



Junior Category (Grades 6–8)
Compilation of Previous Years' Questions

Section1

Climate change means big changes in the weather patterns of Earth. Factories and machines around the world are a big reason for climate change. Using too many natural

resources without care also causes climate change. Volcanoes erupting is a natural cause of climate change. More gases like carbon dioxide in the air add to climate change. Pollution is a major reason why the climate is changing. Because of climate change, many rare birds and animals have disappeared forever. The ocean becomes more acidic because of climate change. Climate change changes the balance of nature. To protect Mother Nature, we should stop pollution as well as take some serious steps for climate change.

Questions:

1. What is a major human activity that contributes to climate change?

- A) Rare birds disappearing
- B) The ocean becomes more acidic
- C) Volcanoes erupting
- D) Factories and machines around the world

2. What natural event is identified as a cause of climate change?

- A) Increase in ocean acidity
- B) Factories and machines
- C) Volcanoes erupting
- D) Disappearance of rare animals

3. Which of the following leads to an increase in ocean acidity due to climate change?

- A) Stopping pollution
- B) Rare animals disappearing
- C) More gases like carbon dioxide in the air
- D) Natural disasters

4. How does climate change affect Earth's ecosystems?

- A) It changes the balance of nature
- B) It always makes winters colder
- C) It causes more rainfall
- D) It increases tree growth everywhere

5. What is a recommended action to help reduce climate change?

- A) Stop pollution and take serious steps for climate change
- B) Create more factories and machines
- C) Increase volcano eruptions
- D) Reduce bird populations

6. Which condition does climate change directly contribute to according to the text?

- A. Deserts shrink in size
- B. The atmosphere becomes colder
- C. Rainforests expand uncontrollably
- D. The ocean becomes more acidic

7. How does climate change impact biodiversity based on the description in the text?

- A) Leads to an increase in invasive species
- B) Increases the genetic diversity of species
- C) Causes the extinction of rare birds and animals
- D) Restores habitats to make them more diverse

8. Which human activity is described as a major cause of climate change?

- A) Conservation efforts
- B) Pollution
- C) Renewable energy usage
- D) Organic farming practices

Section 2

Water is super important for us and everything on Earth! Just like plants need water to grow big and strong, our bodies need it to work right. We get water from fruits and vegetables too, but our bodies mostly get it from what we drink. To stay healthy, we should drink a lot of water, like 3 to 4 big glasses a day. This is because water helps our bodies in all sorts of ways. It carries nutrients around to all our cells, just like a tiny delivery truck! It also helps get rid of waste products our bodies don't need. And, it keeps our body temperature cool, like sweat on a hot summer day. If we don't drink enough water, we can get sick. We might feel tired, grumpy, or get a headache. Water can even help us clear up a stuffy nose! Because of water, our planet is the only one we know of that can have life. Places like Mars are too dry and dusty for anything to live there. Water makes Earth clean and healthy, and it helps us be healthy too!

Questions:

9. Why is water essential for our bodies?

- A) It makes our skin glow.
- B) It provides us with energy directly.

C) It carries nutrients and removes waste.

D) It is mainly used for keeping us warm.

10. According to the text, how many big glasses of water should one drink daily to stay healthy?

A) 7 to 8 glasses

B) 1 to 2 glasses

C) 3 to 4 glasses

D) 5 to 6 glasses

11. What effect cannot drinking enough water have on a person?

A) It can cause tiredness, moodiness, or headaches.

B) It results in stronger and shinier hair.

C) It causes immediate dehydration and fainting.

D) It leads to increased appetite and weight gain.

12. How does water assist with regulating body temperature?

A) Water directly adjusts the body's thermostat.

B) Water helps cool the body through sweat.

C) Water creates heat for the body.

D) Water keeps the body insulated.

13. Why is Earth unique compared to planets like Mars?

A) Earth is larger than Mars.

B) Earth has different minerals than Mars.

C) Earth has water, allowing it to support life.

D) Earth is closer to the sun than Mars.

14. Why is water considered essential for human health?

A) It solely provides flavor to food and drinks.

B) It increases the body's sugar levels.

C) It helps transport nutrients to cells and eliminate waste.

D) It builds muscles without exercise.

15. How can water consumption affect a person's mood or physical state?

- A) Adequate intake increases facial hair growth.
- B) Excessive intake causes immediate muscle growth.
- C) Inadequate intake may lead to tiredness and grumpiness.
- D) Inadequate intake ensures glowing skin.

16. What role does water play in regulating body temperature?

- A) It heats the body in cold climates.
- B) It absorbs all external heat to keep the body cold.
- C) It solidifies inside the body to maintain warmth.
- D) It cools the body, similar to sweat during hot weather.

17. What comparison is made between Earth and Mars in terms of water presence?

- A) Mars has abundant water making it better for life than Earth.
- B) Earth has water allowing life, unlike Mars, which is too dry.
- C) Earth lacks water making it less suitable for life than Mars.
- D) Both planets are equally covered in water.

18. Why should individuals drink about 3 to 4 big glasses of water daily?

- A) To aid the body's processes like nutrient delivery and waste removal.
- B) To make bones completely flexible.
- C) To increase the body's fat percentage.
- D) To guarantee fertility in the future.

Section 3

Carbon footprint; amount of carbon dioxide (CO₂) emissions associated with all the activities of a person or other entity. (e.g., building, corporation, country, etc.). It includes direct emissions, such as those that result from fossil-fuel combustion in manufacturing, heating, and transportation, as well as emissions required to produce the electricity associated with goods and services consumed. In addition, the carbon footprint concept also often includes the emissions of other greenhouse gases, such as methane, nitrous oxide, or chlorofluorocarbons (CFCs).

19. What does a carbon footprint mainly measure?

- A) The water usage of an individual.
- B) The energy efficiency of a building.
- C) The total energy consumption of a country.
- D) The amount of CO₂ emissions from various activities.

20. Which of these is considered a direct emission in a carbon footprint?

- A) Fossil-fuel combustion in transportation.
- B) The production of wind turbines.
- C) Water releases from a dam used for electricity.
- D) The emissions from a solar panel factory.

21. Besides CO₂, which other gases can be included in a carbon footprint assessment?

- A) Oxygen, hydrogen, or helium.
- B) Methane, nitrous oxide, or CFCs.
- C) Argon, neon, or krypton.
- D) Chlorine, ammonia, or ozone.

22. What is one activity that can lead to indirect emissions in a carbon footprint?

- A) Walking to a local park.
- B) Producing electricity for consumer goods.
- C) Running on a treadmill at home.
- D) Using a solar-powered calculator.

23. Why might a corporation be interested in measuring its carbon footprint?

- A) To evaluate its competition globally.
- B) To calculate its annual profit margin.
- C) To assess and reduce its greenhouse gas impact.
- D) To determine the number of employees required.

Section 4

Biodiversity, also called biological diversity, is the variety of life found in a place on Earth or, often, the total variety of life on Earth. A common measure of this variety, called species richness, is the count of species in an area. Biodiversity also encompasses the genetic variety within each species and the variety of ecosystems that species create. The two components of the biosphere are called the abiotic and the biotic. The abiotic, or nonliving, portion of each ecosystem includes the flow of energy, nutrients, water, and gases and the concentrations of organic and inorganic substances in the environment. The second component is the biotic, or living organism, portion, which includes producers, consumers, and decomposers.

24. What is meant by 'species richness' in the context of biodiversity?

- A) The genetic diversity within a species
- B) The balance between producers and consumers in a habitat
- C) The count of species in a specific area
- D) The variety of ecosystems in a region

25. Which of the following is NOT a part of the abiotic components of an ecosystem?

- A) Flow of energy
- B) Producers
- C) Water and gases
- D) Concentration of inorganic substances

26. Which statement correctly describes the concept of biodiversity?

- A) Biodiversity measures the number of consumers in an ecosystem.
- B) Biodiversity refers only to genetic diversity within species.
- C) Biodiversity includes species variety, genetic variation, and ecosystem diversity.
- D) Biodiversity is the same as ecosystem productivity.

27. What are the two main components of the biosphere?

- A) Abiotic and biotic
- B) Species and ecosystems
- C) Producers and consumers
- D) Aquatic and terrestrial

28. Which of these is an example of a biotic factor in an ecosystem?

- A) Energy flow
- B) Decomposers
- C) Inorganic substances
- D) Nutrient levels

29. What is climate change?

- A) A change in seasons
- B) Long-term alteration in temperature and typical weather patterns
- C) A type of weather event
- D) The movement of tectonic plates

30. Which gas is the primary greenhouse gas contributing to climate change?

- A) Oxygen
- B) Carbon Dioxide (CO₂)
- C) Nitrogen
- D) Helium

31. What is deforestation?

- A) Planting new trees
- B) The process of cutting down trees in a forest
- C) The preservation of forest areas
- D) The growth of trees in urban areas

32. What is one effect of climate change?

- A) Decrease in ocean levels
- B) Increase in biodiversity
- C) More frequent extreme weather events
- D) Cooler global temperatures

33. What is natural pollution?

- A) Pollution caused by human activities
- B) Pollution that comes from natural sources like volcanic eruptions
- C) Pollution that does not affect the environment
- D) Pollution that is easily cleaned

34. What is an example of renewable energy?

- A) Coal
- B) Natural gas
- C) Solar power
- D) Nuclear energy

35. Which of the following is a consequence of melting glaciers?

A) Rising sea levels

C) Increased polar bear populations

B) Decreased rainfall

D) More stable weather patterns

Sample Question 02

Part A: Full Marks: 10

(Read the following paragraph and answer the questions 1-10)

During the last two decades, Bangladesh has experienced a critical climatic anomaly, which has led to an increase in the enormity and severity of diverse climate-related extraordinary events. Climate analysts substantiate that around the world, temperature and precipitation pattern is expected to change, which may result in significant influence on agriculture, work, and the environment. Bangladesh is subsequently likely to confront critical challenges within the coming decades. In order to sufficiently understand this complex, lively wonder, analyzing chronicled climate modification scenarios as well as anticipating its future designs may be an exceptional concern for the examiner. Over the irrefutable consider period 1901–2020, Bangladesh has experienced a significant warming trend with an average increase in temperature of 2 °C and with annually decay of the general precipitation of 607.26 mm, adjacent to a move towards drier conditions, in show disdain toward of a weak relationship with increasing smoking over time. Projected climate models suggest that Bangladesh's lowest temperature is expected to increase from 1 °C to 4.4 °C, as well as the highest temperatures from 1 °C to 4.1 °C by 2100. Regional assortments in temperature and precipitation are once more expected, with the Southeast (SE) likely experiencing the first vital warming and the Northeast (NE) seeing the preeminent critical increase in precipitation.

1. What is the primary climatic trend observed in Bangladesh between 1901 and 2020?

- a) A significant cooling trend with increased snowfall.
- b) A significant warming trend with a decrease in precipitation.
- c) A period of stable temperatures and increased rainfall.
- d) A decrease in temperature and a shift toward wetter conditions.

2. According to the text, by how much has the average temperature increased during the period 1901–2020?

- a) 0.5 °C
- b) 1.5 °C
- c) 2 °C
- d) 4.1 °

3. What was the annual decay in general precipitation recorded during the study period?

- a) 100.50 mm
- b) 450.25 mm
- c) 607.26 mm
- d) 1000.00 mm

4. Climate analysts predict that global changes in temperature and precipitation will most likely influence which sectors?

- a) Space exploration and deep-sea mining.
- b) Agriculture, work, and the environment.
- c) Only the industrial manufacturing sector.
- d) Only urban residential planning.

5. By the year 2100, what is the projected maximum increase for Bangladesh's lowest temperature?

- a) 1 °C
- b) 2.5 °C
- c) 4.1 °C
- d) 4.4 °C

6. The text suggests that despite a weak relationship with increasing smoking, Bangladesh is moving toward:

- a) Tropical rainforest conditions.
- b) Drier conditions.
- c) Arctic-like conditions.
- d) Saturated soil conditions.

7. Which specific region is expected to experience the first vital warming according to projected models?

- a) Northwest (NW)
- b) Northeast (NE)
- c) Southwest (SW)
- d) Southeast (SE)

8. Which region is predicted to see the most significant increase in precipitation?

- a) Northeast (NE)
- b) Southeast (SE)
- c) Central Bangladesh
- d) Coastal Bangladesh

9. What is the projected range of increase for the highest temperatures in Bangladesh by 2100?

- a) 0.5 °C to 2 °C
- b) 1 °C to 4.1 °C
- c) 2 °C to 5.5 °C
- d) 4.1 °C to 4.4 °C

10. Why does the examiner consider analyzing historical climate modification and future designs an "exceptional concern"?

- a) Because the climate has remained unchanged for a century.
- b) To understand a complex, lively wonder and prepare for future challenges.
- c) To prove that agriculture will not be affected by temperature.
- d) To demonstrate that precipitation is increasing nationwide.

Part B: Climate Science Fact Check

11. The biosphere's ocean support relies on circulated nutrients and warmth for food webs from:

- a) Plankton to deep-sea predators
- b) Corals to surface fish only
- c) Ice algae to whales exclusively
- d) Sediments to bacteria alone

12. Anglerfish bioluminescence is unique to which gender in the Bathypelagic Zone?

- a) Males
- b) Females
- c) Juveniles
- d) Both

13. Rat-tailed fish in Hadal Zone use barbels for what, being blind?

- a) Light production
- b) Smelling carcasses, attracting crustaceans/worms
- c) Heat generation
- d) Swimming speed

14. The ocean holds what percent of the world's biodiversity, enabling ecosystem resilience?

- a) 70%
- b) 80%
- c) 66%
- d) 90%

15. Greatest impact on marine biodiversity in the last 50 years?

- a) Climate change
- b) Pollution
- c) Fishing
- d) Invasive species

16. Chemical pollution from fertilizers causes algal blooms via excess:

- a) Carbon only
- b) phosphorus
- c) Sediments
- d) Heat

17. "Biodegradable" plastics fail in ocean due to:

- a) Low temperatures
- b) High pressure
- c) Nutrient lack
- d) Light absence

18. Which is the largest trench in the world

- a) The Mariana
- b) The Challenger
- c) The Titanic depth
- d) The Bermuda triangle

19. What's the size of microplastics?

- a) 5mm
- b) 2.89mm
- c) 3mm
- d) 4.5mm

20. According to WHO data cited, air pollution leads to approximately how many global deaths yearly, with PM2.5 as a key penetrator into the bloodstream?

- A. 2 million
- B. 4 million
- C. 7 million
- D. 9 million

21. Which source is NOT listed as primary for NOx and VOCs in air pollution?

- A. Coal-based power plants
- B. Transport vehicles
- C. Residential cooking fuels
- D. Agricultural runoff

22. Fine particles like PM2.5 cause strokes via:

- A. Surface-level ozone reactions only
- B. Deep lung and bloodstream penetration
- C. Acid rain deposition on crops
- D. Visibility reduction in urban belts

23. How many global dead zones from nutrient pollution (nitrogen/phosphorus) are noted?

- A. Over 100
- C. Exactly 200

B. Over 400

D. Under 50

24. About how many people consume unsafe drinking water globally due to pollution?

A. 500 million

C. 2 billion

B. 1 billion

D. 4 billion

25. Crops from polluted soil cause human cancer through:

A. Bioaccumulation in food chains

B. Immediate evaporation

C. Noise-induced stress

D. Melatonin suppression

26. Prolonged exposure above what dB causes irreversible hearing loss?

A. 65 dB

C. 100 dB

B. 85 dB

D. 120 dB

27. Marine animals like whales suffer from sound pollution via:

A. Ship noise/sonar disrupting echolocation

B. Algal blooms

C. Light trespass

D. Leaching heavy metals

28. Artificial light affects human immunity by:

A. Reducing melatonin and disrupting circadian rhythms

B. Increasing dissolved oxygen

C. Enhancing crop yields

D. Neutralizing acid rain

29. Which pollution type has "relatively straightforward" curing via lighting adjustments?

A. Air (reforestation)

B. Water (bioremediation)

C. Soil (phytoremediation)

D. Light (shielded design)

30. Phenology studies the timing of:

A) Evolutionary history

C) Biological events like flowering

B) Geological changes

D) Fossil formation

Part C: Full Marks 10

Knowledge about Environment & Nature Full Marks 10

31. What does the abbreviation "NOx" stand for?

a) Nitrogen Monoxide

b) Nitrogen Dioxide

c) Oxides of Nitrogen

d) Nitro Oxide

32. What does "IPCC" stand for?

a) International Panel on Climate Change

b) Intergovernmental Panel on Climate Change

c) International Pollution Control Council

d) Integrated Plan for Climate Change

33. What does "UNFCCC" stand for?

a) United Nations Framework Convention on Climate Change

b) Universal Nations Framework for Climate Cooperation

c) United Nations Fund for Clean Climate

d) United Network for Forest Conservation and Climate

34. What does "GHG" stand for in environmental science?

a) Greenhouse Gases

c) General Health Guidelines

b) Global Heat Generation

d) Geothermal Heat Gradient

35. What does "COP" in climate agreements refer to?

a) Conference of Parties

c) Climate Optimization Program

b) Coalition of Protection

d) Community of Practice

36. What is the full form of "SMOG" in the context of environmental organizations?

a) Smoke + Organic

c) Smoke + Fog

b) Small Organogram

d) Smart for Green Operations

37. What does "SDG" stand for?

a) Sustainable Development Go

c) Social Data Guide

- b) Safe Development Group d) Strategic Development Growth

38. What does "RE" stand for in energy discussions?

- a) Renewable Energy c) Reduced Emissions
b) Recycled Electricity d) Regional Ecology

39. What is the meaning of "WWF" in environmental conservation?

- a) World Wildlife Fund c) World Water Foundation
b) Worldwide Weather Forecast d) World Warming Federation

40. What does "EPA" stand for?

- a) Environmental Pollution Agency
b) Environmental Protection Agency
c) Earth Preservation Alliance
d) Eco Policy Association

Part 5: Bangladesh & Ecology

Ratargul Swamp Forest, located 26 km north of Sylhet, Bangladesh, is the country's only freshwater swamp forest and one of few worldwide, often called the "Amazon of Bangla". Managed by the Department of Forestry, this 3,325.61-acre natural wetland spans Gowainghat, with 504 acres declared a wildlife sanctuary in 1973. Situated beside the Goain River, it features unique submerged, evergreen vegetation, primarily *Millettia pinnata* (Koroch tree). During the rainy season, the forest is submerged under 20–30 feet of water, whereas in the dry season, the water level recedes to around 10 feet. It boasts a rich biodiversity, including 175 species of birds, multiple reptile species, and various fish. The best way to explore this breathtaking, flooded landscape is via local wooden boats (dinghy boats). A watchtower exists for panoramic views, though it has previously faced access restrictions. The area is a prime habitat for snakes, monkeys, and migratory birds. For tourists, hiring a local guide is recommended due to the confusing maze of canals. It is one of the most significant biodiversity hotspots in the region.

41. Which nickname is frequently used to describe Ratargul Swamp Forest?

- a) The Everglades of the East c) The Green Heart of Sylhet
b) The Amazon of Bangla d) The Mangrove Miracle

42. In which year was a portion of the forest declared a wildlife sanctuary?

- a) 1952 b) 1971 c) 1973 d) 1990

43. What is the primary tree species found in this evergreen vegetation?

- a) Sundari (*Heritiera fomes*)

- b) Koroch (*Millettia pinnata*)
- c) Teak (*Tectona grandis*)
- d) Banyan (*Ficus benghalensis*)

44. Approximately how deep is the water during the rainy season?

- a) 5–10 feet
- b) 10–15 feet
- c) 20–30 feet
- d) 40–50 feet

45. Ratargul Swamp Forest is situated beside which river?

- a) Surma River
- b) Kushiara River
- c) Goain River
- d) Brahmaputra River

46. What is the total acreage of this natural wetland managed by the Department of Forestry?

- a) 504 acres
- b) 1,500.25 acres
- c) 3,325.61 acres
- d) 5,000 acres

47. How many species of birds are recorded in this biodiversity hotspot?

- a) 75
- b) 125
- c) 175
- d) 250

48. What is considered the best way for tourists to explore the flooded landscape?

- a) Speedboats
- b) Local wooden (dinghy) boats
- c) Walking on elevated wooden planks
- d) Swimming with guides

49. According to the text, why is it recommended for tourists to hire a local guide?

- a) To protect them from wild animals.
- b) Because the forest has a confusing maze of canals.
- c) To help carry heavy camera equipment.
- d) Because entrance is forbidden without one.

50. To what depth does the water level typically recede during the dry season?

- a) 0 feet (completely dry)
- b) Around 5 feet
- c) Around 10 feet

d) Around 20 feet