the following major pollutants are released by the steel industry in India?**

- a) Oxides of Nitrogen
- b) Oxides of Carbon
- c) Oxides of Sulphur
- d) All of the above

**Answer: d)**

In steel furnace, coke reacts with iron ore, releasing iron and generating CO and CO<sub>2</sub> gases. Due to use of coal, pollutants such as SO<sub>x</sub> and NO<sub>x</sub> are also released.

**6) Which of the following phenomenon adds carbon dioxide to the carbon cycle on the Earth?**

- a) Respiration
- b) Photosynthesis
- c) Volcanic eruption
- d) Both a and c

**Answer: d)**

Carbon dioxide (CO<sub>2</sub>) is an important trace gas in Earth's atmosphere. It is an integral part of the carbon cycle, a biogeochemical cycle. Respiration is the

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process during which organic food, mainly glucose that is present in the cell, breaks down into simpler substances and liberates carbon dioxide and energy whereas a single eruption from a volcano puts 10,000 times more carbon dioxide into the atmosphere than all of human activity has throughout history.

**7) Which of the following gas is responsible for the depletion of the ozone layer?**

- a) Methane
- b) Chlorofluorocarbon
- c) Nitrous Oxide
- d) Carbondioxide

**Answer: b)**

Ozone depletion is largely a result of man-made substances. Humans have introduced gases and chemicals into the atmosphere that have rapidly depleted the ozone layer. The chemicals most responsible for the destruction of the ozone layer are chlorofluorocarbons.

**8) Which of the following is not a consequence of the Global Warming?**

- a) Increased Agricultural Productivity
- b) Higher Wildlife extinction rates
- c) More Acidic oceans
- d) More Frequent and severe weather

**Answer: a)**

According to the National Climate Assessment, Global warming results in Higher temperatures which is worsening many types of disasters, including storms, heat waves, floods, and droughts. Global warming is also leading to extinction of species. As land and sea undergo rapid changes, the animals that inhabit them are doomed to disappear if they don't adapt quickly enough. The earth's marine ecosystems are under pressure as a result of climate change. Oceans are becoming more acidic, due in large part to their absorption of some of our excess emissions.

**9) Which of the following is the most serious environmental effect posed by the hazardous wastes?**

- a) Increased Frequency and intensity of the storms
- b) Rising sea level

- c) Air Pollution
- d) Destruction of the Habitat

**Answer: c)**

The most serious environmental effect posed by hazardous wastes is Air Pollution. The waste can harm humans, animals, and plants if they encounter these toxins buried in the ground, in stream runoff, in groundwater that supplies drinking water, or in floodwaters.

**10) Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?**

- a) Behaviour abnormalities
- b) Skin cancer
- c) Genetic mutations
- d) Damage to the digestive system

**Answer: b)**

Depletion of stratospheric ozone, UV radiation is able to reach earth's surface. The exposure to these radiations has increased the occurrence of skin cancer, snow blindness herpes and many more.

**11) Acid-Rain is mainly caused due to the emission of which of the following two gases?**

- a) Sulphurdioxide and Nitrogen oxide
- b) Methane and Sulphurdioxide
- c) Methane and Nitrous oxide
- d) Oxygen and Nitrous oxide

**Answer: a)**

Acid rain is a rain or any other form of precipitation that is unusually acidic, meaning that it has elevated levels of hydrogen ions. It can have harmful effects on plants, aquatic animals and infrastructure. Acid rain is caused by emissions of sulphur dioxide and nitrogen oxide, which react with the water molecules in the atmosphere to produce acids.

**12) Which of the following is the human source of methane emission which is one of the six greenhouse gases in the Kyoto Protocol?**

- a) Fossil fuel production
- b) Biomass Burning
- c) Wetlands

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d) Both a) and b)

**Answer: d)**

Methane is a naturally occurring organic compound, but human activity has increased the amount of this potent greenhouse gas that goes into the atmosphere. The largest human source is from the production, distribution and combustion of fossil fuels. This creates 33% of human methane emissions. Incomplete burning of biomass creates methane emissions. Huge amounts can get produced during large scale burning. This creates 11% of human methane emissions.

**13) Which of the three R's are environment friendly and should be employed to preserve the environment?**

- a) Random, Reduce, Recall
- b) Reduce, Reuse, Recycle
- c) Reduce, Rebuilt, Recycle
- d) Rebuilt, Reduce, Reuse

**Answer: b)**

The three R's are "Reduce" which means using fewer resources in the first place. This is the most effective of the three Rs and the place to begin. Second R means to Reuse. Reusing keeps new resources from being used for a while longer, and old resources from entering the waste stream and the third R means Recycling.

**14) Which of the following fuel is known to cause minimum pollution in the environment?**

- a) Hydrogen
- b) Diesel
- c) Kerosene
- d) Coal

**Answer: a)**

Hydrogen causes minimum environmental pollution. Hydrogen is the cleanest burning fuel, with only water emissions.

**15) Kyoto Protocol, international treaty extended by UNFCCC in the year 1992 is associated with?**

- a) Reducing the onset of Global Warming
- b) International Trade
- c) Protection of the Biodiversity
- d) Deep sea oil and mineral exploration

**Answer: a)**

The Kyoto Protocol is an international treaty which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties to reduce greenhouse gas emissions. The Kyoto Protocol was implemented with the objective to reduce the onset of global warming by reducing greenhouse gas concentrations in the atmosphere to a level that would prevent dangerous anthropogenic interference with the climate system.

**16) Ozone layer absorbs which of the following rays which are very harmful for the living organisms?**

- a) X-Rays
- b) Gamma Rays
- c) Infrared Rays
- d) Ultraviolet Rays

**Answer: d)**

The ozone layer mostly absorbs the harmful ultraviolet radiations. These radiations are very harmful as they cause a number of problems in living organisms.

**17) What is the term used for the gas molecules that absorb thermal infrared radiation and are present in large quantity to change climate system?**

- a) Ozone gases
- b) Beta Radiations
- c) Greenhouse gases
- d) Alpha Radiations

**Answer: c)**

A greenhouse gas is a gas that absorbs and emits radiant energy within the thermal infrared range. Greenhouse gases cause the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone.

**18) Montreal Protocol, an international environmental agreement with universal ratification to protect the earth's ozone layer by eliminating use of ozone was finalized in which year?**

- a) 1987
- b) 1985
- c) 1988
- d) 1990

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**Answer: a)**

The Montreal Protocol on Substances that Deplete the Ozone Layer is a landmark international agreement designed to protect the stratospheric ozone layer. It was adopted in Montreal on Sept 16, 1987.

**19) Which of the following chemical is present in chlorofluorocarbons that damages the earth's ozone layer?**

- a) Chlorine
- b) Fluorine
- c) Sulphuric acid
- d) Both a and b

**Answer: d)**

Chlorofluorocarbons (CFCs) are a class of chemicals that contain only atoms of carbon, chlorine, and fluorine. As a group, they are unreactive, stable, and poorly soluble in water. Commercially, the most important CFCs are the derivatives of methane and ethane.

**20) What is the term used for the most serious group of chemicals emitted in British Columbia that causes depletion of ozone layer?**

- a) Halogens
- b) Noble gases
- c) Helium
- d) Halons

**Answer: d)**

Halons are gases and are used as fire-extinguishing agents. They are between three and ten times more destructive to the ozone layer than Chlorofluorocarbons.

**21) Which of the following organism is a common indicator of the water-pollution?**

- a) Escherichia coli
- b) Entamoebahistolytica
- c) Streptococcus pyogenes
- d) Eichhorniacrassipes

**Answer: a)**

Bacterial contamination in water is measured using indicator organisms, notably Escherichia coli and Enterococci which are used as primary indicators of contamination in fresh and marine water quality. World

Health Organization Guidelines for Drinking Water Quality state that as an indicator organism Escherichia coli provides conclusive evidence of recent faecal pollution and should not be present in water meant for human consumption.

**22) According to Central Pollution Control Board (CPCB), which particulate size in diameter (in micrometres) of the air pollutants is responsible for greatest harm to human health?**

- a) 2.0 or less
- b) 2.5 or less
- c) 1.5 or less
- d) 3.5 or less

**Answer: b)**

According to Central Pollution Control Board (CPCB), particulate size 2.5 µm or less in diameter (PM 2.5) are responsible for causing the greatest harm to human health.

**23) Carbonmonoxide emitted by the automobiles prevents the transport of oxygen to the body tissues by.....?**

- a) Destroying the haemoglobin
- b) Forming stable compound with haemoglobin
- c) Changing oxygen to carbondioxide
- d) Obstructing the reaction of oxygen with haemoglobin

**Answer: b)**

Carboxyhaemoglobin is a fairly stable union of carbon monoxide with haemoglobin. The formation of carboxyhaemoglobin prevents the normal transfer of carbon dioxide and oxygen during the circulation of blood; thus, increasing levels of carboxyhaemoglobin result in various degrees of asphyxiation, including death.

**24) What is the term used for the increasing concentration of a substance, such as a toxic chemical, in the tissues of organisms at successively higher levels in a food chain?**

- a) Eutrophication
- b) Biodegradation
- c) Bioremediation
- d) Biomagnification

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**Answer: d)**

The increasing concentration of a substance, such as a toxic chemical, in the tissues of organisms at successively higher levels in a food chain is called Biomagnification. It occurs when a toxic chemical increases in amount each time it moves up a food chain.

**25) Which of the following is the major aerosol pollutant present in the emission of the jet plane?**

- a) Carbon Tetrachloride
- b) Carbon Monoxide
- c) Sulphurdioxide
- d) Chlorofluorocarbon.

**Answer: d)**

Aerosols are extremely-fine liquid droplets or solid particles that remain suspended in air as fog or smoke. Chlorofluorocarbon is a major aerosol pollutant present in the jet-plane emission.

**26) The atmospheric pollution in the big metropolitan cities is mainly caused by.....?**

- a) Household wastes
- b) Pesticides residue
- c) Automobile exhausts
- d) Radioactive fallout

**Answer: c)**

Pollution emitting from vehicles including trucks, jeeps, cars, trains, airplanes cause immense amount of pollution in the metropolitan cities.

**27) Which of the following processes or steps is not involved in the water-cycle operating in nature?**

- a) Evaporation
- b) Sublimation
- c) Condensation
- d) Photosynthesis

**Answer: d)**

The water cycle, also known as the hydrologic cycle or the hydrological cycle, describes the continuous movement of water on, above and below the surface of the Earth. The water moves from one reservoir to another, such as from river to ocean, or from the ocean to the atmosphere, by the physical processes of

evaporation, condensation, precipitation, infiltration, surface runoff, and subsurface flow.

**28) Which of the following statement against DDT is incorrect which is found to be effective against resistant mosquitoes?**

- a) It is colourless, tasteless and odourless chemical compound
- b) Originally developed as an insecticide
- c) It is an antiseptic agent
- d) It is hydrophobic and insoluble in water

**Answer: c)**

Dichlorodiphenyltrichloroethane, commonly known as DDT, is a colourless, tasteless, and almost odourless crystalline chemical compound originally developed as an insecticide, and ultimately becoming infamous for its environmental impacts. It is highly hydrophobic and nearly insoluble in water but has good solubility in most organic solvents, fats and oils. It is not an antiseptic agent.

**29) Which of the following can be indicated by the study of The Energy and Resource Institute regarding the high levels of ozone in Delhi?**

- a) Pollutants like Carbon monoxide and Carbondioxide react with hydrocarbons to produce ozone
- b) Pollutants like Nitrogen oxide react with hydrocarbons to produce ozone
- c) Conversion of Oxygen into Ozone
- d) Depletion of the Ozone layer

**Answer: b)**

A study by The Energy and Resource Institute found the high level of ozone in Delhi. This is due to high level of pollutants like nitrogen oxide with react with hydrocarbons in the presence of sunlight to produce ozone and impacts the environment.

**30) What is the term used for the organic compounds that are resistant to the environmental degradation and have been banned?**

- a) Pre-Organic Pollutants
- b) Primary Organic Pollutants
- c) Persistent Organic Pollutants
- d) Plastic Organic Pollutants

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**Answer: c)**

Persistent organic pollutants (POPs) are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of their persistence, POPs bioaccumulate with potential adverse impacts on human health and the environment.

**31) What is the term used for the state where the body of the water acquires high concentration of nutrients especially nitrates and phosphates?**

- a) Biomagnification
- b) Eutrophication
- c) Nitrification
- d) Ammonification

**Answer: b)**

Eutrophication is the process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates. These typically promote excessive growth of algae. As the algae die and decompose, high levels of organic matter and the decomposing organisms deplete the water of available oxygen, causing the death of other organisms, such as fish.

**32) Which of the following are the main sources of non-exhaust vehicular pollution?**

- a) Resuspension of Road dust
- b) Brake wear
- c) Road Surface wear
- d) All of the above

**Answer: d)**

Non-exhaust vehicle emissions are released through processes unrelated to fuel combustion and not emitted from the exhaust pipe of the vehicle. Non-exhaust emissions are generated during the mechanical processes associated with driving such as brake, clutch or tyre wear, through road surface wear or the resuspension of road dust as the vehicle travels over the road surface and from the corrosion of vehicle components.

**33) Itai-Itai disease in Japan occurred due to the poisoning of.....?**

- a) Lead

- b) Mercury
- c) Cadmium
- d) Arsenic

**Answer: c)**

Itai-Itai disease was the first documented occurrence of mass cadmium poisoning in the world. It occurred in 1950 in Toyama Prefecture in Japan.

**34) The use of either naturally occurring or deliberately introduced microorganisms to consume and break down environmental pollutants, in order to clean up a polluted site is called.....?**

- a) Remediation
- b) Eutrophication
- c) Bioremediation
- d) Biomagnification

**Answer: c)**

Bioremediation is the process of using organisms to neutralize or remove contamination from waste. It is very important to understand that this form of waste remediation uses no toxic chemicals, although it may use an organism that can be harmful under certain circumstances.

**35) Lichens are considered important in the study of atmospheric pollution because of which of the following reason?**

- a) They readily multiply in the polluted atmosphere
- b) They are sensitive to air pollutants
- c) They efficiently purify the atmosphere
- d) Both b and c

**Answer: b)**

Pollution can cause the death of the lichen algae, discoloration and reduced growth of the lichen fungus, or kill a lichen completely. Over time, sensitive species may be replaced by pollution-tolerant species. Hence the species of lichens present in a location and the concentration of pollutants measured in those lichens can tell us a lot about air quality.

**36) Bhopal gas Tragedy was caused by the leakage of which of the following gas?**

- a) Helium
- b) Isobutylene

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- c) Methyl Isocyanate
- d) Nitrogen Trifluoride

**Answer: c)**

The Bhopal disaster or Bhopal gas tragedy was an industrial accident. It happened at a Union Carbide subsidiary pesticide plant in the city of Bhopal, India. On the night of 2-3 December 1984, the plant released 42 tonnes of toxic Methyl Isocyanate (MIC) gas, exposing more than 500,000 people to toxic gases.

**37) The gradual reduction in the amount of global direct irradiance at the Earth's surface that was observed in the early 1950s is called.....?**

- a) Global Warming
- b) Global Cooling
- c) Global Temperature
- d) Global Dimming

**Answer: d)**

Global dimming is the gradual reduction in the amount of global direct irradiance at the Earth's surface that was observed for several decades after the start of systematic measurements in the 1950s. Global dimming is thought to have been caused by an increase in particulates such as sulphate aerosols in the atmosphere due to human action.

**37) Which of the following is the major metal pollutant released from an automobile engine?**

- a) Mercury
- b) Chromium
- c) Cadmium
- d) Lead

**Answer: d)**

Lead is the most hazardous pollutant released from an automobile engine which damages the kidneys, hearing and physical growth. It also leads to other long-term health effects.

**38) The coldest part of our atmosphere is located in which of the following layer?**

- a) Thermosphere
- b) Mesosphere
- c) Exosphere
- d) Stratosphere

**Answer: b)**

The coldest layer of the earth's atmosphere is the Mesosphere. The air is very thin in this layer of the atmosphere.

**39) Which of the following is not a consequence of the ozone layer depletion?**

- a) Occurrence of Cortical cataracts
- b) Occurrence of skin-cancer
- c) Decrease in the fertility of the crops
- d) Decrease in Ultraviolet radiations

**Answer: d)**

Ozone layer depletion is simply the wearing out of the amount of ozone in the stratosphere. Depletion begins when CFC's get into the stratosphere. Ultra-violet radiation from the sun breaks up these CFCs. The breaking up action releases Chlorine atoms. Chlorine atoms react with Ozone, starting a chemical cycle that destroys the good ozone in that area. It leads to an increase in ultraviolet radiations.

**40) What is the term used for the removal of trees from forests into farms, ranches or for the urban use?**

- a) Afforestation
- b) Deforestation
- c) Desertification
- d) Reforestation

**Answer: b)**

Deforestation is the removal of a forest or stand of trees from land which is then converted to a non-forest use. Deforestation can involve conversion of forest land to farms, ranches, or urban use. The most concentrated deforestation occurs in tropical rainforests.

**41) Which of the following factor varies with the variation in the temperature?**

- a) Cloud Formation
- b) Precipitation
- c) Humidity
- d) All of the above

**Answer: d)**

All the above factors will change with the changing temperature. Humidity changes with the temperature change. Cloud formation also depends upon the dew

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point of temperature and the volume of rain that falls on the earth depends upon the water vapour in the atmosphere. At higher temperature, atmosphere contains more water vapours resulting in heavy showers.

**42) The effectiveness of the greenhouse gases depends upon which of the following factor?**

- a) Wavelength of the radiation absorbed
- b) Magnitude of its concentration
- c) Lifetime in atmosphere
- d) All of the above

**Answer: d)**

The effect of each greenhouse gas on climate change depends upon the wavelength of the radiation it absorbs, its concentration or abundance and lifetime in the atmosphere.

**43) Which of the following causes harmful algal blooms which is a major environmental problem?**

- a) Nutrients Runoff
- b) High Temperature
- c) Both a and b
- d) Neither a nor b

**Answer: c)**

An algal bloom or algae bloom is a rapid increase or accumulation in the population of algae in freshwater or marine water systems and is recognized by the discoloration in the water from their pigments. There are two major causes of algal blooms, these are high temperatures and nutrients runoff.

**44) Which of the following are the chief causes of the Thermal Pollution?**

- a) Growing Industrial activities
- b) Chemical pollutants discharged into water
- c) Water used as a coolant and ejected back into the water bodies
- d) All of the above

**Answer: d)**

Thermal pollution can be simply explained as the addition of surplus heat to water and ejecting it back to the water bodies. Mainly, the water that is used as coolant and transferred back to natural water bodies is the chief reason for thermal pollution. Thermal

pollution is increasing day by day because of the growing industrial activities. There are copious factories that discharge their chemical waste directly into natural water bodies. This does not only causes thermal pollution but also makes the water poisonous.

**45) Which of the following are the major effects of the Thermal Pollution?**

- a) Unfavourable impact on water biodiversity
- b) Depleted level of oxygen in natural water
- c) Contamination of water
- d) All of the above

**Answer: d)**

Thermal pollution largely affects the water bio diversity. The rise in temperature of water results in increased metabolic activity of some water animals. Hence, they start consuming more food in short time. It also depletes the level of oxygen in natural water. Thermal pollution also results in contamination of water because various chemicals and other wastes get mixed up with the water that is disposed off back to rivers, ponds, lakes, etc., by various factories.

**46) Rice Paddy field is an important source of which of the following greenhouse gases?**

- a) Methane
- b) Oxygen
- c) Nitrous oxides
- d) Both a and c

**Answer: d)**

Rice paddy fields act as a source of greenhouse gases such as methane and nitrous oxides depending on soil organic matter status, land use and cropping intensity, irrigation water and drainage management practices, soil microbial populations and their activities, soil properties, and climatic variables.

**47) Which of the following factor is not responsible for causing Desertification?**

- a) Stripping the land of resources
- b) Practicing Afforestation
- c) Overgrazing
- d) Mining activities

**Answer: b)**

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Desertification is a type of land degradation in which a relatively dry land region becomes increasingly arid, typically losing its bodies of water as well as vegetation and wildlife. Practicing afforestation does not lead to desertification.

**48) Which of the following is also referred as the Tropical rainforests of the oceans?**

- a) Algal Blooms
- b) Mangroves
- c) Coral Reefs
- d) Kelps

**Answer: c)**

Coral reefs are often called as the Tropical rainforests of the oceans because of their variety and richness of life. They support an estimated 25% of the marine species.

**49) What is the term used for the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample at certain temperature?**

- a) Biotic Potential
- b) Biomagnification
- c) Eutrophication
- d) Biological oxygen demand

**Answer: d)**

Biochemical Oxygen Demand (BOD, also called Biological Oxygen Demand) is the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period.

**50) .....occurs when a body of water experiences a change in its acidity on a gradual level over the course of a year?**

- a) Acid Rain
- b) Biomagnification
- c) Acid Shock
- d) Eutrophication

**Answer: c)**

Acid shock is a sudden increase in the level of acidity of surface waters (lakes, streams, and rivers) in mid-latitude areas, caused by the melting in spring of snow that has accumulated through the winter, and stored dry

fallout of acidic precipitation. An acid shock can cause significant damage to freshwater species and habitats.

**51) What is the probable effect of heavy dust in the atmosphere on the plants?**

- a) Opening of stomata
- b) Closure of stomata
- c) Browning of leaves
- d) Leaf Blights

**Answer: b)**

A large quantity of dust results from micro-meteoroids that burn up in the atmosphere and turn into dust. Stomata are plugged by particulate material such as dust and soot.

**52) Which of the following are the possible consequences of the Global Warming?**

- a) Rising Sea levels
- b) Increasing oceanic temperature
- c) Severe weather
- d) All of the above

**Answer: d)**

Rising sea levels are the most common concern of global warming taking place with a thermal expansion of the oceans—a result of water molecules expanding in warmer temperatures, increased precipitation, and the melting of mountain glaciers. Increasing ocean temperatures could cause serious ecological damage. An increase in global temperature will likely enhance the ability for severe weather, which could mean stronger and more frequent storms.

**53) Which of the following statement is not true regarding Particulate matter?**

- a) They are only liquid droplets suspended in the atmosphere
- b) They have severe impact on climate and precipitation
- c) Sources are natural or anthropogenic
- d) Diameter is 2.5 micrometres or less

**Answer: a)**

Atmospheric aerosol particles also known as atmospheric particulate matter, particulate matter (PM), particulates, or suspended particulate matter (SPM) are microscopic solid or liquid matter suspended in the

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atmosphere of Earth. They are fine particles with a diameter of 2.5  $\mu\text{m}$  or less. Sources of particulate matter can be natural or anthropogenic. They have impacts on climate and precipitation that adversely affect human health.

**54) Which of the following pollutants are not emitted directly from the source like vehicles or power-plants?**

- a) Primary Pollutants
- b) Non-point source pollutants
- c) Point source pollutants
- d) Secondary pollutants

**Answer: d)**

Secondary pollutants are pollutants which form in the atmosphere. These pollutants are not emitted directly from a source like vehicles or power plants.

**55) Which of the following pollutant is not considered as primary in nature?**

- a) Ammonia
- b) Carbon monoxide
- c) Volatile organic matter
- d) Ozone

**Answer: d)**

Ozone is a secondary pollutant which is formed when hydrocarbons (HC) and nitrogen oxides ( $\text{NO}_x$ ) combine in the presence of sunlight.  $\text{NO}_2$ , which is formed as NO combines with oxygen in the air; and acid rain, which is formed when sulphur dioxide or nitrogen oxides react with water.

**56) The process by which the carbon sinks remove carbon dioxide from the atmosphere is known as.....?**

- a) Carbon Reduction
- b) Carbon Accumulation
- c) Carbon Sequestration
- d) Photosynthesis

**Answer: c)**

Carbon sequestration is the process involved in carbon capture and the long-term storage of atmospheric carbon dioxide ( $\text{CO}_2$ ). Carbon sequestration describes long-term storage of carbon dioxide or other forms of carbon

to either mitigate or defer global warming and avoid dangerous climate change.

**57) Emissions from the supersonic jets is a major threat to which of the following layer?**

- a) Nitrogen layer
- b) Oxygen layer
- c) Ozone layer
- d) None of the above

**Answer: c)**

An increase in supersonic aircraft flying could damage the ozone layer as aircraft emissions of  $\text{NO}_x$  deplete ozone concentrations at high altitudes, where these aircraft would typically fly.

**58) Which of the following helps in reducing the pollution caused by the industrial effluents?**

- a) Elephant grass
- b) Blue-green algae
- c) Parthenium
- d) Water Hyacinth

**Answer: d)**

Water Hyacinth is a free-floating fresh water plant which helps in reducing pollution caused by industrial effluents by storing the heavy metals in their bladders, roots and leaves.

**59) Which of the following is not the probable cause of Biomagnification?**

- a) Algal Blooms
- b) Organic Contaminants
- c) Toxic gases and air pollution
- d) Mining

**Answer: a)**

When mining substances such as zinc, copper, cobalt, lead and other chemicals, these mineral deposits may be released into the aquatic and adjacent farm environment where their toxicity levels rise tremendously upon absorption by aquatic and farm animals or crops resulting in biomagnification. The release of gases into the environment and organic contaminants can also contribute to Biomagnification.

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**60) Which of the following process does not add carbon dioxide into the atmosphere?**

- a) Respiration
- b) Photosynthesis
- c) Volcanic action
- d) Dead and Decaying organic matter

**Answer: b)**

Photosynthesis is the process by which green plants and some other organisms use sunlight to synthesize foods from carbon dioxide and water. Photosynthesis in plants generally involves the green pigment chlorophyll and generates oxygen as a by-product. Thus, carbon dioxide does not add into the atmosphere during photosynthesis.

**61) Which of the following are the health effects of the Photochemical smog?**

- a) Premature deaths due to cancer and respiratory disease
- b) Risk of certain birth defects
- c) Low Birth weight
- d) All of the above

**Answer: d)**

Photochemical smog is a unique type of air pollution which is caused by reactions between sunlight and pollutants like hydrocarbons and nitrogen dioxide. All the above are the health effects of photochemical smog.

**62) The absorption or checking of re-radiating heat by the atmosphere with Co<sub>2</sub>, Methane, Ozone and dust is known as?**

- a) Greenhouse effect
- b) Global warming
- c) Radioactive effect
- d) Global dimming

**Answer: a)**

Greenhouse effect is caused by the greenhouse gases in our atmosphere trapping and redirecting heat back to the Earth.

**63) Oil Zapper developed to clean oil-spills using a bacteria was developed by.....?**

- a) IPCC
- b) TERI

- c) WWF
- d) NRDC

**Answer: b)**

The new technique of using the bacteria to get rid of oil spill has been called "Oil Zapping". Oil Zapping is a bio-remediation technique involving the use of 'oil zapping' bacteria. It was developed by The Energy and Resources Institute (TERI).

**64) Which of the following gas is released by ruminants, biomass burning, termites, landfills and coal mining?**

- a) Ethane
- b) Methane
- c) Methyl Isocyanate
- d) Chlorine

**Answer: b)**

Methane gas is released by ruminants, biomass burning, termites, landfills and coal mining.

**65) Which of the following gas has important role in maintaining the atmospheric temperature?**

- a) Nitrogen Monoxide
- b) Sulphur dioxide
- c) Methane
- d) Carbon dioxide

**Answer: d)**

Carbon dioxide gas can absorb infrared radiation. This property of carbon dioxide has helped in maintaining temperature on the earth at a moderate level. Earth's moderate temperature is necessary for the existence of life on this planet.

**66) Stockholm Convention aims to protect human health and organic environment from which of the following pollutants?**

- a) Point source pollutants
- b) Persistent Organic pollutants
- c) Primary Pollutants
- d) Secondary Pollutants

**Answer: b)**

The Stockholm Convention is a global treaty that aims to protect human health and the environment from the

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effects of persistent organic pollutants (POPs). The Convention entered into force on May 17, 2004.

**67) The Ramsar Convention is an international treaty for the conservation and the sustainable use of.....?**

- a) Forests
- b) Grasslands
- c) Oceans
- d) Wetlands

**Answer: d)**

The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat is an international treaty for the conservation and sustainable use of wetlands. It is also known as the Convention on Wetlands. It was signed in 1971.

**68) Which of the following is the reason behind the rising sea-level due to Global-Warming?**

- a) Expansion of oceans
- b) Melting of glaciers at higher altitudes
- c) Ice sheets losing ice faster
- d) All of the above

**Answer: d)**

The three main reasons warming causes global sea level to rise are: oceans expand, ice sheets lose ice faster than it forms from snowfall, and glaciers at higher altitudes also melt.

**69) Which of the following is/are regarded as the environmental movements?**

- a) Silent Valley Movement
- b) Narmada BachaoAndolan
- c) Chipko Movement
- d) Both b and c

**Answer: d)**

Narmada BachaoAndolan (NBA) is an Indian social movement spearheaded by native tribals, farmers, environmentalists and human rights activists against a number of large dam projects across river Narmada, which flows through the states of Gujarat, Madhya Pradesh and Maharashtra. The Chipko movement or ChipkoAndolan was to save trees or conservation of

forests in India where people prevent trees from being cut down.

**70) Which of the following major gas is released through the coal-mining activities that has a severe impact on the environment?**

- a) Carbondioxide
- b) Methyl Isocyanate
- c) Methane
- d) Both a and c

**Answer: d)**

The combustion of coal is the largest contributor to the human-made increase of CO<sub>2</sub> in the atmosphere. Electric generation using coal burning produces approximately twice the greenhouse gasses per kilowatt compared to generation using natural gas. Coal mining releases methane, a potent greenhouse gas. Methane is the naturally occurring product of the decay of organic matter as coal deposits are formed with increasing depths of burial, rising temperatures, and rising pressure over geological time.

**71) Which of the following is the anthropogenic sources responsible for releasing pollutants into the atmosphere?**

- a) Controlled burning practices in agriculture and forest management
- b) Smoke and carbon monoxide from wildfires
- c) Volcanic activities
- d) Dust from the natural sources

**Answer: a)**

Controlled burn practices in agriculture and forest management is a anthropogenic source of pollution. Controlled or prescribed burning is a technique sometimes used in forest management, farming, prairie restoration or greenhouse gas abatement. Fire is a natural part of both forest and grassland ecology and controlled fire can be a tool for foresters. Controlled burning stimulates the germination of some desirable forest trees, thus renewing the forest.

**72) Which of the following allotropes of oxygen are involved in the Ozone-Oxygen cycle?**

- a) Atomic Oxygen

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- b) Diatomic Oxygen
- c) Triatomic Oxygen
- d) All of the above

**Answer: d)**

Three forms or allotropes of oxygen are involved in the ozone-oxygen cycle: oxygen atoms (O or atomic oxygen), oxygen gas (O<sub>2</sub> or diatomic oxygen), and ozone gas (O<sub>3</sub> or triatomic oxygen).

**73) In which of the following zone the recent ozone levels have dropped to as low as 33 percent of their pre 1975 values?**

- a) Arctic zone
- b) Antarctic zone
- c) Torrid zone
- d) Temperate zone

**Answer: b)**

The Antarctic ozone hole is an area of the Antarctic stratosphere in which the recent ozone levels have dropped to as low as 33 percent of their pre-1975 values. The ozone hole occurs during the Antarctic spring, from September to early December, as strong westerly winds start to circulate around the continent and create an atmospheric container.

**74) El Nino, abnormal weather pattern is caused by the warming of which of the following ocean?**

- a) Arctic Ocean
- b) Antarctic Ocean
- c) Pacific Ocean
- d) Indian Ocean

**Answer: c)**

El Nino is an abnormal weather pattern caused by the warming of the Pacific Ocean near the equator, off the coast of South America. A temperature increase of least 0.9 F (0.5 C) needs to occur in the waters of the eastern Pacific Ocean near the equator for it to be considered an El Nino year.

**75) Rise in water level in the oceans and the melted ice-sheets and glaciers causes.....?**

- a) Endangering of species
- b) Desertification
- c) Destruction of human settlements

- d) Destruction of infrastructure

**Answer: c)**

Sea-level rise is caused by melting ice from glaciers as well as from the Greenland ice sheet and the Antarctic ice sheet. The rise in the water level of the oceans and the melted ice-sheets and glaciers causes the destruction of the human settlements.

**76) In the stratosphere, why does temperature increase with increasing height?**

- a) The pressure and density rapidly decrease as you go up through the stratosphere, thus the ideal gas law requires temperature to increase too.
- b) Greater absorption of ultraviolet radiation at the top of the stratosphere.
- c) Conduction
- d) Convection

**Answer: b)**

The reason for the increase in temperatures in the stratosphere with height relates to the wavelength of the incoming solar energy. At higher altitudes in the stratosphere, ozone very efficiently absorbs UV at wavelengths between 200 and 350 nanometres. At lower altitudes in the stratosphere, ozone absorbs UV at wavelengths between 44 and 80 nanometres but much less efficiently.

**77) What will be the effect on the planet if the earth had no greenhouse gases?**

- a) It would be too cooler to support life
- b) It would be too hot to support life
- c) It would be cooler but can support life
- d) Depends upon the effect of the greenhouse gases present

**Answer: a)**

If Earth had no greenhouse gases the average surface temperature would be 0 Degree F, far below the freezing temperature. The oceans would be totally frozen, and life would not exist on Earth.

**78) Which of the following place experiences the greatest seasonal variability in temperature?**

- a) Costa Rica, Central America
- b) Central Canada

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- c) New-Delhi, India
- d) Mumbai, India

**Answer: b)**

Central Canada experiences the greatest seasonal variability in temperature. Annual and seasonal mean temperatures across Canada have increased, with the greatest warming occurring in winter. Between 1948 and 2016, the best estimate of mean annual temperature increase is 1.7°C for Canada as a whole and 2.3°C for northern Canada.

**79) Which of the following are consequences associated with climate change?**

- a) Surface temperatures are setting new heat records about each year
- b) Global sea levels are rising at an alarmingly fast rate
- c) The ice sheets are declining, glaciers are in retreat globally, and our oceans are more acidic than ever
- d) All of the above

**Answer: d)**

All of these are problems associated with climate change. The majority of scientists agree that many of these effects are caused by human contribution to the greenhouse effect. Extreme weather events, droughts, heat waves, and rising sea levels will have devastating effects on the world's poorest countries and communities.

**80) What was agreed to in the "Paris Agreement" that came out of COP-21, held in Paris in 2015?**

- a) To pursue a goal of 100% clean, renewable energy
- b) To keep global temperature, rise well below 2°C pre-industrial levels and to pursue a path to limit warming to 1.5°C
- c) To protect biodiversity and end the deforestation of the world's rainforests
- d) To limit sea level rise to 3 feet above current levels

**Answer: b)**

The Paris Agreement aims to keep the overall increase in global temperatures below 2 degrees Celsius, with the hope of limiting it to 1.5 degrees Celsius. Scientists believe that these are the largest increases in global temperature that we could experience without causing catastrophic change to the Earth's climate.

**81) What percentage of the global greenhouse gas emissions is emitted by the transportation sector?**

- a) 33%
- b) 50%
- c) 14%
- d) 25%

**Answer: c)**

Transportation sector emits 14% of global greenhouse gas emissions. Greenhouse gas emissions from this sector primarily involve fossil fuels burned for road, rail, air, and marine transportation. Almost all (95%) of the world's transportation energy comes from petroleum-based fuels, largely gasoline and diesel.

**82) Which of the following economic sectors emits the largest percentage of greenhouse gas emissions globally?**

- a) Industries
- b) Electricity and Heat Production
- c) Transportation
- d) Buildings

**Answer: b)**

The electricity and heat production sector emits the largest percentage of global greenhouse gas emissions at 25%. Agriculture, forestry, and other land use sector is a close second at 24%.

**83) The order of the atmospheric layers, starting from closest to the surface to the top of the atmosphere is.....?**

- a) Troposphere, Mesosphere, Stratosphere, Thermosphere
- b) Mesosphere, Troposphere, Thermosphere, Stratosphere
- c) Troposphere, Stratosphere, Mesosphere, Thermosphere
- d) Thermosphere, Mesosphere, Troposphere, Stratosphere

**Answer: c)**

The correct order of the layers of the earth's surface starting with the one closest to the Earth's surface is Troposphere, Stratosphere, Mesosphere and Thermosphere.

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**84) What is the effect of the high clouds on the surface temperature of the earth?**

- a) High clouds cool the surface by increasing the energy emitted to space
- b) High clouds warm the surface by increasing the greenhouse effect
- c) It depends on whether they are comprised of ice or liquid water
- d) Both a and b

**Answer: b)**

Clouds have both cooling and warming effects on Earth's surface. If more high clouds were to form, more energy would be trapped in the atmosphere, and Earth's temperature would climb. It would warm the earth's surface by increasing the greenhouse effect.

**85) Which of the following country is the highest per capita emitter of carbondioxide in the world?**

- a) Australia
- b) China
- c) Qatar
- d) India

**Answer: c)**

Qatar is the highest per capita emitter of carbon dioxide in the world. In 2011, the per capita emission was 44 tons.

**86) Which of the following is the useful biological indicator of the pollution caused due to sulphurdioxide?**

- a) Lichens
- b) Algal Blooms
- c) Water Hyacinth
- d) Pseudomonas

**Answer: a)**

Lichens is a useful biological indicator of sulphur dioxide pollution Lichens are a complex life form that is a symbiotic partnership of two separate organisms, a fungus and an alga. The dominant partner is the fungus, which gives the lichen the majority of its characteristics, from its thallus shape to its fruiting bodies.

**87) Which of the following rainforest is referred as the 'Lungs of our planet'?**

- a) African Rainforest
- b) Amazon Rainforest
- c) Asian Rainforest
- d) American Rainforest

**Answer: b)**

The Amazon Rainforest, also known as Amazonia or Amazon Jungle, is one of the world's greatest natural resources and covers most of the Amazon Basin of South America. It is popularly referred as the Lungs of our planet.

**88) Which of the following leading organization uses peaceful and creative activism to protect the global environment?**

- a) Earth Charter Initiative
- b) World Wildlife fund
- c) Green Peace
- d) Friends of the Earth International

**Answer: c)**

Greenpeace is a global, independent campaigning organization that uses peaceful protest and creative communication to expose global environmental problems and promote solutions that are essential to a green and peaceful future.

**89) Which of the following danger regarding the rainforests needs to be addressed immediately?**

- a) Deforestation
- b) Afforestation
- c) Pollution
- d) Insufficient rainfall

**Answer: a)**

Deforestation needs to be addressed immediately which refers to the cutting, clearing, and removal of rainforest or related ecosystems into less bio-diverse ecosystems such as pasture, cropland, or plantations.

**90) Which of the following regions has the highest glaciers in the world?**

- a) Antarctica
- b) Greenland
- c) Siberia

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d) Pacific Northwest

**Answer: a)**

The world's highest glacier is the Lambert glacier in Antarctica, according to the United States Geological Survey. The glacier is more than 60 miles (96 km) wide at its widest point, about 270 miles (435) long, and has been measured to be 8,200 feet (2,500 meters) deep at its centre.

**91) What is the baseline year against which the reductions of the greenhouse gas emissions are measured as per the Kyoto Protocol?**

- a) 1990
- b) 1994
- c) 2000
- d) 1999

**Answer: a)**

Under the Kyoto protocol the UK Government committed to reducing the levels of CO<sub>2</sub> and five other greenhouse gases by 12.5% below 1990 levels by 2008 to 2012. These commitments have been surpassed and new targets set.

**92) Which of the following layer is approximately 480 km thick and contains the ionosphere?**

- a) Troposphere
- b) Thermosphere
- c) Stratosphere
- d) Mesosphere

**Answer: b)**

The thermosphere is the layer in the Earth's atmosphere directly above the mesosphere and below the exosphere. Within this layer of the atmosphere, ultraviolet radiation causes photoionization of molecules, creating ions in the ionosphere. It is approximately 480km thick and contains the ionosphere.

**93) Global Environment Outlook is a series of reports on environment issued by which of the following agencies?**

- a) UNEP
- b) UNDP
- c) FAO
- d) WMO

**Answer: a)**

Global Environment Outlook - Global Environment Outlook (GEO) is a series of reports on the environment issued periodically by the United Nations Environmental Programme (UNEP). UN Environment launched the first Global Environment Outlook in 1997. It is a flagship report because it fulfills the core functions of the UNEP.

**94) Which of the following are the environmental effects of the Surface-Runoff?**

- a) Alters the metabolic processes of the aquatic species
- b) Leads to Eutrophication
- c) Contamination of drinking water
- d) All of the above

**Answer: d)**

Surface runoff is the flow of water that occurs when excess stormwater, meltwater, or other sources flows over the Earth's surface. Contaminated surface waters risk altering the metabolic processes of the aquatic species that they host. Surface runoff occurring within forests can supply lakes with high loads of mineral nitrogen and phosphorus leading to eutrophication. In the case of groundwater, the main issue is contamination of drinking water.

**95) Which of the following statement is not true regarding Volatile Organic Compounds?**

- a) They have low vapour pressure at ordinary temperature
- b) They are dangerous to the human health
- c) They cause harm to the environment
- d) They include both man-made and naturally occurring chemical compounds

**Answer: a)**

Volatile organic compounds (VOCs) are organic chemicals that have a high vapor pressure at ordinary room temperature. They include both human-made and naturally occurring chemical compounds. VOCs are dangerous to human health or cause harm to the environment.

**96) Which of the following method is used for the treatment of water pollution?**

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- a) Venturi Scrubber
- b) Reverse Osmosis
- c) Bag House Filter
- d) Composting

**Answer: b)**

Increased pollution in our atmosphere has resulted in the creation and development of all sorts of water purification technologies and processes. Two most popular types of water purification methods are reverse osmosis (RO) and distillation. Reverse osmosis (RO) is a water purification technology that uses a partially permeable membrane to remove ions, molecules and larger particles from drinking water.

**97) Which of the following source produces high amount of solid waste?**

- a) Nuclear Power plants
- b) Manufacturing
- c) Agriculture
- d) Packaging Industry

**Answer: b)**

Reducing solid waste is reducing the amount of garbage that goes into our landfills. The maximum amount of solid waste in the environment is produced due to manufacturing.

**98) Spraying of DDT on the crops causes which of the following pollution?**

- a) Soil and water
- b) Soil and air
- c) Air and water
- d) Air and crops

**Answer: a)**

"Spraying crops" is the way people generally refer to liquid pesticide or fertilizer application to a crop.

Spraying DDT on the crops tends to pollute the soil as well as water.

**99) Which of the following are the consequences of destroying the rainforests?**

- a) Loss of species of microorganisms
- b) Loss of species of plants and animals
- c) Disappearance of proper cures for life threatening diseases
- d) All of the above

**Answer: d)**

Destroying rainforests has a severe impact on the environment. It leads to the loss of habitat of millions of species. Most of the animal and plant species can't survive in the forest in the absence of rainforests.

**100) Iron and manganese present as pollutants in water cannot be removed by which of the following process?**

- a) Chlorination
- b) Ion Exchange process
- c) Oxidation followed by settling and filtration
- d) Lime soda process or manganese zeolite process

**Answer: a)**

Iron and manganese are common inorganic pollutants present in water supplies which result in aesthetic and operational challenges such as unpleasant metallic taste and reddish colour. Iron and manganese pollutants can't be removed by the process of chlorination.



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