Secondary Category (Grades 9–10)

Compilation of Previous Years' Questions

Section 1

Climate change is a long-term shift in Earth's weather patterns and average temperatures. It's caused primarily by human activities like burning fossil fuels, which release greenhouse

gases into the atmosphere. These gases trap heat, causing the planet to warm up. This warming leads to various consequences, including rising sea levels, more extreme weather events, changes in precipitation patterns, and impacts on ecosystems and biodiversity.

Questions:

1.What is climate change?

a) A short-term shift in Earth's weather

b) A natural process that has always occurred

c) A long-term change in Earth's weather patterns

d) A result of changes in the Sun's activity

2. What is the primary cause of climate change?

a) Volcanic eruptions

b) Changes in Earth's orbit

c) Human activities

d) Natural variations in temperature

3. Which of the following is a greenhouse gas?

a) Oxygen b) Nitrogen c) Carbon dioxide d) Hydrogen

4. How do greenhouse gases contribute to climate change?

a) By trapping heat in the atmosphere

b) By cooling the Earth

c) By reducing rainfall

d) By increasing wind speeds

5. What is the impact of rising sea levels?

a) Coastal flooding and erosion

b) Lower sea levels

c) Increased rainfall

d) No impact

6. How does climate change affect weather patterns?

a) More frequent and intense extreme weather events

b) More predictable weather

c) Less severe storms

d) No change in weather patterns

7. What are the impacts of climate change on ecosystems?

a) Loss of biodiversity and habitat destruction

b) Increased biodiversity and habitat creation

c) No impact on ecosystems

d) Improved ecosystem health

8. How can climate change affect agriculture?

a) Reduced crop yields and water scarcity

b) Increased crop yields and abundant water

c) No impact on agriculture

d) Improved agricultural productivity

9. What are some ways to reduce greenhouse gas emissions?

a) Using renewable energy sources, energy conservation, and reducing reliance on fossil fuels

b) Burning more fossil fuels

c) Deforestation

d) Increasing industrial activities

10. Climate change is a complex issue that requires global cooperation to address.

a) True b) False

Section 2

Youth leadership is essential in addressing climate change. Young people have a unique perspective and energy that can drive innovative solutions. They can advocate for policies that promote sustainability, educate their communities about climate change, and engage in grassroots initiatives to reduce their carbon footprint. By harnessing their passion and creativity, young people can be powerful catalysts for positive change. Multiple Choice

Questions:

11. Why is youth leadership important in addressing climate change?

a) young people have a unique perspective and energy.

b) young people are less affected by climate change.

c) young people are more experienced in environmental issues.

d) young people are less likely to be heard.

12. What can young people do to advocate for climate change policies?

a) Vote for politicians who support climate action.

b) Write letters to government officials.

c) Organize protests and demonstrations.

d) All of the above.

13. How can young people educate their communities about climate change?

a) Create social media campaigns.

b) Give presentations to schools and community groups.

c) Write articles for local newspapers.

d) All of the above.

14. What is the role of young people in driving innovative solutions to climate change?

a) Bringing new ideas and perspectives.

b) Utilizing technology and social media.

c) Inspiring others to take action.

d) All of the above.

15. What are some challenges that young people face in addressing climate change?

a) Lack of resources and support.

b) Limited access to decision-making processes.

c) Discouragement from adults.

d) All of the above.

16. How can young people overcome these challenges?

a) By building partnerships and collaborations.

b) By developing leadership skills.

c) By staying informed about climate change issues.

d) All of the above.

17. What is the importance of youth empowerment in addressing climate change?

a) It increases civic engagement and participation.

b) It fosters a sense of agency and ownership.

c) It promotes intergenerational collaboration.

d) All of the above.

18. How can young people inspire others to take action on climate change?

a) By sharing their stories and experiences.

b) By leading by example.

c) By creating a positive and hopeful message.

d) All of the above.

19. What is the future of youth leadership in addressing climate change?

a) Promising and essential.

b) Uncertain and challenging.

c) Limited and ineffective.

d) Irrelevant and unnecessary.

Section 3

Sound pollution, also known as noise pollution, is the excessive and unwanted sound that can have detrimental effects on human health and the environment. It can come from various sources, including transportation, construction, industrial activities, and loud music. Exposure to sound pollution can lead to hearing loss, stress, sleep disturbances, and other health problems. To address sound pollution, it is essential to implement noise control measures and promote awareness about its harmful effects.

Multiple Choice Questions:

20. What is sound pollution?

a) The excessive and unwanted sound

c) The sound that is good for health

b) The pleasant sound d) The sound that is not harmful

21. What are the sources of sound pollution?

a) Transportation, construction, industrial activities, and loud music

b) Only transportation

c) Only construction

d) Only industrial activities

22. What can exposure to sound pollution lead to?

a) Hearing loss, stress, sleep disturbances, and other health problems

b) good health

c) Happiness

d) Nothing

23. How can we address sound pollution?

a) Implement noise control measures and promote awareness about its harmful effects

b) Ignore it

c) Increase noise pollution

d) Do nothing

24. What are some noise control measures?

a) Using noise barriers, installing quieter machinery, and regulating noise levels

b) Increasing noise levels

c) Using loud music

d) Nothing

25. What is the impact of sound pollution on human health?

a) Hearing loss, stress, sleep disturbances, and other health problems

b) good health

c) Happiness

d) Nothing

26. How can sound pollution affect wildlife?

a) It can disrupt their communication and reproduction

b) It can benefit wildlife

c) It has no impact on wildlife

d) Nothing

27. What is the role of individuals in reducing sound pollution?

a) Using quieter vehicles, avoiding loud music, and being mindful of noise levels

b) Increasing noise levels

c) Using loud music

d) Nothing

28. What are some community-based initiatives to address sound pollution?

a) Creating green spaces, implementing zoning regulations, and promoting awareness campaigns

b) Increasing noise pollution

c) Using loud music

d) Nothing

29. Addressing sound pollution is important for the well-being of both humans and the environment.

a) True b) False

30. What is the greenhouse effect?

a) A natural process that keeps the Earth warm

b) A human-caused phenomenon

c) A way to grow plants

d) A type of weather pattern

31. Which of the following is a major greenhouse gas?

a) Oxygen b) Nitrogen c) Carbon dioxide d) Hydrogen

32. What is climate change?

a) A long-term change in Earth's climate

b) A sudden change in weather

c) A natural process that happens every year

d) Something that only affects humans

33. What are the main causes of climate change?

a) Burning fossil fuels, deforestation, and pollution

b) Natural disasters like earthquakes and tsunamis

c) The Earth's rotation on its axis

d) Changes in the Sun's activity

34. What are the effects of climate change?

a) Rising sea levels, extreme weather events, and loss of biodiversity

b) More sunshine and warmer temperatures

c) Fewer natural disasters

d) No impact on humans or other living things

35. What is the COP (Conference of the Parties)?

a) An international organization for environmental protection

b) A global climate change conference

c) A group of scientists studying climate change

d) A government agency responsible for environmental policy

36. What is the purpose of the COP?

a) To discuss and negotiate international agreements on climate change

b) To monitor the progress of climate change mitigation efforts

c) To provide financial assistance to developing countries

d) To raise awareness about climate change

37. What is the Paris Agreement?

a) A global agreement to combat climate change

b) A treaty to protect biodiversity

c) A plan for sustainable development

d) A conference on renewable energy

38. Which countries are the largest emitters of greenhouse gases?

a) China, the United States, and India

b) Brazil, Russia, and South Africa

c) Australia, Canada, and Germany

d) France, Italy, and Spain

39. What are some sustainable practices that individuals can adopt to help address climate change?

a) Reducing energy consumption, using public transportation, and recycling

b) Driving more cars, using disposable products, and wasting water

c) Deforestation and pollution

d) Increasing greenhouse gas emissions

Section 4

Addressing climate change requires immediate and concerted efforts from individuals, governments, and organizations worldwide. First and foremost, reducing greenhouse gas emissions is crucial; this can be achieved by transitioning to renewable energy sources such as solar, wind, and hydroelectric power. Governments must implement policies that encourage energy efficiency, promote public transportation, and support sustainable practices in industries. Additionally, reforestation and afforestation initiatives can help absorb carbon dioxide from the atmosphere. Individuals can contribute by adopting sustainable lifestyles, such as reducing waste, recycling, and minimizing single-use plastics. Education plays a vital role, as raising awareness about climate issues empowers communities to take action. International cooperation is also essential, as climate change

knows no borders; global agreements like the Paris Agreement aim to unite countries in this fight. Investing in climate-resilient infrastructure will help communities adapt to changing conditions and protect vulnerable populations. Moreover, supporting innovations in clean technology can lead to long-term solutions. Ultimately, collective action is key to mitigating the impacts of climate change and securing a sustainable future for generations to come.

MCQ Questions:

40. What is the primary goal in addressing climate change?

A) Reducing greenhouse gas emissions

B) Increasing fossil fuel usage

C) Promoting deforestation

D) Ignoring the problem

41. Which energy sources are considered renewable?

A) Coal and oil

B) Solar and wind

C) Natural gas and nuclear

D) Biomass and fossil fuels

42. What role do governments play in combating climate change?

A) They should only focus on economic growth

B) They must implement policies to encourage sustainability

C) They can ignore climate issues

D) They only regulate individual behavior

43. What is one way to absorb carbon dioxide from the atmosphere?

A) Increasing carbon emissions

B) Reforestation and afforestation

C) Reducing tree planting

D) Burning more fossil fuels

44. How can individuals contribute to addressing climate change?

A) By increasing waste and using more plastic

B) By adopting sustainable lifestyles

C) By avoiding recycling

D) By ignoring environmental issues

45. Why is education important in the fight against climate change?

A) It decreases awareness of climate issues

B) It empowers communities to take action

C) It encourages wasteful practices

D) It promotes the use of fossil fuels

46. What is the purpose of international agreements like the Paris Agreement?

A) To promote individual country interests only

B) To unite countries in the fight against climate change

C) To ignore climate change

D) To increase greenhouse gas emissions

47. What type of infrastructure investment can help communities adapt to climate change?

A) Fossil fuel power plants

B) Climate-resilient infrastructure

C) More roads for cars

D) Temporary shelters only

48. What is a long-term solution to climate change mentioned in the paragraph?

A) Increasing fossil fuel consumption

B) Supporting innovations in clean technology

C) Ignoring scientific research

D) Reducing public transportation options

49. What is essential for securing a sustainable future?

A) Collective action

B) Individual efforts only

C) Increased pollution

D) Ignoring climate issues

50. What is the primary source of carbon dioxide emissions?

a) Burning fossil fuels

b) Plant respiration

c) Volcanic activity

d) Ocean currents

Sample Question 02

Part A: Full Marks: 10

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

Bangladesh is one of the most climate-vulnerable nations in the world, facing a significant warming trend where average temperatures have risen by nearly 2°C over the last 120 years. This climatic shift is drastically altering the country's ecology, with projections suggesting that a 45 cm sea-level rise could submerge 75% of the Sundarbans mangrove forest, a critical UNESCO World Heritage site. Such inundation threatens the habitat of the iconic Royal Bengal Tiger and over 425 other species identified in the region. Beyond the coast, increased rainfall intensity has caused severe soil erosion, peaking in 2024 at a rate of 86.62 t/ha/yr in hilly regions like Bandarban, which strips the land of essential nutrients. The country's natural resources are under immense pressure; for instance, approximately 53% of coastal areas are now affected by salinity intrusion, rendering vast tracts of land unfit for traditional agriculture. Furthermore, climate change is projected to reduce total rice production by 7.4% annually until 2050, directly impacting food security for millions. Freshwater ecosystems are also at risk, as rising temperatures above 32°C increase the mortality of fish fingerlings and disrupt indigenous breeding grounds. By 2050, it is estimated that one in every seven people in Bangladesh will be displaced by climate change, creating a massive migration crisis. To combat these threats, the government has allocated over $2.96 billion (roughly 0.73% of GDP) for climate-relevant projects as of 2022. Ultimately, the survival of Bangladesh's unique biodiversity and the stability of its natural resources depend on urgent global mitigation and robust local adaptation strategies.

Questions:

1. Given that 53% of coastal areas face salinity intrusion and rice yields are projected to decline, which near-term intervention most directly stabilizes food security in affected districts?

a) Rapid scaling of salt-tolerant rice varieties paired with community rainwater harvesting for dry-season irrigation

b) Exclusive focus on mangrove restoration with no changes to cropping systems

c) Construction of large upstream hydropower dams to regulate flow

d) Implementing a national carbon tax without sector-specific adaptation

2.If a 45 cm sea-level rise could submerge 75% of the Sundarbans, which cascading effect most plausibly increases inland agricultural risk?

a) Reduced storm-surge buffering increases saline water intrusion into croplands during cyclones

b) Enhanced carbon sequestration improves inland soil fertility

c) Lower coastal humidity reduces crop disease pressure inland

d) Increased freshwater flow from rivers dilutes inland salinity

3.With soil erosion peaking at 86.62 t/ha/yr in Bandarban, which measure is most effective for steep slopes under intense rainfall?

a) Contour bunds with vegetative barriers (e.g., vetiver/hedgerows), mulching, and micro-terracing

b) Deep plowing to break hardpans ahead of monsoon

c) Removing ground cover to allow faster runoff and reduce waterlogging

d) Concrete lining of hillsides to channel all runoff to streams

4.Considering the government's $2.96B (0.73% of GDP) climate allocation, which portfolio maximizes co-benefits for adaptation and mitigation?

a) Decentralized solar for irrigation, cyclone-resilient shelters, mangrove/embankment greening, and crop insurance for smallholders

b) Coastal expressways and urban flyovers

c) Subsidized diesel pumps for groundwater expansion

d) Single mega-seawall without nature-based components

5. Rising water temperatures above 32°C increase fingerling mortality. Which short-term aquaculture strategy best protects freshwater ecosystems and livelihoods?

a) Shaded ponds with aeration, deeper refuge pools, and timing stocking to cooler months
b) Shifting to high-trophic exotic carnivores to "use up" stressed prey

c) Banning only small-mesh nets in rivers

d) Increasing fertilizer inputs to boost algal growth

6. With an estimated one in seven people displaced by 2050, which urban policy best reduces slum proliferation and heat risk?

a) Planned climate-resilient secondary cities with affordable housing, heat-resilient design, and Bus Rapid Transit

b) Laissez-faire urban growth in megacities

c) Incentivizing coastal luxury housing to “attract investment”

d) Banning rural–urban migration

7. To monitor salinity intrusion’s agricultural impacts, which indicator set is most decision-relevant?

a) High-resolution soil electrical conductivity mapping, shallow aquifer salinity, and crop yield variance by season

b) Tiger census frequency in the Sundarbans

c) Annual cyclone counts alone

d) National CO2 inventory totals

8. Rice production is projected to fall 7.4% annually until 2050 under climate pressure. Which agronomic bundle best offsets losses without increasing freshwater extraction?

a) Alternate wetting and drying (AWD), saline-tolerant varieties, and direct-seeded rice (DSR)

b) Expanding dry-season Boro area with more groundwater pumping

c) Increasing urea subsidies across the board d) Shifting to water-intensive sugarcane in coastal belts

9. Which governance instrument most strengthens accountability and effectiveness of climate-relevant projects?

a) Climate budget tagging linked to public dashboards, independent audits, and results-based disbursement

b) Ad-hoc ministerial discretion without disclosure

c) Off-budget donor projects with minimal national oversight

d) Secrecy provisions to “prevent politicization”

10. Facing simultaneous coastal salinity and upland erosion, which sequencing maximizes national resilience by 2030?

a) Protect critical coastal buffers (mangroves, nature-based embankments, surge shelters) while scaling erosion control in hilly catchments that feed the delta

b) Focus only on mega-embankments along the coast

c) Immediate mass relocation of all coastal populations inland

d) Invest primarily in overseas carbon offsets

Part B: Environmental Science Fact Check

11. Arctic sea ice dropped from 7 million km^2 in the 1980s to 4 million km^2 in the 2020s, a 13% per decade loss. Meanwhile, Greenland loses 280 Gt of ice per year and Antarctica loses 150 Gt per year. Together these ice sheets raise sea level by 15 mm per decade. What should we think about each ice sheet's contribution?

A. Total ice loss is 430 Gt/year, so over 10 years that's 4,300 Gt; divide 15 mm by 4,300 Gt to get the conversion rate.

B. The 13% sea ice loss per decade directly causes 13% of the 15 mm rise, which works out to about 2 mm per decade.

C. Since Greenland loses 280 Gt/year and Antarctica loses 150 Gt/year, Greenland accounts for roughly 280/430 ≈ 65% of the ice-driven rise.

D. The 15 mm per decade splits evenly between thermal expansion and ice melt, so ice sheets only contribute 7.5 mm.

12. The thermocline is moving upward in a warming world, making the ocean more sensitive to changes. During El Niño years, when the thermocline gets shallower, it blocks nutrient-rich cold water from reaching the surface, which has cut Peru's fisheries by up to 20%. What's the best explanation for how this works?

A. A shallow thermocline actually brings more nutrients up, but El Niño's warmth kills the fish directly through heat.

B. A shallow thermocline creates a stronger lid that blocks upwelling, stopping cold, nutrient-packed water from reaching the sunny surface where plankton need to grow.

C. Thermocline depth doesn't really matter; fish numbers drop because El Niño messes with the wind patterns fish follow when they migrate.

D. A deeper thermocline during El Niño lets too many nutrients reach the surface, triggering toxic algae blooms that wipe out fish.

13.The deep ocean conveyor belt moves about 20 million cubic meters of water every second and might slow down by 15-30% by 2100 because of freshwater from melting ice. At the same time, surface currents like the Gulf Stream keep Europe around 10°C warmer than other places at the same latitude. If this circulation really does weaken a lot, what would most likely happen to temperatures in different regions?

A. Europe would heat up by 10°C because weaker circulation means less heat gets carried away from there.

B. The North Atlantic could actually cool by 3-5°C locally even while the rest of the planet keeps warming, creating a sort of regional "mini ice age."

C. Global temperatures would drop evenly by 15-30% since that's how much the circulation is weakening.

D. Nothing would change temperature-wise because surface currents and the deep conveyor work completely separately.

14. Henry's Law says CO_2 dissolves better in cold water than warm water. The solubility pump works when cold, CO_2-loaded polar water sinks and locks away carbon for centuries. As the ocean warms up, it can hold less CO_2, and warming could trigger outgassing that adds up to 200 ppm to atmospheric CO_2 by 2100. Which statement gets this warming-solubility relationship right?

A. Warmer water actually holds more CO_2 than cold water, so ocean warming will boost CO_2 absorption and lower atmospheric levels.

B. Warmer water holds less CO_2 than cold water, so the ocean could flip from sucking up CO_2 to burping stored carbon back into the atmosphere.

C. The 200 ppm increase would mean atmospheric CO_2 doubles exactly from where it is now by 2100.

D. Henry's Law only works for oxygen, not CO_2, so temperature changes won't mess with carbon absorption.

15.About 75% of CO_2 comes from burning fossil fuels and 25% from land use changes. Natural sinks in the ocean and on land normally absorb some of this. Cutting down

forests removes sinks that would otherwise absorb 30% of our emissions. If deforestation cuts the land sink by 30%, what happens?

A. Atmospheric CO_2 would jump by exactly 30% since that sink loss goes straight into the air.

B. More emissions would stay in the atmosphere because less gets removed, though the exact amount depends on what other sinks do.

C. Ocean absorption would automatically go up by 30% to make up for it, keeping atmospheric levels the same.

D. Since the 30% only applies to land-use emissions (25% of total), the real impact is just 0.25 × 0.30 = 7.5%.

16. Ocean pH has dropped 0.1 units since 1750, which represents a "30% increase in acidity." This acidification cuts down on carbonate ions, making it tougher for corals and mollusks to build their calcium carbonate shells. If pH drops another 0.1 units, what prediction lines up best with this pattern?

A. Acidity would go up by another 30%, cutting carbonate availability even more and making shell-building harder still.

B. The second 0.1 drop would hurt less than the first because organisms learn to adapt to gradual pH changes over time.

C. A total drop of 0.2 pH units would mean 60% total acidity increase, which you get by just adding the two 30% increases together.

D. More pH drops wouldn't matter anymore because the first 0.1 drop already wiped out all the available carbonate ions.

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18. The Pinatubo eruption in 1991 temporarily masked 0.5°C of warming by releasing sulfate aerosols that reflected sunlight, creating a -0.5 W/m^2 radiative forcing. If another eruption releases twice as much aerosol as Pinatubo did, what's the most reasonable prediction?

A. The cooling would be exactly 1.0°C because twice the aerosols means twice the cooling.

B. The radiative forcing would be -1.0 W/m^2, but the actual temperature drop depends on climate sensitivity and might not double.

C. The cooling would be more than 1.0°C because doubling aerosols creates positive feedback that amplifies the effect.

D. There wouldn't be any extra cooling since -0.5 W/m^2 is already the maximum aerosols can do.

19. Microplastics (<5 mm) have been detected in seafood at 0.1-2 particles/g and in tap water at 5-10 particles/L. Plastics also adsorb persistent organic pollutants (POPs) and heavy metals. If someone drinks 2 liters of tap water daily with 10 particles/L, how many microplastic particles would they consume per year, and what's the main concern beyond just particle count?

A. About 7,300 particles/year; the main concern is physical blockage of the digestive system from particle accumulation.

B. About 7,300 particles/year; the bigger concern is that these particles carry adsorbed toxins that can release into the body.

C. About 730 particles/year; the main concern is that microplastics directly cause cancer through physical contact.

D. About 73,000 particles/year; the concern is negligible since these particles pass through the body without any interaction.

20. How many Amphibian Species are there in Sunderban?

A) 210 C) 12

B) 59 D) 8

21.Which one is not one of the methods of Carbon Footprint Accounting?

A) Spend Based Method

B) Hybrid Method

C) Activity Based Method

D) Work Based Method

22.What is the Scientific name for Indian Rhinoceros?

A) Rhinoceros unicornis

B) Dicerorhinus sumatrensis

C) Rhinoceros sondaicus

D) Ceratotherium simum

23. How deep should the CO2 be injected into the Ocean?

A) >.5 km

B) >1 km

C) >1.5 km

D) <3 km

24. What helps in stable overall functioning for organisms living in an ecosystem?

A) Mutualism

B) Commensalism

C) Insurance

D) Biodiversity

25.What are the results of coastal erosion?

A) Altering food webs

B) Permanent loss of breeding

C) Lowering productivity in tropical communities

D) All of the above

26. According to which principle of Biodiversity a particular species might dominate over the whole community?

A) Complementarity C) Sampling

B) Assurance D) Ammensalism

27.What is ‘Coevolution’?

A) Phenomenon where species adapt in response to each other over long evolutionary time

B) A kind of Mutualism where evolution happens over a long period of time

C) A phenomenon of Biodiversity

D) None of the above

28.What are the principles of Biodiversity?

I. Complementarity

II. Sampling

III. Assurance

A) I, II

B) I, III

C) II,III

D) I, II & III

29.Hydroxyl radicals (•OH) mediate over 50% of daytime oxidation reactions in the atmosphere, converting primary pollutants like SO_2 and NO_2 into secondary products. During a multi-day heat wave with temperatures well above normal and intense sunshine, which combination of effects on air quality is most accurate?

A. Higher temperatures would slow down •OH formation and reduce secondary pollutant production, improving air quality despite heat.

B. Higher temperatures would speed up photochemical reactions and •OH production, potentially increasing secondary pollutants like H_2SO_4 and ozone, worsening air quality.

C. Temperature affects only primary emissions, not secondary formation, so heat waves don't change oxidation chemistry or air quality patterns.

D. Intense sunshine would destroy all •OH radicals through photolysis, shutting down secondary pollutant formation completely.

30. Noise pollution above 85 dB causes hearing damage, while levels above 55 dB outdoors disrupt activities. Urban reverberation and resonance can increase local sound intensity by 5-15 dB. If a highway produces 75 dB at 50 meters in open terrain, but a similar highway in a city canyon with tall buildings shows 87 dB at the same distance, which explanation best fits the physics described?

A. The city shows higher dB because more vehicles use urban highways, increasing the base sound emission from 75 to 87 dB.

B. The city's 87 dB likely results from the base 75 dB plus about 12 dB of amplification from sound reflecting off buildings and resonating in the canyon.

C. Urban canyons absorb more sound through building materials, so the 87 dB reading must be from a measurement error.

D. The 5-15 dB increase only applies to industrial settings, not to traffic noise, so the urban measurement is unrelated to reverberation.

Part C: Full Marks 10

(Knowledge about Environment & Nature Full Marks 10)

31**. What does the acronym "COP" stand for in the context of climate change?**

a) Conference of Outstanding Persons
b) Conference of the Oceanic Protocol
c) Conference of the Parties
d) Council of Outstanding Policy-makers

32. What does the term "carbon footprint" refer to?

a) The number of trees planted to offset carbon emissions
b) The amount of carbon dioxide emissions produced by an individual or organization
c) The process of carbon sequestration in soil
d) The measurement of forest carbon storage

33. Which term describes the gradual increase in the Earth's temperature due to human activities such as burning fossil fuels?

a) Greenhouse Effect
b) Climate Change
c) Global Warming
d) Ozone Depletion

34. What does "NDC" stand for in the context of the Paris Agreement?

a) National Development Coordination
b) National Disaster Control
c) Nationally Determined Contributions
d) Non-Derivative Commitments

35. What is the role of the "Green Climate Fund" (GCF)?

a) To reduce the global population

b) To finance climate change mitigation and adaptation projects
c) To monitor climate trends globally
d) To track carbon emissions across countries

36. What is the primary objective of the Kyoto Protocol?

a) To reduce global plastic waste
b) To promote the use of renewable energy
c) To establish legally binding commitments for industrialized countries to reduce greenhouse gas emissions
d) To protect biodiversity in tropical forests

37. What does the term "mitigation" refer to in climate science?

a) Efforts to reduce or prevent the emission of greenhouse gases
b) Adapting to climate change by changing behavior
c) Reducing the impacts of climate change on vulnerable populations
d) Protecting ecosystems from climate change

38. What is the "Paris Agreement" mainly focused on?

a) Banning fossil fuel use worldwide
b) Protecting biodiversity
c) Limiting global temperature rise to below 2°C
d) Reducing global plastic pollution

39. Which of the following gases is a primary contributor to the greenhouse effect?

a) Nitrogen
b) Carbon Dioxide
c) Oxygen
d) Helium

40. The "IPCC" is an organization that:

a) Provides financial support for climate research
b) Regulates the emission of greenhouse gases
c) Publishes reports on the science of climate change and its impacts
d) Promotes the use of renewable energy worldwide

Part 5: Bangladesh & Ecology

Tanguar Haor, located in the Tahirpur and Dharmapasha upazilas of Sunamganj district, is one of the most important and unique freshwater wetland ecosystems in Bangladesh. Designated as a Ramsar site in 2000, this vast, open water body covers an area of approximately 100 square kilometers, encompassing 46 villages. The haor represents a complex, flood-pulse driven ecosystem that plays a crucial role in water storage, flood

control, and groundwater recharge. Biodiversity in Tanguar Haor is exceptional, hosting over 140 species of fish, which makes it a critical breeding ground for indigenous species. It serves as a vital winter sanctuary for thousands of migratory birds, including ducks and geese that travel from Siberia. The landscape is dominated by freshwater swamp forests, characterized by species like Hijol (*Barringtonia acutangula*) and Koroch (*Pongamia pinnata*) . Economically, the haor is a significant source of natural resources, providing livelihoods for local communities through fishing and harvesting reeds. Diverse fauna, including various rare birds, tortoises, and aquatic creatures, thrives within this ecosystem. As a highly sensitive ecological zone, it is vital for sustaining the biodiversity of the northeastern region of Bangladesh. However, in recent years, the natural resources of Tanguar Haor face challenges from overexploitation and environmental pressure, necessitating strict management and conservation efforts.

41. **In which district of Bangladesh is Tanguar Haor located?**

a) Sylhet b) Sunamganj c) Habiganj d) Moulvibazar

42. **In what year was Tanguar Haor designated as a Ramsar site?**

a) 1973 b) 1990 c) 2000 d) 2010

43. **What is the approximate area covered by this vast water body?**

a) 50 square kilometers

b) 100 square kilometers

c) 150 square kilometers

d) 200 square kilometers

44.**How many villages are encompassed within the Tanguar Haor area?**

a) 26 b) 35 c) 46 d) 60

45.**Tanguar Haor is a critical breeding ground for how many species of fish?**

a) Over 100 b) Over 120 c) Over 140 d) Over 175

46.**Migratory birds, such as ducks and geese, travel to this sanctuary from which region?**

a) Antarctica b) Australia c) Siberia d) South America

47.**Which two tree species dominate the freshwater swamp forests of the haor?**

a) Teak and Mahogany c) Sundari and Gewa

b) Hijol and Koroch d) Banyan and Neem

48. **What are the primary economic activities providing livelihoods for local communities in the haor?**

a) Mining and logging

b) Tourism and boat building

c) Fishing and harvesting reeds

d) Rice farming and cattle rearing

49. **Which of the following is NOT mentioned as a natural role played by the haor ecosystem?**

a) Water storage c) Electricity generation

b) Flood control d) Groundwater recharge

50.**What are the current major challenges facing the natural resources of Tanguar Haor?**

a) Lack of water and drought

b) Overexploitation and environmental pressure

c) Volcanic activity and earthquakes

d) Industrialization and urban expansion