

# THE CORE IAS

# Target 2022

## HINDI /ENGLISH MEDIUM

### Environment : BASIC

#### 1.BASIC CONCEPTS

##### 1.ECOLOGY & Its Component

- Biotic
- Abiotic
- Energy

##### 2. Biotic Factors & Interaction with Environment

- Amensalism
- Predation
- Parasitism
- Competition
- Commensalism
- Mutualism
  - ✓ Facultative
  - ✓ Obligate

##### 3. Adaptation

- Homeostasis
- Allen's Rule
- Conformer
- Regulator
- Hibernation
- Aestivation
- Diapause

##### 4.Ecological Principles & Properties

- Hierarchy Principle
- Basic terminology of ecology
  - Species
  - Population
  - Biocenosis
  - Geobiocenosis
  - Auto-ecology vs. Syn-ecology
  - Biome/Bioclimate/Formations
  - Ecotones/Edaphons/Habitat Forms

- Ecotypes/Ecological races/Physiological races
- Natural Capital
- Ecological equivalence
- Ecological amplitude

##### 5. Ecosystem Dynamism

- Ecological Production & Productivity
- Food Chain: Grazing & Detritus
- Food Web
- Ecological Pyramid
- Energy Flow
- Ecological Niche
- Ecological Efficiency
- Gause's rule
- Sere
- Bio Accumulation
- Bio Magnification
- Biological Succession
- Ecological Services

##### 6. Bio Geochemical cycle

- Nitrogen
- Carbon
- Phosphorus
- Sulphur

##### 67 Basis of Ecosystem classification

→Introduction, types, characteristic features, structure and function of the following ecosystem :-

- Forest ecosystem
- Grassland ecosystem
- Desert (Hot and Cold) and Desertification-causes
- Aquatic ecosystems and its

types (Fresh Water & Marine and Lotic & Lentic)  
: Mangroves- characteristics; Coral reefs- types, threat and Coral bleaching; Wetlands-types,

- national wetland conservation program
- Techno-ecosystem
- River Continuum Concept

## **2. Biodiversity**

### **1. Definition**

### **2. Biodiversity**

Levels of Biodiversity

- Genetic,
- Species
- Ecological

Measurement of Biodiversity

- Alpha
- Beta
- Gama diversity

3. Distribution: Terrestrial, Marine

### **4. Types of Species**

- Concept of 'r' and 'k' species
- Keystone Species
- Indicator Species
- Umbrella Species
- Indigenous Species
- Edge Species
- Cenospecies
- Cryptic Species
- Sibling Species
- Invasive Alien Species
  - ✓ Phenotypic plasticity

### **5. Threat to biodiversity**

### **6. Other Concepts**

- Concept of Ecotone
- Edge Effect
  - Biodiversity Conservation (In Situ, Ex Situ)
  - Bio Prospecting & Bio Piracy
  - CBD (Cartagena & Nagoya)
  - CBD Law 2002, TKDL

### **7. Bio Diverse Area**

- Biosphere Reserve
- Man & Biosphere Reserve
- Biodiversity Hot Spot
- World Heritage sites
- IUCN & Red Data Bok

### **8. India Conservation Effort**

- Integrated Development of Wildlife Habitat
- Project Tiger 1973
- Project Elephant 1992
- Project Hangul
- Vulture Conservation
- Crocodile Conservation

### **9. Other Species**

- Blackbuck
- Irrawaddy Dolphin
- Turtle
  - Batagur Species
  - Hawksbill
  - Black Soft Shell
  - Green Turtle
  - Turtle Sanctuary
  - Turtle Conservation Fund
- Snow Leopard
- One Horn Rhino
- Ganges Dolphin
- Olive Ridley
- White Tiger
- Cheetah

## **3. Environment Pollution**

### **3. Environment Pollution**

1. Type :
  - Primary & Secondary
  - Qualitative & Quantitative,
  - Biodegradable & Non Biodegradable
2. AIR POLLUTION
  - Sources
  - Control Measures
  - Smog
  - Fly Ash
  - India Indexes (AQI, NAQI , CEPI etc)
  - Ozone Layer
    - Montreal to Kigali
    - ✓ Article 5 Group 1
    - ✓ Article 5 Group 2
    - ✓ Non Article 5 Countries
  - Acid Rain
  - Freezing Year
  - Baseline Year
3. Water Pollution
  - Point Sources & Non Point Sources
  - Eutrophication
  - Red Algal Bloom
  - Dead Zones
  - Pollution Check ( BoD & CoD)
  - Ocean Acidification
4. Noise Pollution
5. Water pollution
  - a. Types and sources of water pollution
  - b. Indian standards for drinking water
  - c. Impact on humans, plants and animals
  - d. Eutrophication
  - e. Red Algal Bloom
  - f. Dead Zones
6. Soil Pollution
7. Marine Pollution
8. Thermal Pollution
9. E-Waste
10. Solid Waste
  - a. Solid Waste - types and sources
  - b. Causes and effects
  - c. Control measures of urban and industrial wastes
  - d. Bio-methanation of solid waste
11. Land degradation
12. Biodiesel
  - BS Standard
  - Methanol & Ethanol
  - PM JI VAN
  - Biofuel Policy 09,18
  - National Biofuel Coordination Committee
  - Sustainable Alternative Towards Affordable Transportation

## **4. CLIMATE CHANGE & INTERNATIONAL PROTOCOL**

### **1. BASIC CONCEPT**

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- Global Warming
- Causes: Man Made & natural
- Green House Effect
- Green House Gases
- Carbon Emission
- Green House gas Potential
- Climate Adaptation & Climate Resilience
- Carbon Footprint & Ecological Footprint
- Carbon Fertilisation
- Impact of Climate Change
- Agriculture
- Water resource
- Cry sphere
- Geo engineering
- Carbon Capture / Carbon Sequestration:
  - Green Carbon, Blue Carbon
- Iron Fertilisation
- Ocean Acidification
- Aerosol Injection techniques
- Sun shade Geo-engineering
- Carbon Credit
- Carbon Offsetting

## 2. CLIMATE CHANGE & International Effort: 1972 to 2017

- 1972 Conference
  - Annex A, Annex B
- WCC
- 1987 : World Commission on Environment and Development (Our Common Future)
- 1988: IPCC
  - National Green House Gas Inventories Programme
- 1992 (United Nations Conference on Environment and Development)
  - UNCBD
  - UNFCCC
  - UNCCD
  - Agenda 21
  - Rio Declaration
  - Forest Principle
  - Commission on sustainable Development
- Green International
- 1997 Kyoto (General Assembly Special Session on the Environment)
  - LULUCF
  - CDM
  - JI
  - AAU
  - Certified emission reduction
  - Emission reduction unit
  - Annex Countries, Non Annex Countries
- 2001 Marakesh Accord
  - Adaptation Fund
  - Mitigation Fund
  - Special Climate Change Fund
  - Least Developed Countries Fund
- 2002 (World Summit on Sustainable Development)
- 2005 Kyoto Enforcement
- 2008 REDD
  - Forest Investment Program
  - BioCarbon Fund Initiative for Sustainable Forest Landscapes
  - Forest Carbon Partnership Facility
    - Readiness Fund and the Carbon Fund
- 2010 GCF
- 2012 (UN Conference on Sustainable Development ): Report **"The future we want"**
- 2013 (Warsaw International Mechanism)
- 2015
  - Paris Summit
  - INDC
- 2016
  - CORSIA

- London on Shipping
- Marrakesh

- 2017: Bonn
- 2018: Katowice

### 3. Other Protocol & Convention

- Basel
- Stockholm
- Aarhus Convention
- Espoo Convention
- CMS

### 4. Other Environmental Institution

#### World

- IUCN
- WWF
- IMO
- FAO
- WCS
- Wetland International
- Birdlife International
- GEF
- ITTO
- Global Green Growth Institute
- Arctic Council UNESCO
- MFF
- The Economics of Ecosystems and Biodiversity
- TRAFFIC
- CA|TS

#### Various Indexes/ Reports

- Climate Change Performance Index: Germanwatch and Climate Action Network Europe
- Emission Gap Report
- Environment Performance Index: WEF

#### India Institutional Structure

##### Laws:

- 1927
- 1972
- 1974
- 1980
- 1981
- 1986
- 1991

- U.N. Conference On Housing And Sustainable Urban Development
- Madrid CoP (Santiago)
- 2021 Glasgow

- Convention on Long Range Transboundary Air Pollution (CLRTAP)
- Ramsar
  - Montreux
  - Changwon declaration

- Snow Leopard
- Coalition against Wildlife Trafficking (CAWT)
- GIHAS
- UNEP
  - Absorb, Anticipate, Reshape (A2R)
  - Climate and Clean Air Coalition
  - GRID-Arendal
  - The Portfolio Decarbonisation Coalition (PDC).....

- Sustainable Development Goal Index: Sustainable Development Solutions Network and Bertelsmann Sifting

- 2002
- 2006
- 2010
- 2016
- PPV&FRA

#### Pollution Rules

- ❖ The Plastic Waste Management Rules, 2016
- ❖ The Bio-Medical Waste Management

Rules, 2016

- ❖ The Solid Waste Management Rules, 2016
- ❖ The e-waste (Management) Rules 2016
- ❖ The Construction and Demolition Waste Management Rules, 2016
- ❖ The Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 2000
- ❖ The Batteries (Management and Handling) Rules, 2010 with Amendments
- ❖ The Public Liability Insurance Act, 1991 and Rules 1991
- ❖ Noise Pollution (Regulation and Control) Rules, 2000

**National Policies**

- National Wetland Policy 2017
- National Wildlife action plan 2017-31

- Draft National Forest policy 2018
- CRZ Rules

**SCHEMES:**

- NAPCC
  - National Solar Mission
  - National Mission for Enhanced Energy Efficiency
  - National Mission on Sustainable Habitat
  - National Water Mission
  - National Mission for Sustaining the Himalayan Ecosystem
  - National Mission for a 'Green India'
  - National Mission for Sustainable Agriculture
  - National Mission on Strategic Knowledge for Climate Change
  - National Air Quality Monitoring Programme

**INDIAN INSTITUTIONS**

- BNHS
- Birderspics
- NGT
- Other Covered with Indian Laws
- TERI (lightning a Billion Lives, Urban Service Environmental Rating System))
- Madras Crocodile Bank Trust
- EESL
- BEE
- National Afforestation and Eco development Board

**5.MISC**

- NAPCC
- Namami Gange
- Eco Mark
- Bee Rating
- Ganga Action Plan
- NGRB
- GRIHA
- LEED
- PAT Scheme
- Eco Mark