

Ecology & Environment

Books Content- With Page Numbers

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1	Fundamentals of Ecology and Ecosystem	6
2	Biodiversity and Conservation Biology	104
3	Environmental Issues and Pollution	171
4	Climate Change and Conservation Responses	253
5	Environmental Governance, Laws, and Management	378
	Total Pages (including Questions)	500 + Pages

Test Questions after every part with explanations

Part	Topic	No Of Questions
1	Fundamentals of Ecology and Ecosystem	20
2	Biodiversity and Conservation Biology	20
3	Environmental Issues and Pollution	20
4	Climate Change and Conservation Responses	20
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8. Ecology Environment and Bio-diversity

Part	Chapter No. & Chapter Title
Part I: Fundamentals of Ecology and Ecosystem	1. Introduction to Ecology: Concepts, Scope, and Significance
	2. Ecosystem Structure and Components: Biotic and Abiotic Factors
	3. Energy Flow in Ecosystems: Food Chains, Food Webs, and Trophic Levels
	4. Ecological Pyramids and Productivity
	5. Biogeochemical Cycles: Carbon, Nitrogen, Phosphorus, and Water
	6. Population Ecology: Growth, Regulation, and Interactions
	7. Community Ecology: Species Interactions, Keystone Species, and Succession
	8. Ecotone, Edge Effect, and Ecological Niche
	9. Ecosystem Services and Natural Capital
	10. Human Ecology and Anthropogenic Impacts
	11. Aquatic Ecosystems: Freshwater (Lentic & Lotic) and Marine
	12. Terrestrial Ecosystems: Forest, Grassland, and Desert Biomes
	13. Wetlands, Estuaries, and Mangrove Ecosystems
	14. Urban Ecology and Ecosystem Management
	15. Restoration Ecology and Ecosystem Rehabilitation
Part II: Biodiversity and Conservation Biology	16. Biodiversity: Concepts, Levels (Genetic, Species, Ecosystem), and Measurement
	17. India's Biogeographic Zones and Biodiversity Profile
	18. Biodiversity Hotspots: Global and Indian Context
	19. Endemism and Hope Spots
	20. Threats to Biodiversity: Habitat Loss, Fragmentation, and Poaching
	21. Alien Invasive Species and their Ecological Impact
	22. Species Extinction: Causes and Consequences
	23. IUCN Red List and Categories of Threatened Species
	24. Conservation Biology: Principles and Strategies
	25. In-situ Conservation: National Parks, Wildlife Sanctuaries, and Biosphere Reserves
	26. In-situ Conservation: Community Reserves and Conservation Reserves
	27. Ex-situ Conservation: Zoos, Botanical Gardens, and Gene Banks

	28. Flagship Species Conservation Projects in India: Project Tiger, Elephant, etc.
	29. The Scheduled Animals of the Wildlife (Protection) Act, 1972
	30. Marine and Coastal Biodiversity Conservation
	31. Forest Biodiversity and Conservation
	32. Agricultural Biodiversity and the Importance of Crop Wild Relatives
Part III: Environmental Issues and Pollution	33. Environmental Degradation: Causes and Consequences
	34. Air Pollution: Sources, Pollutants, and Impacts
	35. Air Quality Index (AQI) and National Air Quality Standards
	36. Water Pollution: Sources, Pollutants, and Eutrophication
	37. Marine Pollution: Oil Spills, Ocean Acidification, and Dead Zones
	38. Soil Pollution and Ecological Land Degradation
	39. Noise Pollution and its Ecological Effects
	40. Solid Waste Management and the Circular Economy
	41. Hazardous Waste Management and Regulations
	42. E-Waste (Electronic Waste): Challenges and Management
	43. Plastic Pollution and the Menace of Microplastics
	44. Industrial and Mining Pollution's Impact on Biodiversity
	45. Agricultural Pollution: Pesticides, Fertilizers, and Runoff
	46. Environmental Health and the Ecology of Diseases
	47. Bioaccumulation and Biomagnification in Ecosystems
	48. Pollution Control Technologies and Bioremediation
Part IV: Climate Change and Conservation Responses	49. Climate Change: Causes, Evidence, and Impacts on Ecosystems
	50. Global Warming, Greenhouse Gases, and Ozone Depletion
	51. Carbon Footprint, Carbon Sequestration, and Carbon Credits
	52. India's Nationally Determined Contributions (NDCs) and Climate Policy
	53. Species Adaptation and Climate Resilience
	54. Ecosystem-based Climate Adaptation and Mitigation Strategies
	55. Renewable Energy and its Biodiversity Considerations

	56. Forest Conservation, REDD+, and Climate Mitigation
	57. Wetland Conservation (Ramsar Sites) and Climate Regulation
	58. Ocean Conservation and Climate Change Impacts
	59. Mountain Ecosystems and Climate Vulnerability
	60. Arctic and Antarctic Conservation Challenges
	61. Climate Refugees: Ecological and Human Dimensions
Part V: Environmental Governance, Laws, and Management	62. Sustainable Development Goals (SDGs) and their link to Biodiversity
	63. Environmental Impact Assessment (EIA): Process and Significance
	64. The Wildlife (Protection) Act, 1972 and its Amendments
	65. The Environment (Protection) Act, 1986: An Umbrella Legislation
	66. The Forest Rights Act (FRA), 2006
	67. The Biological Diversity Act, 2002
	68. Other Key Environmental Legislations in India
	69. National Green Tribunal (NGT): Role, Powers, and Functioning
	70. Key Environmental Bodies: NTCA, CPCB, NBA, etc.
	71. The India State of Forest Report (ISFR): Key Findings and Analysis
	72. International Environmental Conventions: An Overview
	73. Conventions on Climate Change: UNFCCC, Kyoto Protocol, Paris Agreement
	74. Conventions on Biodiversity: CBD, Aichi Targets, and Post-2020 Framework
	75. Conventions on Wetlands, Migratory Species & Trade: Ramsar, CMS, CITES
	76. Conventions on Hazardous Substances: Stockholm, Rotterdam, Minamata
	77. Major International Environmental Organizations and Funds
	78. Natural Resource Management and Species Protection
	79. Water Resource Conservation and Management
	80. Sustainable Agriculture Practices: Organic Farming, ZBNF, etc.
	81. Sustainable Forestry and Joint Forest Management
	82. Sustainable Urban Development and Green Infrastructure
	83. The Green Economy and Ecological Economics

	84. Environmental Accounting and Ecosystem Valuation
	85. Environmental Ethics and Conservation Philosophy
	86. The Role of Traditional Ecological Knowledge in Conservation
	87. Participatory Conservation and Community Engagement
	88. Ecotourism and its Role in Conservation
	89. Corporate Environmental Responsibility and Green Business
	90. Environmental Education and Public Awareness
	91. Green Building and Biodiversity-friendly Architecture
	92. Conservation Technology: GIS, Drones, and e-DNA
	93. Disaster Management and Ecological Resilience
	94. Environmental Justice and Conservation Equity
	95. Geopolitics of the Environment
	96. Land Use Change and its Ecological Consequences
	97. Man-Animal Conflict: Causes and Mitigation Strategies
	98. Protected Area Network in India: An Updated Overview
	99. Ramsar Sites of India: A Detailed Look
	100. Future of Conservation: Challenges and Emerging Solutions