🌍 UPSC Prelims Geography Comprehensive Course

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UPSC Geography Programme Metrics

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Total Classes:
30 Sessions

Duration Per Class:
2–2.5 Hours

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Total Coverage Hours:
60–75 Hours

Geography Domains: 4
(Physical, Human, Economic, Indian)

UPSC Geography Programme Modules

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1 General Geography & Geomorphology

Foundation

Physical

- Earth structure, plate tectonics, landforms

Classes

2 Oceanography

Core

- Marine ecosystems, ocean currents, tides

5 Classes

3 Climatology

Advanced

- Weather systems, climate change, monsoons

6 Classes

4 Biogeography

Elective

- Ecosystems, biodiversity, conservation

3 Classes

5 Human Geography

Human

- Interdisciplinary Population, urbanization, migration

4 Classes

6 Indian Geography

Specialized

- Physiographic divisions, rivers, agriculture

5 Classes

7 Geographical Techniques

Skill-based

- Remote sensing, GIS, cartography

3 Classes

8 Current Affairs

Relevant

- Geopolitical issues, environmental policies

2 Classes

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UPSC Geography Programme Pillars

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1. Conceptual Clarity

Deep understanding of geographic principles and theories

2. Map Mastery

Proficient map reading, interpretation, and spatial analysis skills

3. Application Focus

Applying geographic knowledge to real-world scenarios and case studies

4. Current Affairs Integration

Linking geographi concepts with contemporary global events and issues

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MODULE 1: GENERAL GEOGRAPHY & GEOMORPHOLOGY

DEEP DIVE

Build foundational understanding of Earth's physical structure and processes

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1 Universe & Earth Basics

- Solar System hierarchy
- Earth's position & characteristics
- Geographic coordinate system

2 Earth's Internal Structure

- Crust-mantle-core composition
- Seismic wave evidence
- Rock types & mineralogy

3 Plate Tectonics & Geodynamics

- Lithospheric plate boundaries
- Convection currents mechanism
- Earthquake/volcano patterns

4 Landform Development

- Weathering/erosion processes
- Fluvial/glacial landforms
- Geomorphic cycle stages

MODULE 2:
OCEANOGRAPHY

Understand ocean systems, properties, and their influence on geography

1 Hydrological Cycle

- Water cycle dystems
- properties

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2 Ocean Floor Morphology

- Ocean floor systems
- Ocean

3 Ocean Properties

- Thermoutor
- salincity

4 Ocean Currents & Circulation

- Ocean →→
- currents

5 Marine Resources & Life

- Reridatd Cicean systems
- resources

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MODULE 3:
CLIMATOLOGY ESSENTIALS

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Master atmospheric systems and climate classification

1 Atmospheric Structure
- Layered atmosphres

2 Atmospheric Composition
- Gas molecules

3 Solar Radiation & Energy Balance

4 Wind Systems & Pressure
- Wind clouds
- Rain
- Insilation sun

5 Precipitation Systems
- Troposphere cloud, Ozome shield
- Jet streems, Monsoon rain

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MODULE 4: WORLD CLIMATES & BIO-GEOGRAPHY

Understand global climate types and associated ecosystems

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Climate Classification System

Climate Type,	Temperature, Precipitation,	Examples,	Ecosystem
Tropical Rainforest (Hot & consistent)	(Hot & consistent, Very high >250cm, Amazon Congo, Dense forests biodiversity)		
Tropical Savanna	(Hot, Seasonal 50–250cm, African savanna, Grasslands scattered trees)		
Desert (Hot/Cold,	Very low <25cm, Sahara Mojave, Sparse vegetation adapted fauna)		
Temperate/Mediterranean (Moderate, Moderate 50–150cm	50–150cm, California Mediterranean, Shrublands deciduous forests)		
Temperate Oceanic	(Cool, Regular 100–200cm, British Isles New Zealand, Grasslands coniferous forests)		
Boreal/Taiga	(Cold, Moderate 25–100cm, Siberia Canada, Coniferous forests sparse fauna)		
Polar	(Extremely cold, Low <25cm, Antarctica Arctic, Tundra minimal vegetation)		

Bio-Geography Zones (Biodiversity Hotspots)

Tropical Regions
(Highest species diversity)

Coral Reefs
(Marine biodiversity hotspots)

Mountain Ecosystems
(Altitude-driven biodiversity)

Polar Regions
(Specialized cold-adapted species)

MODULE 5:
HUMAN & ECONOMIC GEOGRAPHY

Analyze population patterns, economic activities, and human development

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1. Demography & Population Dynamics

Indicator	Definition	Geographic Significance
Population Density	(People per unit area, Livability resource pressure)	
Birth Rate	(Births per 1000 population, Development indicator)	
Death Rate	(Deaths per 1000 population, Healthcare quality)	
Natural Increase	(BR – DR, Population growth trajectory)	
Migration	(Population movement, Urbanization labor flows)	
Age Structure	(Distribution by age groups, Development stage indicator)	

Population Distribution Factors

- Climate suitability (water temperature)
- Topography (plains vs mountaility
- Historical settlement patterns
- Economic opportunities

2. Agricultural Geography

System	Characteristics	Regions	Sustainability
	Subsistence Farming (Small plots family labor, Tropical Africa S. Asia, Low input vulnerable)		Pastoral Nomadism (Herding seasonal legacy, Tropical zones, Monoculture risks)
	Commercial Agriculture (Large-scale cash crops, crops,		Pastoral Nomadisg seasonal migration, Dry grasslands, Climate-dependent)
	Plantation Agriculture (Single crop colonial legacy, North America Europe, High input mechanized)		Intensive Rice Farming (High yield per area, SE Asia East Asia, Water-dependent)

MODULE 5: HUMAN & ECONOMIC GEOGRAPHY - Industrial & Economic Sections

Analyze population patterns, economic activities, and human development

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Industrial Geography - Location Factors

- Raw material proxixity
- Market
- Labor availability and cost
- Market accessiblity

Industrial Types

- Infrastıcture (ɑnɑ
- Infrastrcture (ports rallways)
- Government incentives
- Goviornmentl regulations

Industrial Types

- Primary:
- Mining, agriculture, forestry
- Knowledge, technology, finance

Indicators

- Sscmary:
- (Manufactuing, procesing
- Healthcare access
- Services, trade, tourism
- Infrastcture quality

Economic Development Patterns - Indicators

- GDP per capita
- Healthare rates
- HDI (HDI (Human Development Index)
- Infrastıcture quality

Economic Sectors

- **Primary** (matural resources)
- **Secondary** manufacturing
- **Teritiy** services
- **Quarafiary** (high-tick, financs)

MODULE 6

TRANSPORT, TRADE & SETTLEMENTS

Conneccivity, Commerce Patterns & Urban Development.

Core Objective: Understand connecivity, commerce patterns, and Urban development.

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1 Transport Systems & Networks

Transport Type	Advantages	Limitations		Key Use	
Air	Speed, long distance	Cost, limited capacity	International trade, perishables		
Air	Speed, long dficience		Pulkycoods, esroty		
Rail	High capacity, efficiency	Fixed routes, infrastucture cost	Bulk goods, passengers		
Road	Flexibility, door-dool	Congestion, environnental impact	Bulk goods, passengers		
Road	Cnar, Sen bile	Local, short-distance goods	Bulk cargo, inter-contieetal		
Water	Lowest cost, high capacity	Slow, route-dependent	Inflexible, infrastucture investment		
Pipeline	Continuous, safe		Oil, gas, minerals		

MODULE 6

TRANSPORT, TRADE & SETTLEMENTS

Connecctivity, Commerce Patterns & Urban Development.

Core Objective: Understand connecivity, commerce patterns, and Urban development.

International Trade Patterns

Trade Flow Characteristics

- Developed nations: High-value manufacturing, services
- Developing nations: Raw materials, goods
- Developing nations: labor-intenstive goods
- Emerging economies: Value-added malvrared manufacturing

Trade Blocs & Agreements

- EU, ASEAN, MERCOSRE, USMCA
- Bilaiteral and mulaturetal agreements
- WTO frameworks

MODULE 6

TRANSPORT, TRADE & SETTLEMENTS

Connecccivity, Commerce Patterns & Urban Development.

Core Objective: Understand connecivity, commerce patterns, and Urban development.

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Settlement Geography

Settlement Hierachy

1. Megacities > 10M)
2. Large Cities (1-10M)
3. Medium (100k 10M)
7. Small Towns (0-10M)
8. Villages & Hamlets (<

Urbanization Drivers

- Economic opportunities employment
- Better infrastucture and services
- Education and healtace development
- Migration from rural areas areas

Urban Challenges

- Slums and informmal setllements
- Traffic congesto in management
- Housing shortages management
- Social inequality

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MODULE 7

INDIAN GEOGRAPHY – PHYSICAL FEATURES

Core objective land contore the hare did ase pps alls an vatnng of it anating orse the the sgiem tor at alecrand.

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1 Physiography of India

	Region	Characteristics:	Characteristics	Key Features	Area	Icon
1	**Himalayes**	Young fold mountains	Mt Everest, K2,	North	**Thar Desert**	
2	**Indo-Gangetic Plain**	Alluival lowiand rainfall	Fertile, denssly populated, rivers	North-Central	Fishing zones, ports, ports,	
4	**Penissurarl Plataau**	Deccant **tableland**	rivers		deltaic areas areas	
4	**Coastal Plains**	South-Central	South-Central	Northwest	Coastal regions	

2 Drainage Systems

	River System	Origin			Course	Basin Area	Tributaries	Tributaries
1	**Indus**	Tibstan Plataau	≈		1.165M km²	1.016M km²	Sulleh, Chenab, Ravi	≈
2	**Indus**	West & South	≈		1.016M km²	0.512M km²	Penganga, Wardha	Beas
3	**Ganges**	East & South	≈		0.580M km²		Teesta, Torsa	≈
4	Himanal	Tibstan Plataau	≈					
4	**Western Ghats**	Western Ghats	≈					
5	**Godavari**	South-Eeat						
6	**Krisha**	Tungubhad, Bhima	0.2599					

Important Lakes:

- **Himalyan:** Pangong, Tso Morri (glacial)
- **Coastal:** Chilika, Pulicat, Vemeban (laggons)
- **Desert:** Sambar, Kuchch (salt lakes)

MODULE 7

INDIAN GEOGRAPHY – PHYSICAL FEATURES

Core objective: Master Indis India's diverse is ape tse an wating, and natural systems.

3 Soil Types & Distribution

	Soil Type	Formation	Properties	Distribution	Fertility	Icon
1	**Alluvial**	River deposits	Fertile, loamy		High	
2	**Black/Regur**	Basaltic rocks	Clay, water-retenntive	Moderate-High	High	
4	**Laterite**	Iron/allum oxide-rich	Deccan, iror-oxide rich	Low-Moderate	Low	
5	**Red Soils**	Tibstan Plataau	Deccan, parts rn Ghats	Low-Moderate	Low	
6	**Desert**	Couth Low			Low	

4 Climate Regions of India

	Classification System		Regions
1	**Tropical Wet** →		• Southwest coast, Western Ghats • Himalayias
2	**Tropical Dry** →		
3	**Subbbtrcital** —	≈	• Interior Deccan, parts of Central India • Northern plains
4	**Subsbbrotical** —		
5	**Temperate** →		
4	**Alpine**		

Climate Regions of India & Monsoon System

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Tropical Wet
- Southwest coast, Western Ghats
- High humidity, heavy rainfall
- Dense evergreen forests

Tropical Dry
- Interior Deccan, parts of Central India
- Hot summers, low rainfall
- Grasslands and scrub vegetation

Subtropical
- Northern plains
- Hot summers, cool winters
- Dominated by monsoon rainfall

Temperate
- Higher altitudes, Himalayas
- Mild summers, cold winters
- Coniferous forests

Alpine
- High mountain zones
- Very cold, tundra-like
- Permafrost and sparse vegetation

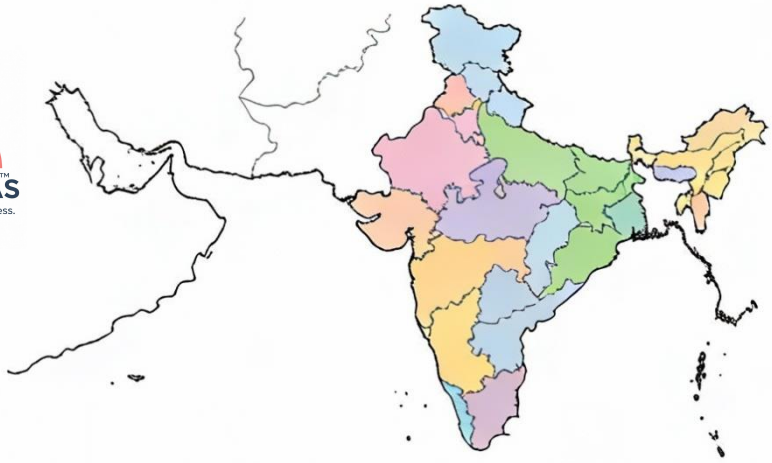
Monsoon System

Southwest Monsoon (June–September)
- Main rainfall provider
- Blows from Arabian Sea and Bay of Bengal

Retreating Monsoon (October)
- Post-monsoon transition
- Winds weaken and shift

Northeast Monsoon (October–February)
- Winter rains for South India
- Important for Tamil Nadu and southeast coast

Bio-Geographic Zones of India



Western Ghats,
Northeast,
Central India
Deccan
Thar Desert
Himalayas
Coastal deltas

Vegetation • Fauna • Distribution • Hotspots

Tropical Rainforest
Vegetation: Evergreen, dense
Fauna: Tigers, elephants, primates
Distribution: Western Ghats, Northeast

Tropical Deciduous
Vegetation: Sal, teak forests
Fauna: Deer, bison, panthers
Distribution: Central India, Deccan

Thorn Scrub
Vegetation: Acacia, low shrubs
Fauna: Desert animals, reptiles
Distribution: Thar, Northwest

Temperate Forests
Vegetation: Oak, rhododendron
Fauna: Musk deer, yak
Distribution: Himalayas

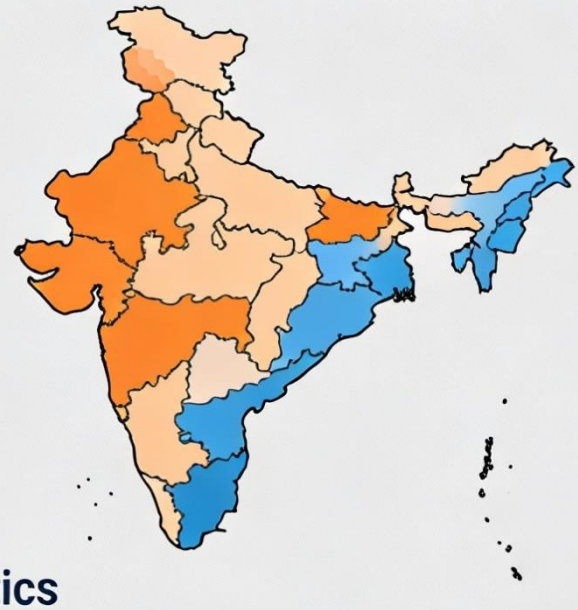
Alpine Meadows
Vegetation: Grasslands, herbs
Fauna: Snow leopard, bharal
Distribution: High Himalayas

Mangrove
Vegetation: Salt-tolerant shrubs
Fauna: Crocodiles, fish nurseries
Distribution: Coastal areas, deltas

— Vegetation
— Fauna
— Cool
— Fauna
— Distribution

Biodiversity Hotspots
- ★ Western Ghats
- ★ Northeast India
- ★ Himalayan region
- ★ Sundarban delta

Population Geography of India



1) Population Statistics

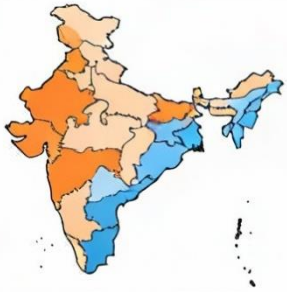
Total Population: 1.4+ billion (2nd largest globally)

Density: ~382 persons/km^2 (highly variable)

Growth Rate: ~1% annually (declining)

Urbanization: ~33% urban, 67% rural (rapidly urbanizing)

2) Population Distribution



High Concentration	Low Concentration
Indo-Gangetic Plain	Thar Desert
Coastal regions	High mountains
Major cities	Dense forests

3) Demographic Challenges

High birth rates in certain regions

Rural-to-urban migration

Aging population in developed urban areas

Gender ratio variation

Minerals & Energy Resources of India

Odisha, Chhattisgarh, Jharkhand, Gujarat, Madhya Pradesh, Meghalaya

Odisha, Chhattisgarh, Jharkhand, Gujarat, Madhya Pradesh, Meghalaya

Major Minerals

Iron Ore
Major Reserves: World's 4th largest
Production Use: Steel manufacturing
Key States: Odisha, Chhattisgarh, Jharkhand

Coal
Major Reserves: Abundant
Production Use: Energy, power plants
Key States: Jharkhand, Odisha, Chhattisgarh

Bauxite
Major Reserves: Significant
Production Use: Aluminum production
Key States: Odisha, Gujarat, Jharkhand

Manganese
Major Reserves: Ample
Production Use: Steel alloys
Key States: Odisha, Madhya Pradesh, Maharashtra

Copper
Major Reserves: Limited
Production Use: Electronics, construction
Key States: Rajasthan, Madhya Pradesh, Jharkhand

Diamonds
Major Reserves: Scanty
Production Use: Jewelry, industrial use
Key States: Madhya Pradesh, Chhattisgarh

Energy Resources

Fossil Fuels (Coal, Oil, Gas) — High dependency, Limited reserves

↓

Renewable Energy (Wind, Solar, Hydro) — Growing capacity, Policy emphasis

↓

Nuclear Energy — Expanding, Uranium reserves in Meghalaya

Agricultural Resources of India

Largest agricultural workforce • Diverse crops • Water & monsoon challenges

Agricultural Workforce

30

World's largest agricultural workforce

Agriculture employs the highest share of workers in India

Rural livelihoods

Low mechanization in many areas

Major Crops

- Wheat – Staple food grain
- Rice – Main kharif staple
- Cotton – Key cash crop for textiles
- Cotton – Key crop for textiles
- Sugarcane – High water-demand cash crop
- Spices – India as a leading producer

Water Scarcity

- Water scarcity challenges
- Overuse of groundwater in many regions
- Drought-prone areas face crop stress

Monsoon Dependency

Monsoon-dependent agriculture

Delayed or weak monsoon → lower yields

Geography Study Strategy & Map Work Plan

Actionable Weekly Framework + Essential Map Topics

Daily Study Plan Framework (5-6 Days/Week)

Lecture Typs
Live lectures + note-taking
2–2.5 hrs

Conceptual foundation

Practice Days (2–3/week)
Map work, case studies, problems
1.5–2 hrs

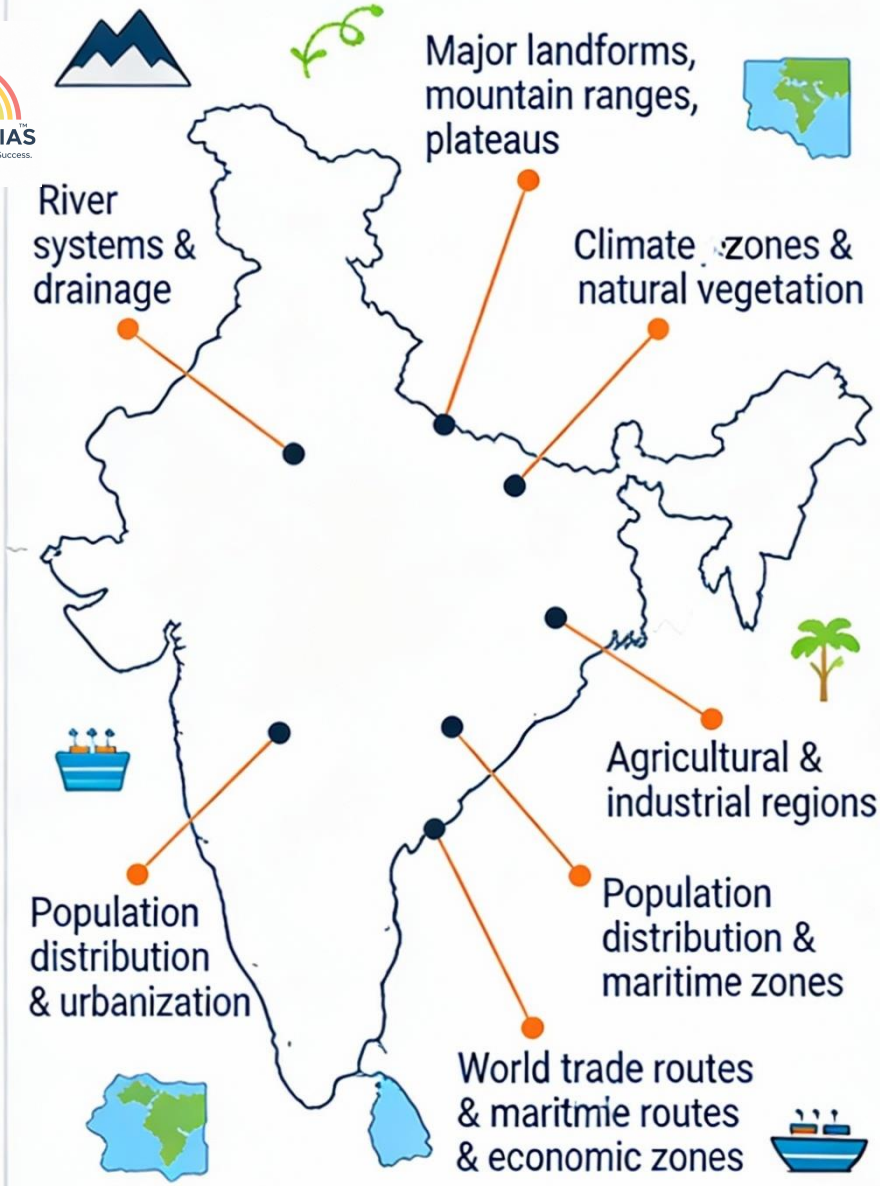
Application & retention

Review Days (1/week)
Revision, clarification, tests

1–1.5 hrs

Consolidation

Essential Map Work Topics



Practice daily on blank maps!

Track Your Progress Weekly

Geography Study: Recommended Resources & Learning Plan

Textbooks • Current Affairs • Practice Tools • Time Investment

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Primary Resources

- NCERT Geography (Classes 9–12)
- Savindra Singh's Physical Geography
- GC Leong's Geography
- Majid Husain's Indian Geography

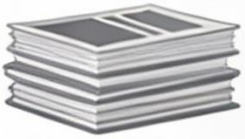
Supplementary + Current Affairs

Supplementary Materials

UPSC papers

Current Affairs Sources

Geography compilations



Govt ministry publications
International reports

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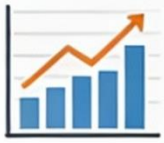
Practice & Assessment Tools

Online mock test platforms

Interactive map-labeling tools

Topic-wise question banks



Performance analytics dashboards

Final Notes for Learners

60–75 hours structured learning

30–40 hours practice & revision

3–4 months for thorough mastery

→ UPSC Readiness

Geography Study: Tests & Current Affairs Plan

Sectional Tests • Mock Tests • Current Affairs Integration

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Assessment Plan

Sectional Tests (After Each Module)

MCQ

- 20–30 questions
- 30–45 mins
- UPSC Prelims difficulty

Comprehensive Mock Tests (After Every 2 Modules)

- 100 questions
- 2 hours

Analyze performance trends

Final Cumulative Test (After Module 8)

100 geography questions
Full coverage

% Preparedness indicator

Prelims

Current Affairs Integration

Monthly Focus Areas

Resources

- The Hindu, Indian Express editorials
- UPSC news analysis channels
- Geography CA compilations
- Govt reports & press releases

Track Progress → Peak Performance

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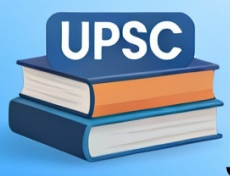

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