

G R E E N

Olympiad



October 31, 2018

Organized by

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The Energy and Resources Institute

INSTRUCTIONS

1. This paper contains a total of 16 pages.
2. This paper is a compilation of questions for all the 3 (three) levels.
3. There are 50 questions with multiple choice of answers for each level.
4. Please identify the questions for your level.

Level 1	Classes 4 and 5	Questions 1–50	On page no 1–5
Level 2	Classes 6, 7 and 8	Questions 51–100	On page no 6–10
Level 3	Classes 9 and 10	Questions 101–150	On page no 11–16

5. The duration of the examination is 1 hour.
6. There is no negative marking.
7. For each question, indicate your answer by darkening the appropriate oval with an HB pencil in the OMR sheet as shown below:

☐	☐	☒	☐
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8. Answers should be marked on the OMR sheet only.
9. Please ensure that you are marking the answer against the correct question number.
10. Use of laptop and mobile is strictly prohibited during the examination.

LEVEL - I (Classes 4 & 5)

Answer the following questions after carefully reading the instructions.

1. What is the term used for a person who fits and repairs pipes, fixtures, taps, and so on for water supply and sanitation?
 - a) Mason
 - b) Plumber
 - c) Architect
 - d) Electrician
2. Are there puddles around your home or school? How do puddles dry naturally?
 - a) Condensation
 - b) Evaporation
 - c) Mixing with soil
 - d) None of the above
3. Humans need water for drinking. The amount of water that each person needs depends on the body temperature, the level of activity, and other factors. Consuming inadequate amount of water can cause _____.
 - a) evaporation
 - b) dehydration
 - c) condensation
 - d) All of the above
4. _____ does not readily mix with water.
 - a) Milk
 - b) Oil
 - c) Cold drink
 - d) Vinegar
5. Water is very important for humans and one of its important uses is cooking. Which of the following methods of cooking is dependent on water?
 - a) Roasting
 - b) Grilling
 - c) Steaming
 - d) Frying
6. From the below-mentioned options, which living organism helps in turning organic waste into manure?
 - a) Common house fly
 - b) Black ants
 - c) Earthworms
 - d) White termites
7. Name the waste treatment method in which thermal energy is extracted from waste.
 - a) Recycling
 - b) Landfilling
 - c) Incineration
 - d) Composting
8. What is the best way to manage solid waste?
 - a) Waste collection → waste segregation → recycling → waste treatment
 - b) Waste collection → recycling → waste segregation → waste treatment
 - c) Waste minimization → segregation → recycling → waste treatment
 - d) Waste minimization → waste collection → segregation → waste treatment
9. From the below-mentioned options, pick the substance that should not be added to a vermicompost pit as it causes the growth of disease-causing bacteria that will hinder the composting process.
 - a) Coconut shells
 - b) Left-over pickle
 - c) Dry leaves
 - d) Pineapple waste
10. Food is essential for our body to develop, replace, and repair itself. Substances that provide nourishment are essential for the maintenance of life and for growth. These are called _____.
 - a) nutrients
 - b) carbohydrates
 - c) proteins
 - d) vitamins
11. Pick the most balanced meal plate from the below-listed options:
 - a) Poultry, meat, and pulses
 - b) Fruits, starch, and fats
 - c) Grains, pulses, and processed food
 - d) Whole grains, vegetables, and sea food

12. Fats provide energy to the body. However, the energy that is provided is almost twice as much in comparison to carbohydrates. Hence it is important to consume small quantities of this food group. What are the main dietary sources of fats from the below-mentioned sources?
- Red meats
 - Fish and soybean
 - Ghee and butter
 - Peas and spinach
13. When a seed is planted, the embryo or baby plant starts to grow with the right combination of soil, water, and sunlight. What is this process known as?
- Grafting
 - Germination
 - Fertilization
 - Pollination
14. Name the nutrient that is essential for the growth and repair of the human body.
- Carbohydrates
 - Proteins
 - Fats
 - Vitamins
15. _____ is the study of the Earth's atmosphere and the variations in temperature and moisture patterns that produce different weather conditions.
- Ecology
 - Hydrology
 - Geology
 - Meteorology
16. Compared to the earlier trends, what is different about climate change that is now happening?
- It is caused only by atmospheric changes.
 - It is much slower than the earlier climatic changes.
 - It is faster due to human activities.
 - It is the same, there is no difference at all.
17. Which of the following statements are true with respect to electricity production?
- Most electricity today is generated by burning fossil fuels.
 - Fuel-based electric power plants emit a lot of carbon dioxide which contributes to global warming and climate change.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
18. Which of the below-mentioned light bulbs would result in lesser greenhouse gas (GHG) emissions?
- Incandescent
 - Halogen
 - Light-emitting diodes (LED)
 - All of the above
19. Which of the below-mentioned gas is not a greenhouse gas (GHG)?
- Carbon dioxide
 - Methane
 - Oxygen
 - Water vapour
20. _____ is considered as an ideal mix of sand, silt, and clay.
- Loam
 - Clay
 - Sand
 - Silt
21. Which of the following statements are true for a natural resource?
- Natural resources are made freely by nature.
 - Refined oil is an example of a natural resource.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
22. _____ present in the air slows down the burning process of materials.
- Oxygen
 - Carbon dioxide
 - Nitrogen
 - Water vapour
23. Forests influence the air, soil, and water resources. Which of the following statements are not true with respect to forests?
- Forests affect our climate as plants expel carbon dioxide.
 - Forests prevent soil erosion as plant roots bind the soil tightly.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)

24. Although easy to cultivate, _____ soil may lack nutrients as they are easily washed away in rainfall. It is often referred to as 'hungry' soil.
- clay
 - sandy
 - loamy
 - peaty
25. _____ is a renewable natural resource.
- Sunlight
 - Petroleum
 - Liquefied Petroleum Gas (LPG)
 - Minerals
26. Which of the following statements are true with respect to minerals?
- Minerals are naturally occurring solid substances
 - Minerals are organic compounds made up of plant/animal remains.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
27. Gravity is the universal force of attraction acting between all matter. The strength of the gravitational pull between two objects depends on their _____.
- size and mass
 - shape and mass
 - location and mass
 - time and mass
28. Tornadoes mostly occur along with thunderstorms during the spring or summer months in the mid-latitudes of the Northern and Southern Hemispheres. Name the country that experiences the highest number of tornadoes in the world each year.
- India
 - Oman
 - Australia
 - The United States of America
29. Continents rest on massive slabs of rock called tectonic plates. These plates are always moving and interacting in a process called plate tectonics. Which mountain range—home to the world's highest mountain peaks—was created on the collision of the Indian subcontinent and the Asian continent?
- The Himalaya
 - Ural mountains
 - The Hindu Kush
 - Karakoram
30. Satellites, rockets, and missiles are man-made objects that orbit the space and are powered by _____.
- volcanic energy
 - geothermal energy
 - tidal energy
 - solar energy
31. Which of the following is not an example of a biomass energy source?
- Wood
 - Gobar gas
 - Nuclear energy
 - Cow dung
32. Water power has been used for grinding grains for more than 2,000 years. Electricity can be created by using water power to drive turbines that are connected to generators. This is also known as _____.
- geothermal energy
 - solar energy
 - hydropower
 - bioenergy
33. What type of resources are hydrocarbons, coal, fuel oil, and natural gas?
- Renewable
 - Non-renewable
 - Non-polluting
 - Safe for the environment
34. Natural gas is transported mainly by _____.
- trucks
 - autorickshaws
 - pipelines
 - railways
35. The act of using resources wisely and preserving it for the future is called _____.
- efficiency
 - conservation
 - recycling
 - composting
36. Flowering plants use their flowers to reproduce. In their first stage of reproduction, pollen produced on the anther of a flower moves to the stigma. This is also known as _____.
- fertilization
 - pollination
 - germination
 - seed formation

37. Bees live in colonies or hives and are made up of three types of members. Choose the correct option from below:
- Queen bee, king bee, and worker bee
 - Queen bee, soldier bees, and worker bee
 - Queen bee, worker bee, and drones
 - King bee, soldier bee, and worker bee
38. India celebrates Van Mahotsav every year to coincide with the onset of monsoons in the country in the month of _____ in which lakhs of trees are planted across the country.
- January
 - June
 - July
 - February
39. Spiders are insects that have tubes called spinnerets containing liquid silk to make spider webs. When this silk liquid touches the air it hardens into strong threads. Spiders can make their silk sticky or non-sticky depending on whether they want to trap its prey or wrap its eggs. Which of the following statement is a correct reflection of spider silk?
- Spider silk is as strong as steel thread.
 - Spider silk is stronger than steel thread.
 - Spider silk is weak and frail.
 - Spider silk is invisible.
40. Due to their great ability to swim, _____ are scientifically named as, *Ursus maritimus*, which means 'bears of the sea'.
- walrus
 - brown bears
 - polar bears
 - Arctic penguins
41. Today's trains mostly run on diesel or electricity. The early steam engine used _____ to power it.
- gasoline
 - petrol
 - coal
 - kerosene
42. Horses have been used as a major means of transportation since centuries. To help them navigate, horseshoes are attached to their hooves. What is the material that is commonly used to make them?
- Plastic
 - Leather
 - Iron
 - Cotton
43. Compressed Natural Gas (CNG) emits significantly less pollution as compared to petrol and diesel. It is produced by compressing natural gas which mainly consists of _____.
- oxygen
 - methane
 - carbon dioxide
 - nitrogen
44. Name the alternate fuel that is obtained by fermenting and distilling crops, such as corn, barley, or wheat.
- Kerosene
 - Ethanol
 - Electricity
 - Natural gas
45. Coral reefs are the most biodiverse marine ecosystems in the world. However, they are also amongst the most threatened wildlife habitats due to climate-related impacts. Even a one-degree rise in temperature can cause corals to expel their symbiotic algae in a process known as coral _____.
- pollution
 - bleaching
 - whitening
 - All of them
46. From the following options, identify a means to control air pollution from automobiles.
- By fitting a cyclone separator
 - By fitting an electrostatic precipitator
 - By fitting a catalytic converter
 - By fitting a wet scrubber
47. What was the theme for World Environment Day, 2018?
- Raise your voice, not the sea level
 - Think. Eat. Save
 - I'm with nature
 - Beat plastic pollution
48. A glass made from recycled glass can reduce air pollution by 20% and water pollution by 50%. Given this fact, we need to _____.
- promote the recycling of glass
 - purchase recycled glass
 - Both of the above
 - None of the above

49. Rajiv's house is along a high-traffic road; Sonia stays close to a port, and Rohit stays in a farm in the country. Which of the below-mentioned statements is correct with reference to the above information?
- Sonia and Rohit are exposed to lower levels of air pollution.
 - Rajiv and Sonia are both exposed to high levels of air pollution.
 - Rajiv and Rohit are both exposed to lower levels of air pollution.
 - None of the above
50. In India, cow dung is used to make cow dung cakes, which is a source of fuel. Which of the following statements hold true with respect to cow dung usage?
- Cow dung cakes should not be burnt as the nutrients, too, get burnt and cause indoor air pollution.
 - Cow dung cakes should be used for generating biogas and as manure for plants.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)

LEVEL - II (Classes 6, 7 & 8)

Answer the following questions after carefully reading the instructions.

51. What term is used to describe the storehouse of water located between layers of hard rock below the Earth's surface?
- Water table
 - Oasis
 - Aquifer
 - None of the above
52. Sullage water, also known as grey water, is relatively clean wastewater unlike sewage or black water. Sullage water originates from the _____.
- kitchen and bathroom
 - kitchen and toilet
 - kitchen, bathroom, and toilet
 - None of the above
53. This ancient civilization had the world's first urban sanitation system. Within the city, individual houses or groups of houses obtained water from wells and there was a separate room for bathing. The civilization also had the world's earliest-known system of flush toilets. Identify this civilization.
- The Aztecs civilization
 - The Indus Valley civilization
 - Mesopotamian civilization
 - The Roman civilization
54. What is the terminology used for drinking water?
- Freshwater
 - Clean water
 - Potable water
 - Neutral water
55. After harvesting his crop, Hari has a lot of crop residue and is seeking advice to effectively dispose it off. Of the listed options, which one will you suggest?
- Throw the crop residue into the nearby water body for aquatic organisms to consume.
 - Dump the waste at a solid waste disposal site.
 - Burn the crop residue at brick kilns/tandoors/kitchens.
 - Make pallets of it to be used as fuel in industries and substitute coal.
56. High load of organic waste in water bodies leads to the depletion of oxygen in the water body. Which chemical property helps to identify the organic load in waste water?
- Total suspended solids
 - Chemical oxygen demand
 - Biochemical oxygen demand
 - Total Kjeldahl nitrogen
57. Inorganic waste refers to waste items that do not decompose in nature over a period of time. Which of the following items cannot be decomposed through the Earth's natural processes and stays for a long time in nature?
- Egg shells
 - Tea bags
 - Styrofoam plates
 - Waste paper
58. Hazardous waste refers to any material/item or agent which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Hazardous materials thus are _____.
- toxic
 - explosive
 - non-fatal
 - explosive and toxic
59. Name the horticultural and silvicultural practice that involves the selective removal of certain parts of a plant (such as branches, buds, or roots) in order to remove deadwood, thus improving the plant's health.
- Weeding
 - Chopping
 - Trimming
 - Pruning
60. This is the longest canal in India and the largest irrigation project in the world. It runs through The Great Thar Desert for almost 650 km. What is the name of this canal?
- West Coast Canal
 - Upper Ganges Canal
 - Buckingham Canal
 - Indira Gandhi Canal

61. Humus is a dark organic material that forms in soil when plant and animal matter decays. Which of the following soils has low humus content?
- Alluvial
 - Loamy
 - Black
 - Desertic
62. Bacteria naturally present in milk will spoil the milk in two or three hours if the milk is left out on the kitchen counter at room temperature. How can the shelf life of milk be enhanced?
- Dilute it with water
 - Store it in an air-tight container
 - Boiling and pasteurization
 - None of the above
63. Vitamin deficiencies can cause various diseases in the human body. Name the disease that had plagued sailors in the 1600–1700's due to the lack of vitamin C in their diets.
- Rickets
 - Pernicious anaemia
 - Scurvy
 - Beriberi
64. Fibre is a type of _____.
- fat
 - protein
 - carbohydrate
 - vitamin
65. If the Earth is like a greenhouse, then greenhouse gases (GHGs) in the atmosphere are like _____ as they allow the heat to enter, but trap it on its way out.
- plants
 - sun
 - ground
 - glass
66. _____ is the strongest greenhouse gas (GHG) and its concentration is largely controlled by the temperature of the atmosphere.
- Carbon dioxide
 - Water vapour
 - Methane
 - Ozone
67. Glaciers can be classified as alpine glaciers and ice sheets. Alpine glaciers form on mountain sides, while ice sheets are not limited to mountainous areas. The only continent to not have any alpine glacier is _____.
- Asia
 - Australia
 - Africa
 - Europe
68. Climate change will affect agriculture as _____.
- increased heat will kill crops
 - an increase in the carbon dioxide will help crop growth
 - it will reduce yields and productivity
 - it will not make any difference
69. Ozone (O_3), a minor greenhouse gas (GHG), is found in relatively low concentrations in the _____ as it is produced by a combination of mostly hydrocarbons and nitrogen oxide compounds.
- troposphere
 - stratosphere
 - mesosphere
 - thermosphere
70. Climate change will have multi- and cross-sectoral impacts affecting people in all domains of life—economically, socially, and environmentally. Which of the following companies do you think will be affected by global warming?
- Fruit packaging
 - Fish processing
 - Insurance companies
 - All of the above
71. El Niño and La Niña are opposite phases of the El Niño-Southern Oscillation (ENSO) cycle. The ENSO cycle describes the fluctuations in temperatures between the ocean and the atmosphere in the east-central Equatorial Pacific. _____ is a climate pattern that describes the unusual warming of surface waters in the eastern tropical Pacific Ocean.
- ENSO
 - El Niño
 - La Niña
 - Walker circulation

72. Biogas, a type of biofuel, is naturally produced from the decomposition of organic waste. The process is also known as anaerobic digestion and is a natural form of waste-to-energy that uses the process of _____ to break down organic matter.
- a) digestion
 - b) fermentation
 - c) pasteurization
 - d) dehydriaon
73. Clouds are a collection of tiny droplets of water or ice crystals that settle on _____ in the atmosphere. They are either composed of ice/water droplets depending on the height of the cloud and the atmospheric temperature.
- a) smoke
 - b) fog
 - c) dust particles
 - d) All of the above
74. Name the world's leading producer of petroleum and natural gas hydrocarbons.
- a) Saudi Arabia
 - b) The United States of America
 - c) Russia
 - d) Canada
75. Which of the following forms of energy has the least amount of negative impact on the environment when it is harnessed and utilized?
- a) Nuclear energy
 - b) Thermal energy
 - c) Solar energy
 - d) Geothermal energy
76. From the below-mentioned options, pick an example of a primary pollutant.
- a) Smog
 - b) Acid rain
 - c) Sulphuric acid
 - d) Carbon monoxide
77. There are some pollutants that are already present in the environment but are termed as pollutants only when their concentration increases. What are such pollutants known as?
- a) Primary pollutants
 - b) Secondary pollutants
 - c) Quantitative pollutants
 - d) Qualitative pollutants
78. From the following options, name an effective air pollution-control device for removing particles and/or gases from industrial exhaust streams. It operates by introducing a scrubbing liquid (typically water) into the dirty gas stream, following which the contaminants are then collected in the scrubbing liquid itself.
- a) Cyclone separator
 - b) Wet scrubber
 - c) Fabric filter
 - d) Electrostatic precipitator
79. Light pollution, also known as photo pollution, occurs due to the presence of _____ at night.
- a) excessive natural light
 - b) excessive artificial light
 - c) moonlight
 - d) any form of light
80. Which sector of the economy is known to produce extremely high amounts of carbon monoxide?
- a) Industry
 - b) Domestic
 - c) Real estate
 - d) Transportation
81. _____ is the most metamorphized type of ignitable coal with the highest amount of carbon content.
- a) Peat
 - b) Lignite
 - c) Anthracite
 - d) Graphite
82. This continent is home to 56 countries and houses areas that are key to scientists studying evolution as it is thought to be the place where hominids began to evolve. Name the continent in question.
- a) Asia
 - b) South America
 - c) Africa
 - d) Australia
83. Which is the first manned mission to land on the moon in July 1969?
- a) Apollo 10
 - b) Apollo 11
 - c) Apollo 12
 - d) Apollo 13

84. The atmosphere is a combination of many gases, such as argon, carbon dioxide, neon, helium, and hydrogen. However, _____ and oxygen are the two primary gases that constitute the atmosphere.
- neon
 - helium
 - methane
 - nitrogen
85. Hurricanes, typhoons, and cyclones are all the same weather phenomena with high-speed winds reaching at least 74 miles per hour (119 km per hour). Scientists name these storms depending on 'where they occur'. What are the storms that form in the Indian Ocean known as?
- Typhoons
 - Cyclones
 - Tornadoes
 - Whirlwinds
86. Which of the following is an example of 'energy conservation'?
- Using incandescent bulbs
 - Leaving electrical appliances on standby mode
 - Painting the house with darker shades
 - Walking, carpooling, or using public transport
87. Solar water heaters are a cost-effective way to generate hot water. Which form of energy is used to heat water flowing through panels?
- Electricity
 - Infrared radiation
 - Thermal energy
 - No energy is used
88. In order to conserve resources, what should one do?
- Carpool
 - Bicycle to school
 - Turn off lights when not in use
 - All of the above
89. According to the International Energy Agency (IEA), a majority of the additional investments need to be allocated to _____ so as to help achieve the goal of universal energy access by 2030.
- natural gas
 - smart cities
 - off-grid and mini grid systems
 - smart grids
90. From the below-mentioned options, select the alternate energy-efficient equipment that can be used to replace electrical geysers (water heaters).
- Induction heater
 - Immersion rods
 - Solar heater
 - Microwave
91. Which of the following statement(s) is/are correct about geothermal energy?
- It is generated from the kinetic energy of moving ocean tides.
 - It can be captured in a gas turbine to produce power.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
92. Why should we use a light-emitting diode (LED) bulb at home as against tubelights?
- An LED bulb is cost effective and energy efficient.
 - Conventional tube lights lose brightness over time.
 - An LED bulb outlives the combined lifespan of at least 4–5 conventional tubelights.
 - All of the above.
93. What type of plants will you choose when undertaking a plantation drive in school?
- Choose plants that need less water
 - Choose plants that are resilient
 - Choose plants that are locally found
 - All of the above
94. Biodiversity hotspots are the richest and most threatened reservoirs of plant and animal life. They have the maximum number of _____ species and have lost at least 70% of their original habitats.
- keystone species
 - endemic species
 - invasive species
 - All of the above

95. This ecosystem is one of the most threatened ecosystems in the world. Although it covers less than 1 per cent of the Earth's surface, it is home to around 25 per cent of the world's fish species. This fragile and complex ecosystem is also incredibly pleasing to the eye due to its vibrant and diverse colours. Name it.
- Wetlands
 - Mangrove ecosystem
 - Coral reef ecosystem
 - Freshwater ecosystem
96. The linked feeding series in an ecosystem results in a food chain. Name the first trophic or feeding level in the food chain that comprises the highest biomass on the Earth's surface.
- Autotrophs
 - Primary consumers
 - Secondary consumers
 - Tertiary consumers
97. Name the European city that focussed on reducing emissions by improving mobility and integrating transport and building through its 'super cycle highway' initiative. Super cycle highways and other bike lanes around the city have led to a 45 per cent increase in the number of residents commuting by bike daily.
- Venice
 - Zurich
 - Stockholm
 - Copenhagen
98. The main aim of the 17 Sustainable Development Goals (SDGs) which replaced the Millennium Development Goals in 2015 is to end poverty, protect the planet, and ensure prosperity for everyone. Which of the following is not a part of the SDGs?
- Access to sustainable energy for all
 - Availability of water and sanitation for all
 - Provision of Internet services for all
 - Promotion of decent jobs for all
99. Each and every Sustainable Development Goal (SDG) has specific targets that need to be met by 2030. The Bertelsmann Stiftung and the UN Sustainable Development Solutions Network have created a prototype index that measures the performance of various countries in achieving the same. Which country tops the list for achieving the 2030 targets enlisted by the 17 SDGs?
- Norway
 - Sweden
 - Denmark
 - Canada
100. Rapid urbanization has resulted in slums and informal settlements in cities, which according to the UN Habitat attributes to around 33% of the urban population in the developing world. From the following options, which problem will be faced through rapid urbanization?
- Poor housing which will not withstand natural disasters.
 - Inadequate access to safe water and sanitation.
 - Overcrowding and eviction.
 - All of the above

LEVEL - III (Classes 9 & 10)

Answer the following questions after carefully reading the instructions.

101. A salt lake or a saline lake is a landlocked body of water that has a significantly higher concentration of salts (typically sodium chloride) and other dissolved minerals than most lakes. Name the largest inland salt water lake in India.
- Chilika
 - Sambhar
 - Lonar Crater
 - Pulicat
102. As per land use statistics 2013/14, India has a net sown area of around 43% of the total geographical area, of which the net irrigated area is 68.2 million hectares. What is the largest source of irrigation in India?
- Rivers
 - Canals
 - Lakes
 - Wells and tube-wells
103. The intermingling of substances by the natural movement of their particles is known as diffusion. It is a physical process where molecules of a material move from an area of high concentration to an area of low concentration. Which of the below-mentioned option is not an example of diffusion?
- The fragrance when a perfume bottle is opened.
 - The fogging of a mirror while taking a hot shower.
 - Aroma of food inside a house.
 - Teabag placed in a cup of hot water.
104. In India, interstate river-water disputes are governed by the Inter-State Water Disputes Act, 1956. If a state government makes a request regarding any water dispute and the central government is of the opinion that the water dispute cannot be settled by negotiations, then a Water Disputes Tribunal is constituted for the adjudication of the water dispute. The Ravi & Beas Water Disputes Tribunal was constituted for water disputes between the states of:
- Punjab, Haryana, and J&K
 - Punjab, Haryana, and Delhi NCR
 - Punjab, Haryana, and Rajasthan
 - Punjab, Haryana, and Uttar Pradesh
105. The study of the world's saltwater bodies, such as oceans and seas is known as 'oceanography' and has four basic sub-disciplines: physical oceanography, chemical oceanography, marine geology, and marine ecology. The study of oceans in India is carried out by the Council of Scientific and Industrial Research (CSIR), a supported institute headquartered in Goa. Name the institute.
- Marine Oceans Study
 - Centre for the Study of Oceans
 - National Institute of Oceanography
 - National Centre for Oceanography
106. This Indian state in the north-east was the first in the country to ban disposable plastic bags in 1998. It also targets single-use plastic bottles and has banned the use of packaged drinking water (in government offices and government events). In the recent years, it has cut down the usage of styrofoam and thermocol plates and cutlery. Name this state.
- Assam
 - Meghalaya
 - Sikkim
 - Manipur
107. Name the agency that has laid out guidelines for dismantling e-waste in India.
- Local panchayats
 - Municipalities
 - Industrial Development Board
 - Central Pollution Control Board
108. Name the process where plastic undergoes thermal degradation in the absence of oxygen at high temperatures.
- Incineration
 - Pyrolysis
 - Anaerobic digestion
 - Nitrification

109. Name the toxic element found in liquid crystal displays (LCDs).
- Arsenic
 - Cadmium
 - Mercury
 - Lead
110. Aerobic organisms/aerobes can survive and grow in an oxygenated environment. Which of the following statements hold true with respect to aerobic bacteria?
- They thrive in the absence of oxygen.
 - They consume organic matter.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
111. What is the tag given to products as a sign denoting its specific geographical origin and possessing qualities or a reputation that are specific to that origin?
- ISI
 - Trademark TM
 - Geographic Origin (GI)
 - Property Rights (PR)
112. Agro-based industries are comparatively easy to establish and provide income in the rural areas with less investment. Which one of the following is not an agro-based industry?
- Sugar industry
 - Cement industry
 - Cotton textile industry
 - Oil industry
113. Carbohydrates are the main source of energy. Which of the below-mentioned options contains a high amount of carbohydrates?
- Eggs and dairy
 - Rice and cereals
 - Meat and fish
 - Fruits and vegetables
114. Milk is a poor source of _____.
- protein
 - calcium
 - vitamin C
 - vitamin B12
115. The Cabinet Committee on Economic Affairs (CCEA), Government of India, determines the MSP of various agricultural commodities in India. It incentivizes production and helps provide adequate remuneration to the farmers. What does MSP refer to?
- Maximum Supply Price
 - Maximum Support Price
 - Minimum Support Price
 - Minimum Supply Price
116. Name the form of commercial farming where crops are grown for profit over large areas of land. It requires high annual temperatures and rainfall. Some important crop examples are tea, coffee, cocoa, rubber, cotton, oil palm, sugarcane, and so on.
- Shifting agriculture
 - Plantation agriculture
 - Horticulture
 - Extensive agriculture
117. Which of the below-mentioned consequences are expected to happen in India as a result of global warming?
- Glacial melt, initial river valley flooding, and subsequent water stress.
 - Higher levels of tropospheric ozone pollution and other forms of air pollution in major cities.
 - Extreme weather events, negative consequences on health, livelihoods, and other social impacts.
 - All of the above
118. An emission intensity (or carbon intensity) is the emission rate of a given pollutant relative to the intensity of a specific activity or an industrial production process. Thus carbon intensity _____.
- measures the grams of carbon dioxide released per megajoule of energy produced
 - is the emission rate of a given pollutant relative to the intensity of a specific activity
 - is the ratio of greenhouse gas (GHG) emissions produced to the gross domestic product (GDP)
 - is the cumulative pollution of all developmental activities in a country

119. Name the computer system that captures, stores, checks, and displays data related to positions on the Earth's surface. The system relates seemingly unrelated data and can provide a better understanding of spatial patterns and relationships.
- Digital cartography
 - Simulation models
 - Geographic Information System (GIS)
 - Google Earth
120. A climate system has five major components: the atmosphere, hydrosphere, cryosphere, lithosphere, and biosphere. Which of these is the most variable?
- Cryosphere
 - Biosphere
 - Atmosphere
 - Hydrosphere
121. Which of the following statements hold true with respect to global warming and its impact on sea level rise?
- Thermal expansion: ocean water expands due to the increase in heat content.
 - Melting of the ice from land-based glaciers and ice sheets are adding more fresh water into the oceans.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
122. India's National Action Plan on Climate Change (NAPCC, 2008) is a comprehensive action plan outlining adaptation and mitigation measures while simultaneously advancing development. Eight missions form the core of this plan, representing well-coordinated strategies for achieving India's climate change goals. Which of the below-mentioned options is not a part of these eight national missions?
- National Mission for a 'Green India'
 - National Mission on Sustainable Habitat
 - National Mission for Energy Conservation
 - National Mission for Solar Energy
123. Soil is a valuable renewable resource that takes thousands of years to form and the world's food supply is dependent on its quality. Which of the below-mentioned practices will help in soil conservation?
- Building of bunds and check dams to prevent soil run-off
 - Tree plantation drives
 - Composting waste
 - All of the above
124. The Dutch and their ancestors have been working to hold back and reclaim land from the North Sea for over 2,000 years. Land has been reclaimed by pushing the sea water backwards by building embankments and thus keeping the sea at bay for centuries. These embankments are referred to as dikes. What are these reclaimed lands known as?
- Polder lands
 - Land of lakes
 - Wetlands
 - Bunds
125. Sustainable Development Goal (SDG) 15 aims to protect, restore, and promote the sustainable use of all terrestrial ecosystems. Hence SDG 15 does not aim to _____.
- arrest and halt biodiversity loss
 - halt and reverse land degradation
 - halt the use of biotechnology and genetic engineering
 - use ecosystems sustainably while protecting and restoring them
126. Rivers originate from the mountains and flow through the plains and ultimately drain out into the sea/any other watercourse, thus forming an estuary or a delta. Given this, which of the following statements hold true?
- An estuary is formed by rising sea levels and never forms fertile lands.
 - A delta has high tides and a rift valley and this soil is very fertile.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)

127. Which occupational lung disease, also known as 'brown lung disease' or 'Monday fever', is caused by the exposure to cotton dust in poorly ventilated working environments? It occurs commonly in workers who are employed in yarn- and fabric-manufacturing industries.
- Asbestosis
 - Byssinosis
 - Pertussis
 - Tuberculosis
128. The Antarctic Treaty System is strictly regulated due to increased environmental vigilance since it came into force in 1961. This treaty protects all flora and fauna and has stringent measures in place to prevent pollution in the World's most pristine environment. What is this treaty also known as?
- The Montreal Protocol
 - The Kyoto Protocol
 - The Madrid Protocol
 - The Antarctic Protocol
129. What according to the World Health Organization (WHO) causes a majority of the deaths related to indoor air pollution?
- Heart disease/strokes
 - Buruli ulcer
 - Hepatitis
 - Skin cancer
130. Lichen is a composite organism that arises from algae or cyanobacteria living amongst filaments of multiple fungi in a symbiotic relationship. Which of the following statements hold true for lichens?
- Lichens are aquatic plants that can be used as pollution indicators.
 - In places where there are no lichens, it is often a sign that the air is heavily polluted with sulphur dioxide.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
131. The largest volcano on Earth, _____ is on the Hawaii Big Island. It rises 13,680 ft. (4,170 m) above sea level and has erupted 39 times since 1832. However, its last eruption was more than three decades ago in 1984.
- Tambora
 - Krakatoa
 - Mauna Loa
 - Novarupta
132. A rock is a solid, natural substance made up of one or more minerals. There are largely three types of rocks—igneous, sedimentary, and metamorphic. Igneous rocks are rocks that are formed by _____.
- volcanoes
 - meteoroids
 - mylonites
 - phyllites
133. This line clearly defines the boundary between the Earth's atmosphere and outer space, which is at an altitude of 100 km/ 62 miles, above sea level. This line is also commonly accepted as the 'start of space'. What is this line called?
- The Kármán line
 - Armstrong limit
 - Tropopause
 - None of the above
134. The Ring of Fire is a horseshoe-shaped area where many volcanic eruptions and earthquakes occur. This is associated with a series of oceanic trenches, volcanic arcs, volcanic belts, and plate movements. Where is this place located?
- Bering Strait
 - Japan
 - New Zealand
 - Pacific Ocean
135. Erosion is the process of eroding soil, rock, or minerals from one location on the Earth's crust and moving it to another location. Which of the following is an outcome of erosion caused by the flow of Colorado River in Arizona, US?
- Copper Canyon
 - Jacob Lake
 - Grand Canyon
 - Gulf of California

136. India observes December 14, every year as _____.
- Army day
 - International Mountain Day
 - World Soil Day
 - National Energy Conservation Day
137. From the below-mentioned options, select the most economical way of increasing the light output of a dusty bulb.
- Replace the bulb with a new one
 - Replace it with a higher-watt bulb
 - Clean the surface of the bulb
 - None of these
138. Nuclear energy was first harnessed to create the atom bomb that was used in World War II. After the war, the focus shifted to harnessing it for human use. Which decade marks the generation of commercial electricity through nuclear power?
- The 1930s
 - The 1940s
 - The 1950s
 - The 1960s
139. This act was enacted to provide for the efficient use of energy, its conservation, and for matters connected therewith. Name this act.
- The Electricity Act, 2003
 - Energy Conservation Act, 2001
 - The Indian Electricity Act, 1910
 - Energy Conservation Act, 2011
140. Which of the following methods can be adopted for saving cooking gas?
- Increase the use of pressure cookers instead of an open vessel
 - Soak rice, dal, and other pulses for some time before cooking
 - Keep the burners clean
 - All of the above
141. Which rating or labelling is provided by the Bureau of Energy Efficiency, Government of India, and is displayed on electrical home appliances to indicate their energy efficiency?
- ISI Mark
 - AGMARK
 - Star labelling
 - Eco labels
142. What is the term given to plants that survive in an environment with little water, such as a desert or an ice- or snow-covered region? Popular examples of this plant type are cacti and pineapple.
- Mesophytes
 - Xerophytes
 - Hydrophytes
 - Terraphytes
143. Ecosystems with high productivity and species diversity are regions that have abundant sunshine, high temperature, sufficient rainfall, and soil rich in nitrogen and other nutrients. Which of the following is an example of the above?
- Tundra ecosystem
 - Grassland ecosystems
 - Tropical rainforest
 - Taiga ecosystems
144. Which of the following statements are incorrect with respect to grasslands?
- They are open areas of land where grasses or grass-like plants are the dominant species.
 - They are found on every continent.
- Only (i)
 - Only (ii)
 - Both (i) and (ii)
 - Neither (i) nor (ii)
145. This South American fish has razor-sharp teeth and a reputation for 'feeding frenzies'. However, with a few species being vegetarian, not all are omnivorous. Name this fish.
- Dolphin
 - Shark
 - Sword fish
 - Piranha
146. Name the largest wetland in India.
- Wular Lake
 - Kolleru Lake
 - Vembanad Lake
 - Sambhar Salt Lake

147. Globally Important Agricultural Heritage Systems (GIAHS) are rich in agricultural biodiversity and the associated wildlife. They are also important resources of indigenous knowledge and culture. Identify the GIAHSs present in India.
- The Cascaded Tank-village System (2017)
 - Floating Garden Agricultural Practices (2015)
 - Saffron Heritage of Kashmir (2011)
 - Rice Fish Culture (2005)
148. Name the gas that is formed when fuels are burnt in the internal combustion engines of cars and buses due to the limited presence of oxygen. When inhaled, this gas combines with haemoglobin, thus producing carboxyhaemoglobin that reduces the efficiency of haemoglobin to transport oxygen in the human body.
- Nitrous oxide
 - Carbon dioxide
 - Sulphur dioxide
 - Carbon monoxide
149. Urban planning and investment in infrastructure in the face of rapid urbanization has contributed to an increase in the emission of greenhouse gases (GHGs), and thus expanding the carbon footprint of development. One option is to adopt clean and sustainable fuels. Which of the below-mentioned option is not an alternative fuel?
- Biofuels
 - Ethanol
 - Unleaded petrol
 - Compressed natural gas
150. In 2005, the Ministry of Urban Development in India launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to improve the quality of life and infrastructure in the cities. This programme was taken to its next phase in 2015 and is known as _____.
- Rejuvenation and Urban Transformation under Atal Mission
 - Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
 - Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles (FAME)
 - Smart Cities Mission

ENVIRONMENT EDUCATION AND AWARENESS, TERI

Introduction

The Environment Education and Awareness (EEA) area was established with the motive of educating young people on environmental issues in relation to the existing social structures, cultural norms, economic realities, and global trends of the present times. The area has been working over a decade in empowering students, teachers, principals, school administrators, parents, grade-IV employees, college and university students, lecturers, corporate employees, the ESD (Education for Sustainable Development) practitioners, government officers as well as members of different educational boards and networks.

Recognition and Awards

- Centre of Expertise in Delhi, Goa, and Mumbai, under the 'Regional Centers of Expertise (RCE) on Education for Sustainable Development (ESD) by UNU
- Member of the International Expert Networking group on Education for Sustainable Development called 'ESD-Expert Net' led by Engagement Global – Service für Entwicklungsinitiativen (Service for Development Initiatives)
- Wenhui Award for Educational Innovation (2012) by UNESCO Asia-Pacific Programme of Educational Innovation for Development (APEID) and the National Commission of the People's Republic of China for UNESCO
- Recipient of the project award for BEACON (an energy education programme) by Wuppertal Institute for Climate, Environment and Energy in 2005

Impacts

Since 2002, the EEA has touched the lives of over 10 million people. The impacts of our short- and long-term projects are as follows:

- School programmes have broadened the horizon of students in terms of their relationship with the environment and society.
- Students in selected locations (both schools and colleges) have honed leadership qualities by taking up the challenges within their schools and communities.
- TERI's well-designed methodology on the ESD covers the spread of locations and penetrates deep into the memories of students.
- The EEA at TERI has always strived for long-term partnerships with our clients. Projects such as Green Olympiad, Climate EduXchange, BEACON, and Project SEARCH are a few examples of the cycles.



The Energy and Resources Institute

GREEN Olympiad: India's First Environment Olympiad for Schools

The Energy and Resources Institute (TERI) is actively engaged in a number of research and awareness-generation activities in the fields of environment and sustainable development. As an institute, TERI has also dedicated itself to the task of developing informed citizens by targeting students, as they are important stakeholders, holding the key to future decision-making processes.

Since 1999, TERI has been conducting this environment examination to build awareness amongst students. The GREEN Olympiad is held both in Hindi and English, and is open for the students of Classes/Grades 4 to 10.

For more details, please contact

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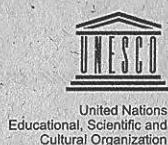
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The year 2018 marks the 20th year of the project, GREEN Olympiad. TERI acknowledges all partners and supporters for their association with the project.

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