

GENERAL AWARENESS – ENVIRONMENTAL ISSUES CONCERNING INDIA AND THE WORLD

Chapter: Environmental Issues Concerning India and the World at Large

Subject:	General Awareness – Environment & Ecology
Total Questions:	70 MCQs
Question Type:	Multiple Choice (Single Correct Answer)
Exam Relevance:	UPSC, SSC CGL/CHSL, IBPS, RRB NTPC, State PSC, NDA, CDS, Defence Exams
Topics Covered:	Climate Change, Air/Water/Soil Pollution, Biodiversity, Deforestation, International Conventions, Marine, Waste, Sustainability
Based On:	Static GK + Latest Current Affairs 2022–2026 (COP28, COP29, Plastic Treaty, IPCC AR6)

★ ■■ CLIMATE CHANGE & GLOBAL WARMING ★

Q1. The Intergovernmental Panel on Climate Change (IPCC) was established jointly by UNEP and WMO in which year?

- A) 1972
- B) 1988
- C) 1992
- D) 1997

✓ **Correct Answer: B) 1988**

■ *Explanation: The IPCC (Intergovernmental Panel on Climate Change) was established in 1988 by UNEP and WMO to provide scientific assessments on climate change. Its reports are the authoritative source for climate science, informing the UNFCCC negotiations. The IPCC shared the Nobel Peace Prize with Al Gore in 2007.*

Q2. The UNFCCC (United Nations Framework Convention on Climate Change) was adopted at which Earth Summit?

- A) Stockholm Conference, 1972
- B) Rio Earth Summit, 1992
- C) Johannesburg Summit, 2002
- D) Rio+20 Summit, 2012

✓ **Correct Answer: B) Rio Earth Summit, 1992**

■ *Explanation: The UNFCCC was adopted at the Rio Earth Summit (Earth Summit/UN Conference on Environment and Development) in Rio de Janeiro, Brazil in 1992, entering into force in 1994. It is the parent treaty for the Kyoto Protocol (1997) and the Paris Agreement (2015). It has near-universal membership of 197 Parties.*

Q3. The Kyoto Protocol (1997) required developed countries (Annex I countries) to reduce greenhouse gas emissions. It was based on which principle?

- A) Polluter Pays Principle
- B) Common But Differentiated Responsibilities (CBDR)
- C) Precautionary Principle
- D) Sustainable Development Principle

✓ **Correct Answer: B) Common But Differentiated Responsibilities (CBDR)**

■ *Explanation: The Kyoto Protocol (adopted 1997, entered force 2005) was based on CBDR — Common But Differentiated Responsibilities — recognising that developed countries bear greater historical responsibility for climate change. It set binding emission reduction targets only for Annex I (developed) countries. The USA never ratified it; Canada withdrew in 2011.*

Q4. The Paris Agreement (2015) is a landmark climate accord. India's Nationally Determined Contribution (NDC) pledged to achieve what percentage of its installed electricity capacity from non-fossil fuel sources by 2030?

- A) 40%
- B) 50%
- C) 60%
- D) 70%

✓ **Correct Answer: B) 50%**

■ *Explanation: India's updated NDC (2022) pledged to achieve 50% of cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, reduce emissions intensity of GDP by 45% (from 2005 levels) by 2030, and create an additional carbon sink of 2.5–3 billion tonnes of CO₂ equivalent through forests by 2030.*

Q5. India announced its target to achieve 'Net Zero' (carbon neutrality) emissions by which year at COP26 in Glasgow (2021)?

- A) 2047
- B) 2050
- C) 2070
- D) 2060

✓ **Correct Answer: C) 2070**

■ *Explanation: PM Narendra Modi announced India's target to achieve Net Zero carbon emissions by 2070 at COP26 in Glasgow, Scotland (November 2021). India also announced the 'Panchamrit' (five nectar elements) targets: 500 GW renewable energy, 50% renewable energy share, reduce 1 billion tonnes of projected CO₂ emissions, 45% emissions intensity reduction, and Net Zero by 2070.*

Q6. A major outcome of COP28 (2023, Dubai, UAE) was the first-ever global agreement to:

- A) Ban all coal power by 2030
- B) Transition away from fossil fuels in energy systems
- C) Set a global carbon price of \$50 per tonne
- D) Make climate finance mandatory for all G20 countries

✓ **Correct Answer: B) Transition away from fossil fuels in energy systems**

■ *Explanation: COP28 (Dubai, UAE, December 2023) resulted in the first-ever explicit global agreement to 'transition away from fossil fuels in energy systems in a just, orderly and equitable manner.' The Global Stocktake review showed insufficient progress on the Paris Agreement targets. COP28 was the first time fossil fuels were directly mentioned in a COP decision text.*

Q7. COP29 (2024, Baku, Azerbaijan) produced the New Collective Quantified Goal (NCQG). Developed countries committed to mobilising how much per year for developing nations' climate action by 2035?

- A) \$100 billion
- B) \$200 billion
- C) \$300 billion
- D) \$500 billion

✓ **Correct Answer: C) \$300 billion**

■ *Explanation: COP29 (Baku, November 2024) agreed on the New Collective Quantified Goal (NCQG): developed countries committed to mobilise at least \$300 billion per year by 2035 for developing nations. However, developing countries (including India) demanded \$1.3 trillion. The previous goal of \$100 billion/year (set in 2009) was not fully met.*

Q8. Which of the following gases has the highest Global Warming Potential (GWP) over a 100-year period?

- A) Carbon Dioxide (CO₂)
- B) Methane (CH₄)
- C) Nitrous Oxide (N₂O)
- D) Sulphur Hexafluoride (SF₆)

✓ **Correct Answer: D) Sulphur Hexafluoride (SF₆)**

■ *Explanation: Sulphur Hexafluoride (SF₆) has the highest Global Warming Potential — approximately 23,500 times that of CO₂ over 100 years. Nitrous oxide (N₂O) has GWP of ~273; Methane (CH₄) ~27 (though its short-term warming is far greater). CO₂ is the reference gas with GWP = 1. Despite SF₆'s high GWP, CO₂ is the dominant driver of climate change due to its massive quantities.*

★ ■ AIR POLLUTION – INDIA & WORLD ★

Q9. The National Ambient Air Quality Standards (NAAQS) in India are set and enforced by which authority?

- A) Ministry of Environment, Forest and Climate Change (MoEFCC)
- B) Central Pollution Control Board (CPCB)
- C) National Green Tribunal (NGT)
- D) Bureau of Indian Standards (BIS)

✓ **Correct Answer: B) Central Pollution Control Board (CPCB)**

■ *Explanation: The Central Pollution Control Board (CPCB), under the Ministry of Environment, Forest and Climate Change, sets National Ambient Air Quality Standards (NAAQS) and monitors air quality across India through the National Ambient Air Quality Monitoring (NAAQM) programme. State Pollution Control Boards (SPCBs) implement these standards at the state level.*

Q10. The Air Quality Index (AQI) in India measures which primary pollutants?

- A) Only PM_{2.5} and PM₁₀
- B) PM_{2.5}, PM₁₀, NO₂, SO₂, CO, O₃, NH₃, and Pb (8 pollutants)
- C) CO₂ and methane only
- D) PM_{2.5}, CO₂, and ozone only

✓ **Correct Answer: B) PM_{2.5}, PM₁₀, NO₂, SO₂, CO, O₃, NH₃, and Pb (8 pollutants)**

■ *Explanation: India's AQI (Air Quality Index), launched in 2014 by the CPCB, measures 8 pollutants: PM_{2.5}, PM₁₀, NO₂ (nitrogen dioxide), SO₂ (sulphur dioxide), CO (carbon monoxide), O₃ (ozone), NH₃ (ammonia), and Pb (lead). AQI scale: 0–50 Good, 51–100 Satisfactory, 101–200 Moderate, 201–300 Poor, 301–400 Very Poor, 401–500 Severe.*

Q11. Delhi's severe winter smog is primarily caused by which combination of factors?

- A) Industrial emissions and desert dust only
- B) Vehicular emissions, stubble burning, construction dust, industrial pollution, and low wind speed
- C) Forest fires in Uttarakhand and Himachal Pradesh
- D) Dust storms from Pakistan

✓ **Correct Answer: B) Vehicular emissions, stubble burning, construction dust, industrial pollution, and low wind speed**

■ *Explanation: Delhi's winter smog (October–November) is caused by multiple factors: stubble/crop residue burning in Punjab and Haryana (contributing 20–40% of PM_{2.5}); vehicular emissions; construction and road dust; industrial pollution; Diwali firecrackers; and meteorological factors like low wind speed, temperature inversion, and fog that trap pollutants close to the ground.*

Q12. The National Clean Air Programme (NCAP), launched in 2019, aims to reduce particulate matter (PM₁₀ and PM_{2.5}) by what target by 2026 (revised)?

- A) 20–30%
- B) 40%
- C) 40% reduction from 2017 base year levels
- D) 50–60%

✓ **Correct Answer: C) 40% reduction from 2017 base year levels**

■ *Explanation: NCAP (National Clean Air Programme), launched in January 2019, was initially aimed at 20–30% reduction in PM₁₀ and PM_{2.5} by 2024 from 2017 levels. The target was revised upward to 40% reduction by 2026. It covers 131 non-attainment cities (cities that have failed to meet NAAQS). It is India's first national-level air quality action programme.*

★ ■ WATER POLLUTION & MANAGEMENT ★

Q13. Namami Gange Programme (Integrated Ganga Conservation Mission) was launched in which year with an outlay of ₹20,000 crore?

- A) 2012
- B) 2014
- C) 2016
- D) 2019

✓ **Correct Answer: B) 2014**

■ *Explanation: The Namami Gange Programme was launched in June 2014 with an outlay of ₹20,000 crore. It is India's flagship programme for the rejuvenation, protection, and management of the Ganga river, implemented by the National Mission for Clean Ganga (NMCG). Key focus areas: sewage treatment plants (STPs), industrial effluent control, riverfront development, and biodiversity conservation.*

Q14. The Biological Oxygen Demand (BOD) is a critical indicator of water pollution. A BOD value above which level (in mg/L) indicates heavily polluted water?

- A) 5 mg/L
- B) 10 mg/L
- C) 17 mg/L
- D) 25 mg/L

✓ **Correct Answer: C) 17 mg/L**

■ *Explanation: Biological Oxygen Demand (BOD) measures the oxygen needed by microorganisms to decompose organic matter in water. Clean water: BOD < 2 mg/L; Moderately polluted: 2–8 mg/L; Heavily polluted: 8–17 mg/L; Very heavily polluted: > 17 mg/L. High BOD depletes dissolved oxygen, killing aquatic life. Industrial and sewage discharge are major sources of high BOD.*

Q15. Eutrophication of water bodies is caused by excessive nutrients (nitrogen and phosphorus). The primary sources in India are:

- A) Industrial heavy metal discharge
- B) Agricultural runoff (fertilisers) and sewage discharge
- C) Plastic pollution and microplastics
- D) Oil spills from shipping

✓ **Correct Answer: B) Agricultural runoff (fertilisers) and sewage discharge**

■ *Explanation: Eutrophication (excessive nutrient enrichment) of lakes, ponds, and rivers in India is primarily caused by: agricultural runoff carrying nitrates and phosphates from fertilisers; untreated sewage discharge; and industrial effluents. It causes algal blooms that deplete oxygen (hypoxia/dead zones), killing fish and other aquatic organisms.*

★ ■ BIODIVERSITY & CONSERVATION ★

Q16. The Convention on Biological Diversity (CBD) was adopted at the Rio Earth Summit (1992). Its three main objectives are:

- A) Conservation, Sustainable Use, and Fair/Equitable Sharing of Benefits
- B) Conservation, Pollution Control, and Climate Adaptation
- C) Sustainable Use, Poverty Reduction, and Forest Conservation
- D) Biodiversity Mapping, Eco-tourism, and Species Protection

✓ **Correct Answer: A) Conservation, Sustainable Use, and Fair/Equitable Sharing of Benefits**

■ *Explanation: The CBD (adopted 1992, entered force 1993) has three objectives: (1) Conservation of biological diversity; (2) Sustainable use of its components; (3) Fair and equitable sharing of benefits arising from the use of genetic resources. The Nagoya Protocol (2010) strengthened the third objective. India's Biological Diversity Act (2002) implements the CBD.*

Q17. The Kunming-Montreal Global Biodiversity Framework (GBF), adopted at COP15 in 2022, set the '30x30' target. What does this mean?

- A) 30% reduction in species extinction by 2030
- B) Protect 30% of Earth's land and ocean areas by 2030
- C) 30 billion dollars for biodiversity by 2030
- D) 30 new biodiversity hotspots by 2030

✓ **Correct Answer: B) Protect 30% of Earth's land and ocean areas by 2030**

■ *Explanation: The Kunming-Montreal Global Biodiversity Framework (GBF), adopted at CBD COP15 in Montreal, Canada (December 2022), sets the '30x30' target — to protect and conserve at least 30% of the world's land and inland waters, and 30% of coastal and ocean areas by 2030. It has 23 targets covering biodiversity loss, restoration, and sustainable use.*

Q18. India has how many Biodiversity Hotspots out of the 36 globally recognised hotspots?

- A) 2 (Western Ghats and Eastern Himalayas)
- B) 3 (Western Ghats, Eastern Himalayas, Indo-Burma)
- C) 4 (Western Ghats, Eastern Himalayas, Indo-Burma, Sundaland)
- D) 4 (Western Ghats, Himalayas, Indo-Burma, Sundaland + Andamans)

✓ **Correct Answer: C) 4 (Western Ghats, Eastern Himalayas, Indo-Burma, Sundaland)**

■ *Explanation: India has 4 of the 36 globally recognised Biodiversity Hotspots: (1) Western Ghats (shared with Sri Lanka); (2) Eastern Himalayas (Himalaya Hotspot); (3) Indo-Burma (covering Northeast India, Myanmar, and Indochina); (4) Sundaland (covering the Nicobar Islands). A biodiversity hotspot must have $\geq 1,500$ endemic vascular plant species and $\leq 30\%$ of original vegetation remaining.*

Q19. Project Tiger was launched in India in 1973. India's tiger population as per the 2022 Tiger Census is approximately:

- A) 1,411
- B) 2,226
- C) 3,167
- D) 3,682

✓ **Correct Answer: C) 3,167**

■ *Explanation: As per India's 5th Tiger Census (All India Tiger Estimation 2022), India's wild tiger population is estimated at 3,167 — making India home to approximately 70% of the world's wild tiger population. The tiger population has grown significantly from 1,411 in 2006. India has 55 Tiger Reserves covering over 75,000 sq km.*

Q20. The Wildlife Protection Act (WPA) 1972 provides legal protection to wildlife in India. Animals in Schedule I get the highest protection. Which of these is NOT in Schedule I?

- A) Bengal Tiger
- B) Indian Elephant
- C) Nilgai (Blue Bull)
- D) Snow Leopard

✓ **Correct Answer: C) Nilgai (Blue Bull)**

■ *Explanation: The Wildlife Protection Act, 1972 classifies animals into 6 schedules. Schedule I provides absolute protection (highest penalties for poaching). Bengal Tiger, Indian Elephant, Snow Leopard, Indian Rhinoceros, and Indian Lion are all in Schedule I. Nilgai (Blue Bull/Boselaphus tragocamelus) is in Schedule III, which provides lesser protection.*

Q21. The Great Indian Bustard (GIB), critically endangered, is primarily found in which Indian state? A major threat is power line collisions.

- A) Gujarat
- B) Rajasthan
- C) Madhya Pradesh
- D) Andhra Pradesh

✓ **Correct Answer: B) Rajasthan**

■ *Explanation: The Great Indian Bustard (Ardeotis nigriceps) is critically endangered, with fewer than 200 individuals remaining — primarily in Rajasthan's Desert National Park (Jaisalmer and Barmer districts). Collisions with overhead power lines (including renewable energy transmission lines) are the leading cause of death. The Supreme Court ordered power lines to be shifted underground in GIB habitats.*

★ ■ DEFORESTATION & LAND DEGRADATION ★

Q22. India has committed to restoring how many million hectares of degraded land by 2030, under the Bonn Challenge?

- A) 10 million hectares
- B) 21 million hectares
- C) 26 million hectares
- D) 35 million hectares

✓ **Correct Answer: C) 26 million hectares**

■ *Explanation: India has committed to restoring 26 million hectares of degraded land by 2030 under the Bonn Challenge (the global effort to restore 350 million hectares of deforested and degraded land by 2030). This is part of India's commitments to the UNFCCC and the UN Convention to Combat Desertification (UNCCD). India hosted COP14 of UNCCD in 2019 in New Delhi.*

Q23. The Forest Rights Act (FRA) 2006 recognises the rights of which communities over forest land and resources?

- A) All BPL (Below Poverty Line) families
- B) Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs)
- C) Nomadic and pastoral communities only
- D) All forest-dwelling communities including urban migrants

✓ **Correct Answer: B) Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs)**

■ *Explanation: The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 — popularly called the Forest Rights Act (FRA) — recognises and vests the forest rights of Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs) who have been residing in forests for generations before 13 December 2005.*

Q24. The India State of Forest Report (ISFR) 2023 states India's total forest and tree cover as approximately what percentage of the country's total geographical area?

- A) 17%
- B) 21%
- C) 25%
- D) 33%

✓ **Correct Answer: C) 25%**

■ *Explanation: The India State of Forest Report (ISFR) 2023, published by the Forest Survey of India (FSI), recorded India's total forest cover at 715,343 sq km and tree cover at 95,748 sq km — together constituting approximately 25.17% of India's total geographical area. India's National Forest Policy (1988) targets maintaining 33% of the country under forest and tree cover.*

★ ■■ POLLUTION CONTROL & LEGISLATION ★

Q25. The Environment Protection Act (EPA) 1986 was enacted following which environmental disaster?

- A) Bhopal Gas Tragedy (1984)
- B) Chernobyl Nuclear Disaster (1986)
- C) Minamata Disease outbreak in Japan
- D) The 1984 Acid Rain disaster in Germany

✓ **Correct Answer: A) Bhopal Gas Tragedy (1984)**

■ *Explanation: The Bhopal Gas Tragedy (2–3 December 1984) — the world's worst industrial chemical disaster at Union Carbide India Ltd — killed over 15,000 people (official) and affected 500,000+ due to methyl isocyanate (MIC) gas leak. The Environment Protection Act (EPA) 1986 was enacted to fill gaps in environmental law exposed by this disaster. It is an umbrella legislation.*

Q26. The National Green Tribunal (NGT) was established in India under which Act and in which year?

- A) Environment Protection Act 1986 – 1987
- B) National Green Tribunal Act 2010 – 2010
- C) Forest Conservation Act 1980 – 1981
- D) Wildlife Protection Act 1972 – 1973

✓ **Correct Answer: B) National Green Tribunal Act 2010 – 2010**

■ *Explanation: The National Green Tribunal (NGT) was established on 18 October 2010 under the National Green Tribunal Act 2010. It is a specialised judicial body for adjudicating environmental disputes, ensuring justice delivery related to environment protection and conservation. India is the third country after Australia and New Zealand to have a specialised environmental tribunal.*

Q27. Extended Producer Responsibility (EPR) in India, as per the Plastic Waste Management Rules 2022, requires producers, importers, and brand owners (PIBOs) to:

- A) Pay a green tax on plastic products
- B) Collect and recycle post-consumer plastic waste equivalent to what they put into the market
- C) Stop using single-use plastics immediately
- D) Fund government plastic collection drives

✓ **Correct Answer: B) Collect and recycle post-consumer plastic waste equivalent to what they put into the market**

■ *Explanation: Extended Producer Responsibility (EPR) under India's Plastic Waste Management Rules 2022 mandates producers, importers, and brand owners (PIBOs) to take back and recycle post-consumer plastic packaging waste equivalent to what they introduce into the market. EPR certificates must be obtained from the CPCB portal. This is a market-based mechanism to manage plastic waste.*

Q28. India banned which category of single-use plastics (SUPs) from 1 July 2022?

- A) All plastic bags
- B) 19 specific categories of single-use plastic items including earbuds with plastic sticks, plastic flags, cutlery, straws
- C) All plastic packaging above 75 microns
- D) Plastic bottles and PET containers

✓ **Correct Answer: B) 19 specific categories of single-use plastic items including earbuds with plastic sticks, plastic flags, cutlery, straws**

■ *Explanation: India banned 19 identified single-use plastic items from 1 July 2022 under the Plastic Waste Management Amendment Rules 2021. These include plastic earbuds, balloons with plastic sticks, candy sticks, ice cream sticks, polystyrene thermocol, plastic plates, cups, glasses, cutlery, straws, trays, plastic flags, and stir sticks.*

★ ■■ RENEWABLE ENERGY & SUSTAINABILITY ★

Q29. India's total renewable energy installed capacity crossed 200 GW in 2024. The official target for renewable energy capacity is how much by 2030?

- A) 300 GW
- B) 400 GW
- C) 500 GW
- D) 600 GW

✓ **Correct Answer: C) 500 GW**

■ *Explanation: India has set a target of 500 GW of non-fossil fuel-based energy capacity by 2030 — part of its updated NDC under the Paris Agreement and its 'Panchamrit' commitments at COP26. As of 2024, India's total renewable energy installed capacity (solar + wind + small hydro + biomass + other) exceeds 200 GW, with 100+ GW from solar alone.*

Q30. LIFE (Lifestyle for Environment) Mission, launched at COP26 by PM Modi and UNEP, promotes which approach to environmental sustainability?

- A) Large-scale industrial green technology adoption
- B) Mindful and deliberate utilisation – behavioural change towards sustainable consumption
- C) Planting 1 trillion trees globally
- D) Zero-waste manufacturing mandates

✓ **Correct Answer: B) Mindful and deliberate utilisation – behavioural change towards sustainable consumption**

■ *Explanation: Mission LiFE (Lifestyle for Environment) was launched by PM Modi at COP26 (November 2021) in partnership with UNEP. It promotes individual behavioural change towards sustainable lifestyles — 'pro-planet' choices in daily life (reducing energy use, food waste, water conservation, using sustainable products). It positions 'Pro Planet People (P3)' as a global movement.*

Q31. The International Year of Sustainable Tourism for Development was observed by the UN in which year, and India's Green Tourism initiatives align with which scheme?

- A) 2017 – Swadesh Darshan Scheme
- B) 2019 – PRASAD Scheme
- C) 2022 – Dekho Apna Desh
- D) 2016 – Eco-Tourism Scheme

✓ **Correct Answer: A) 2017 – Swadesh Darshan Scheme**

■ *Explanation: The UN observed 2017 as the International Year of Sustainable Tourism for Development. India's Swadesh Darshan Scheme (launched 2014–15 by MoT) and its Swadesh Darshan 2.0 (2022) focus on sustainable and responsible tourism development, integrating eco-tourism, tribal tourism, and green tourism in thematic circuits across India.*

★ ■ INTERNATIONAL ENVIRONMENTAL CONVENTIONS ★

Q32. The Ramsar Convention (1971) is an international treaty for the conservation of which type of ecosystem?

- A) Forests and jungles
- B) Wetlands of international importance
- C) Coral reefs and marine ecosystems
- D) Mountain ecosystems and glaciers

✓ **Correct Answer: B) Wetlands of international importance**

■ *Explanation: The Ramsar Convention on Wetlands (signed 1971 in Ramsar, Iran; entered force 1975) is an intergovernmental treaty for the conservation and sustainable use of wetlands. India has 89 Ramsar sites (2024) — the highest number in Asia and third globally — covering over 1.3 million hectares. India's first Ramsar sites (1981) were Chilika Lake (Odisha) and Keoladeo National Park (Rajasthan).*

Q33. India added the most Ramsar sites in a single year in 2022 — how many were added?

- A) 5 sites
- B) 14 sites
- C) 19 sites
- D) 26 sites

✓ **Correct Answer: C) 19 sites**

■ *Explanation: India added 19 new Ramsar sites in August 2022 (just ahead of World Wetlands Day celebrations), the highest ever added in a single year by India, bringing the total to 75 at that time. The count has since grown to 89 sites (2024). India celebrates World Wetlands Day on 2 February.*

Q34. The Basel Convention regulates which environmental issue at the international level?

- A) Trade in endangered species
- B) Ozone layer protection
- C) Transboundary movement and disposal of hazardous wastes
- D) Marine pollution from ships

✓ **Correct Answer: C) Transboundary movement and disposal of hazardous wastes**

■ *Explanation: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989, entered force 1992) regulates the international trade in hazardous wastes to prevent 'toxic colonialism' — dumping hazardous wastes in developing countries. The Rotterdam and Stockholm Conventions address chemicals (PIC procedure and POPs respectively).*

Q35. The Minamata Convention (2013) is a global treaty to protect human health and the environment from which pollutant?

- A) Lead (Pb)
- B) Mercury (Hg)
- C) Arsenic (As)
- D) Cadmium (Cd)

✓ **Correct Answer: B) Mercury (Hg)**

■ *Explanation: The Minamata Convention on Mercury (adopted 2013, entered force 2017) is named after Minamata disease — caused by severe mercury poisoning in Japan (1950s–1960s) from industrial discharge of methylmercury into Minamata Bay. The convention aims to protect human health from the adverse effects of mercury, covering artisanal gold mining, coal combustion, and product phase-outs.*

Q36. CITES (Convention on International Trade in Endangered Species) classifies species into appendices. Appendix I includes species threatened with extinction. Which of the following is listed in CITES Appendix I?

- A) Indian Peacock (National Bird)
- B) Great Indian One-Horned Rhinoceros
- C) Indian Peafowl
- D) Nilgai

✓ **Correct Answer: B) Great Indian One-Horned Rhinoceros**

■ *Explanation: The Great Indian One-Horned Rhinoceros (Rhinoceros unicornis) is listed in CITES Appendix I (species threatened with extinction — commercial trade banned). Tiger, snow leopard, Asiatic lion, and Indian elephant are also in Appendix I. India's national bird (Indian Peacock/Peafowl) is in Appendix I too but the Nilgai (Blue Bull) is not a CITES-listed species.*

Q37. Ocean acidification is caused by the absorption of excess carbon dioxide (CO₂) by the oceans. It threatens which marine ecosystems most directly?

- A) Deep-sea hydrothermal vents
- B) Coral reefs and shellfish (calcium carbonate structures)
- C) Open ocean fish populations
- D) Polar sea ice ecosystems

✓ **Correct Answer: B) Coral reefs and shellfish (calcium carbonate structures)**

■ *Explanation: Ocean acidification (pH drop from ~8.2 to ~8.1 since industrial revolution, representing a 26% increase in acidity) directly threatens coral reefs and shellfish because the lower pH dissolves calcium carbonate (CaCO₃) — the material used to build coral skeletons, oyster shells, and other structures. India's coral reefs in the Andaman & Nicobar, Lakshadweep, and Gulf of Mannar are at risk.*

★ ■ OCEAN & MARINE ENVIRONMENT ★

Q38. The United Nations High Seas Treaty (BBNJ Agreement) — the Treaty on the High Seas — was adopted in 2023. What does it protect?

- A) International shipping lanes from piracy
- B) Marine biodiversity of areas beyond national jurisdiction
- C) Deep sea mineral extraction rights
- D) Arctic and Antarctic ice sheets

✓ **Correct Answer: B) Marine biodiversity of areas beyond national jurisdiction**

■ *Explanation: The BBNJ (Biodiversity Beyond National Jurisdiction) Agreement — the UN High Seas Treaty — was adopted on 19 June 2023. It is the first international treaty specifically to protect biodiversity in the high seas (which cover ~64% of ocean surface). It establishes marine protected areas (MPAs) on the high seas, environmental impact assessments, and benefit-sharing from marine genetic resources.*

Q39. The Indian Ocean is warming faster than other oceans, leading to more intense cyclones. A cyclone in the Northern Indian Ocean rotating clockwise or anti-clockwise?

- A) Clockwise (same as Southern Hemisphere)
- B) Anti-clockwise (due to Coriolis effect in Northern Hemisphere)
- C) Random direction depending on the season
- D) Both directions equally

✓ **Correct Answer: B) Anti-clockwise (due to Coriolis effect in Northern Hemisphere)**

■ *Explanation: Tropical cyclones in the Northern Hemisphere (including the Bay of Bengal and Arabian Sea) rotate anti-clockwise due to the Coriolis effect (Earth's rotation deflects winds to the right in Northern Hemisphere, causing anti-clockwise rotation). In the Southern Hemisphere, cyclones rotate clockwise. The Bay of Bengal generates about 5–6% of global tropical cyclones.*

Q40. The Swachh Bharat Mission (Clean India Mission) was launched on which date?

- A) 15 August 2014
- B) 2 October 2014 (Gandhi Jayanti)
- C) 26 January 2015
- D) 5 June 2014 (World Environment Day)

✓ **Correct Answer: B) 2 October 2014 (Gandhi Jayanti)**

■ *Explanation: Swachh Bharat Mission was launched on 2 October 2014 — the 145th birth anniversary of Mahatma Gandhi — by PM Narendra Modi. SBM Phase-1 (2014–2019) aimed to build 110 million toilets and make India Open Defecation Free (ODF). SBM Phase-2 (2020–2025) focuses on ODF+ sustainability, solid and liquid waste management, and Garbage Free Cities (GFC).*

★ ■■ SOIL, WASTE MANAGEMENT & E-WASTE ★

Q41. Which Indian state was declared India's first 'Plastic-Free State' (all single-use plastics banned) before the national ban?

- A) Kerala
- B) Sikkim
- C) Himachal Pradesh
- D) Goa

✓ **Correct Answer: C) Himachal Pradesh**

■ *Explanation: Himachal Pradesh was one of India's earliest states to ban plastic bags (2009), preceding the national ban. Sikkim is notable for being India's first Organic State (2016) and an early adopter of banning polythene. Several states implemented their own plastic bans before the national 2022 ban on 19 single-use plastic items.*

Q42. India's e-Waste (Management) Rules 2022 follow which principle for electronics waste management?

- A) Command and Control (CAC) regulation
- B) Extended Producer Responsibility (EPR) and channelisation through authorised dismantlers
- C) Polluter Pays Principle (PPP)
- D) Voluntary compliance by corporates

✓ **Correct Answer: B) Extended Producer Responsibility (EPR) and channelisation through authorised dismantlers**

■ *Explanation: India's E-Waste Management Rules 2022 (updated from 2016 Rules) mandate Extended Producer Responsibility (EPR) — electronics producers must ensure collection and recycling of e-waste equivalent to a set target of their annual sales. It prohibits informal e-waste recycling (acid burning, open burning) and channels e-waste through authorised dismantlers and recyclers.*

Q43. India's 'Green Credit Programme' (GCP), launched in 2023, allows which activities to earn green credits?

- A) Only solar panel installation
- B) Tree plantation, water conservation, sustainable agriculture, waste management, and mangrove conservation
- C) Carbon capture by heavy industries only
- D) Purchase of electric vehicles

✓ **Correct Answer: B) Tree plantation, water conservation, sustainable agriculture, waste management, and mangrove conservation**

■ *Explanation: India's Green Credit Programme (GCP), notified under the Environment Protection Act 1986 in October 2023, creates a domestic market-based mechanism where individuals, communities, and industries can earn 'green credits' for pro-environment activities including tree plantation on degraded lands, water conservation, sustainable agriculture, waste management, air pollution reduction, mangrove conservation, and ecomark label adoption.*

Q44. The Global Plastics Treaty (INC-5, 2024) negotiations failed to produce a binding agreement. The talks were held in which city?

- A) New York, USA
- B) Geneva, Switzerland
- C) Busan, South Korea
- D) Nairobi, Kenya

✓ **Correct Answer: C) Busan, South Korea**

■ *Explanation: The fifth session of the Intergovernmental Negotiating Committee (INC-5) for a Global Plastics Treaty was held in Busan, South Korea in November 2024. Despite high expectations for a legally binding global treaty to end plastic pollution, negotiations failed to reach consensus — primarily due to disagreements between major fossil-fuel producing nations (opposing production caps) and countries demanding strong binding limits.*

Q45. The Lancet Countdown on Health and Climate Change (2024) warns that which climate-related health risk has increased most significantly for India?

- A) Frostbite and hypothermia
- B) Heat stress and heat-related mortality, especially for elderly and outdoor workers
- C) Respiratory diseases from cold air
- D) Skin diseases from UV radiation

✓ **Correct Answer: B) Heat stress and heat-related mortality, especially for elderly and outdoor workers**

■ *Explanation: The Lancet Countdown 2024 highlighted that India faces escalating risks from heat stress — with heat-related mortality rising sharply among the elderly and outdoor workers. India's agricultural labour force loses substantial working hours due to extreme heat. The 2022 and 2024 Indian heatwaves with temperatures exceeding 45°C in parts of Rajasthan, Uttar Pradesh, and Delhi underscored this risk.*

Q46. COP30 is scheduled to be held in 2025 in which Brazilian city, making it the first Amazon-located COP?

- A) Rio de Janeiro
- B) São Paulo
- C) Belém
- D) Manaus

✓ **Correct Answer: C) Belém**

■ *Explanation: COP30 is scheduled to be held in Belém, Pará state, Brazil in November 2025. It will be the first COP held in the Amazon rainforest region — making it symbolically significant for tropical forest conservation and global biodiversity. COP30 is expected to finalize new NDCs and assess collective progress since Paris Agreement.*

Q47. The 2024 IPCC Synthesis Report states that global warming is likely to exceed how many degrees Celsius above pre-industrial levels during the 21st century under high-emission scenarios?

- A) 1.5°C
- B) 2°C
- C) 3–4°C or more
- D) 2.5°C exactly

✓ **Correct Answer: C) 3–4°C or more**

■ *Explanation: The IPCC Sixth Assessment Report (AR6) synthesis findings indicate that under high-emission scenarios (SSP5-8.5), global warming could exceed 3–4°C or more above pre-industrial levels by the end of the 21st century. Even under moderate scenarios, warming of 2–3°C is projected. Immediate, rapid, and deep emission reductions are needed to limit warming to 1.5°C.*

Q48. India's MISHTI (Mangrove Initiative for Shoreline Habitats and Tangible Incomes) scheme aims to restore how many kilometres of coastal mangrove areas?

- A) 500 km
- B) 1,000 km
- C) 4,992 km
- D) 540 km

✓ **Correct Answer: D) 540 km**

■ *Explanation: MISHTI (Mangrove Initiative for Shoreline Habitats and Tangible Incomes), announced in the Union Budget 2023, aims to facilitate mangrove plantation along India's coastline and on salt pan lands through convergence of MGNREGS and CAMPA funds. The target is to restore approximately 540 km of mangrove areas across 9 coastal states (Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal) and 2 UTs (Andaman & Nicobar, Puducherry).*

Q49. The PM-eBus Sewa Scheme, launched by India in 2023, aims to deploy how many electric buses in cities?

- A) 5,000 electric buses
- B) 10,000 electric buses
- C) 20,000 electric buses
- D) 50,000 electric buses

✓ **Correct Answer: B) 10,000 electric buses**

■ *Explanation: PM-eBus Sewa Scheme (launched August 2023) aims to augment city bus operations with 10,000 electric buses in 169 cities across India over a period of 10 years. The scheme operates on a Public-Private Partnership (PPP) model with the government paying the gap funding. It is expected to reduce urban air pollution significantly and cut approximately 26 lakh tonnes of CO₂ per year.*

Q50. India's National Action Plan on Climate Change (NAPCC) has eight National Missions. Which of the following is NOT one of them?

- A) National Solar Mission
- B) National Mission for a Green India
- C) National Mission for Zero Carbon Manufacturing
- D) National Water Mission

✓ **Correct Answer: C) National Mission for Zero Carbon Manufacturing**

■ *Explanation: The NAPCC (2008) has 8 National Missions: (1) Solar Mission; (2) Enhanced Energy Efficiency; (3) Sustainable Habitat; (4) Water Mission; (5) Sustaining the Himalayan Ecosystem; (6) Green India Mission; (7) Sustainable Agriculture; (8) Strategic Knowledge for Climate Change. 'Zero Carbon Manufacturing' is NOT one of the 8 missions.*

Q51. The Environment Performance Index (EPI) 2024 was released by Yale and Columbia Universities. India ranked extremely low (around 176th/180). The primary reason cited was:

- A) High deforestation rates
- B) Poor air quality, ecosystem vitality, and climate policy
- C) Marine pollution and oil spills
- D) Lack of renewable energy adoption

✓ **Correct Answer: B) Poor air quality, ecosystem vitality, and climate policy**

■ *Explanation: India consistently ranks in the bottom 5 in the EPI (Environment Performance Index). The 2024 EPI cited India's challenges in: air quality (PM2.5 levels, household solid fuel burning), ecosystem vitality (deforestation, biodiversity loss, fisheries), and climate policy (per-capita GHG emissions trajectory). India's government has disputed the methodology as not reflecting its developmental context.*

Q52. The Amur Falcon — a migratory raptor that travels from Siberia to Africa — passes through which Indian state and was at the centre of a major conservation success story after poaching was stopped?

- A) Assam
- B) Manipur (Nagaland border area – Pangti village)
- C) Mizoram
- D) Arunachal Pradesh

✓ **Correct Answer: B) Manipur (Nagaland border area – Pangti village)**

■ *Explanation: The Amur Falcon (*Falco amurensis*) — the world's longest-distance migratory falcon — makes a spectacular annual journey from Siberia/China through Northeast India to southern Africa. Pangti village in Wokha district, Nagaland (near Manipur border) is called the 'Falcon Capital of the World'. After mass poaching was documented in 2012, a community-led conservation initiative transformed villagers into protectors. Now over 10–15 lakh falcons visit annually.*

Q53. The 'One Health' approach, increasingly important in India's environmental health policy, recognises the interconnection between:

- A) Solar energy and water quality
- B) Human health, animal health, and ecosystem/environmental health
- C) Food security, nutrition, and climate change
- D) Air pollution, water pollution, and soil degradation only

✓ **Correct Answer: B) Human health, animal health, and ecosystem/environmental health**

■ *Explanation: The 'One Health' approach is a collaborative, multisectoral, and transdisciplinary strategy recognising that human health, animal health, and ecosystem health are deeply interconnected. India's National One Health Mission was launched in 2021 to address zoonotic diseases (like COVID-19, Nipah, bird flu), antimicrobial resistance, and food safety — all of which are influenced by environmental factors.*

Q54. India hosted the CoP14 of the United Nations Convention to Combat Desertification (UNCCD) in 2019. India's commitment was to achieve Land Degradation Neutrality (LDN) by which year?

- A) 2025
- B) 2030
- C) 2035
- D) 2047

✓ **Correct Answer: B) 2030**

■ *Explanation: India committed to achieving Land Degradation Neutrality (LDN) by 2030 at the UNCCD COP14 (New Delhi, 2019). India also committed to restoring 26 million hectares of degraded land by 2030. Land Degradation Neutrality (LDN) means no net loss of productive land — balancing degraded land with restored land of equivalent area and quality.*

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