

## Geography Optional

### QUESTION PAPER ANALYSIS (HUMAN GEOGRAPHY -PAPER-I)

1991 - 2022

Nothing succeeds like success, but it asks for changes, encountering uncharted, unknown which is always a challenge. To succeed in life and achieve results you must understand and master three mighty forces of DESIRE, BELIEF AND EXPECTATIONS. A within powerful influential and sufficiently independent person can only become successful. This is also the only path to individual satisfaction in life. The loftiest problem faced by us today is lack of vision, lack of direction. Problems are part of life and trouble the essence of success. In his own time, in his own place, in what he really is and in the stage he has reached good or bad, every human being is specific element within the whole of the manifest divine being. So instead of being afraid of difficulties, try to understand the relevance of your suffering. Adversity always presents opportunities for introspection.

**“When the freedom they wished for most was freedom from responsibility,**

**Athens ceased to be free and was never free again”**

**(Historical Edith Hamilton on ancient Greece)**

The requirement of personal freedom incorporates the prerequisite of firstly building own educational skills, knowledge is a tangible asset and most important tool for the work to be done. More updated knowledge you possess more free you become. Secondly developing passion for personal responsibility for the task. Be active! Take responsibilities! Work for the things you believe in. If you do not, you are surrendering your fate to others.

## About the Institution – DIRECTION

Every intelligent and sensible young person, being ambitious aspire to be an IAS, but just to aspire without firm determination, required devotion, dedication and DIRECTION, means to make castle in the air, as it involves tough competition from among the aspirants. Hence the requirements are firm determination, wholehearted devotion, and dedication and of course, right DIRECTION. Astray study with devotion, on systematic and right lines leads to success. Study on right lines and in right DIRECTION means to have clear vision of the present day patterns, trends and requirements of the exam.

The Institution – DIRECTION has been playing the role of facilitator, promoter, supporter of the aspirants successfully, in order to make them achieve their dreams and ultimately to contribute to the development of the country.

The institution is providing classes daily to give continuity to the preparation process of the aspirants. It provides intensive training program based on analytical approach. This is the only institution providing individual attention to each student's queries & problems, so as to help them out to reach the sky as far as possible Intensive practice for map studies and diagrams are given exclusively in this institution as these have proven to be the form of test on the UPSC format on weekly basis so as the aspirants acquaint themselves with the writing approach and over come their weaknesses to The individual personality development programme also goes hand in hand exclusively in this institution. So as the aspirants gains confidence in not only writing but also expressing him verbally which definitely helps him in facing the interviews? Last but not the least the faculty of this institution are more than eager to help out the aspirants at any juncture as they are very readily approachable.

The importance and significance of this institution also lies in the fact that it exclusively deals with the subject Geography that is fast gaining importance as an optional. Being semi- scientific in nature, it is well adaptable by the students of other streams especially science.

In the end I want to extent my best wishes to all the sincere aspirants for the success in the examination.

## HUMAN GEOGRAPHY (SYLLABUS)

**1. Perspectives in Human Geography:** Areal differentiation; regional synthesis; Dichotomy and dualism; Environmentalism; Quantitative revolution and location analysis; radical, behavioral, human and welfare approaches; Languages, religions and secularization; Cultural regions of the world; Human development index.

**2. Economic Geography:** World economic development: measurement and problems; World resources and their distribution; Energy crisis; the limits to growth; World agriculture: typology of agricultural regions; agricultural inputs and productivity; Food and nutrition problems; Food security; famine: causes, effects and remedies; World industries: location patterns and problems; patterns of world trade.

**3. Population and Settlement Geography:** Growth and distribution of world population; demographic attributes; Causes and consequences of migration; concepts of over- under-and optimum population; Population theories, world population problems and policies, Social well-being and quality of life; Population as social capital.

Types and patterns of rural settlements; Environmental issues in rural settlements; Hierarchy of urban settlements; Urban morphology: Concepts of primate city and rank- size rule; Functional classification of towns; Sphere of urban influence; Rural - urban fringe; Satellite towns; Problems and remedies of urbanization; Sustainable development of cities.

**4. Regional Planning:** Concept of a region; Types of regions and methods of regionalization; Growth centers and growth poles; Regional imbalances; regional development strategies; environmental issues in regional planning; Planning for sustainable development.

**5. Models, Theories and Laws in Human Geography:** Systems analysis in Human geography; Malthusian, Marxian and demographic transition models; Central Place theories of Chris taller and Losch; Perroux and Boudeville; Von Thunen's model of agricultural location; Weber's model of industrial location; Rostov's model of stages of growth. Heartland and Rim land theories; Laws of international boundaries and frontiers.

**QUESTION TREND (1991 - 2022)**

**Perspectives in Human Geography:** *Areal differentiation; regional synthesis; Dichotomy and dualism; Environmentalism; Quantitative revolution and location analysis; radical, behavioral, human and welfare approaches; Languages, religions and secularization; Cultural regions of the world; Human development index.*

1991 : Explain the major contribution by Arab geographers of the early medieval period in the development of geographic thought.

1992 : Give a comparative assessment of the works of Humboldt and Ritter leading to the foundation of modern geographical thought.

1993 : No question.

1994 : Examine critically the concepts of 'determinism; and possibilism. Bring out the significance of regional concept.

1995 : Discuss the contributions of Al Biruni towards the development of geographical knowledge.

1996 : "The emergence of Behavioural Geography was due to the disillusionment with axioms on which models were based and the axioms were far removed from reality". Comment.

1997 : Critically examine the concept of dualism with special reference to physical versus human geography.

1998 : What is understood by quantification in Geography? Discuss the significance of quantification in modern geographical studies with examples.

1999 : Describe the sequence of major paradigm shifts in geographic thought during the twentieth century.

2000 : No question.

2001 : Discuss the concept and application of systems analysis in human geography.

2002 : No question.

2003 : Present a critical analysis of human and welfare approaches in Human Geography.

2004 : Distinguish between radical and welfare approaches in geographic studies.

- 2005 : No question. 2006 : No question. 2007 : No question. 2008 : No question.
- 2009 : 'Quantitative Revolution and model building provided an empirical basis for geographical research' - Elaborate.
- 2009 : Provide a broad classification of world cultural regions.
- 2010 : Critically examine the method of deriving Human development index.
- 2010 : Critically examine the changing perspective of the concept of areal differences.
- 2011 : Welfare Approach in Human Geography.
- 2011 : Discuss the impact of positivism in paradigm shift in Geography.
- 2012 : No Question
- 2013 : "Ellen Churchill Semple is an ardent supporter of Determinism."
- 2013 : Explain the parameters for assessment and the spatial pattern of Human Development Index in the world.
- 2014 : Elaborate the concept of mental map.
- 2014 : Critically analyze application of models in Geography.
- 2014 : Discuss the contribution of geographers in the development of radical geography.
- 2014 : Giving suitable examples, describe the importance of system analysis in geographical studies.
- 2015 : "The welfare face of geography makes it an inter- disciplinary subject." Elaborate.
- 2015 : "The welfare face of geography makes it an inter- disciplinary subject." Elaborate.
- 2015 : "Regional synthesis is the crux of geographical studies." Elaborate
- 2015 : Cultural regions are the most suited units to study the diversity of an area". Comment.
- 2015 : Discuss the approaches to the study of behavioural geography
- 2015 : "There is a rejuvenation of environmentalism as a paradigm in geographical studies." Comment.

- 2016 : “Areal differentiation forms the core theme in Geography.” Explain.
- 2016 : Trace the origin and progress of Quantitative Revolution in Geography and bring out its merits and demerits.
- 2016 : Discuss the relevance of ‘Stop and Go Determinism’ in the present day context.
- 2017 : Explain the concept of Time Geography.
- 2017 : Discuss the contemporary paradigms of Geography.
- 2017 : “The intensity of energy crisis varies regionally”. Explain.
- 2017 : Examine the causes and consequences of forced migration of population in the present context.
- 2017 : Define the quality of life and explain its parameters with adequate examples.
- 2018 : “Geography is a contested and multi paradigmic discipline with a strong euro centrality that has only recently been challenged.” Comment.
- 2018 : “Areal differentiation has provided the theoretical justification of studying ‘regions’ and ‘regional geography’.” Comment.
- 2018 : Comment upon the contributions of D.M. Smith in outlining ‘welfare’ as a key focus in the geographies of social well-being.
- 2018 : Provide a brief outline of ideas related to ‘sense of place’ as propounded by Yi-Fu Tuan and Relph in the humanistic geography that emerged in the 1970’s.
- 2018 : Elaborate upon the influence of Marxist philosophy on geographical research, outlining key themes addressed by Marxist geographers since the 1970’s.
- 2018 : “Welfare geography emphasizes spatial inequality and territorial justice.” Comment with reference to the main ideas and scope of the subfield.
- 2018 : Discuss critically the manner in which quantitative revolution provided the methodological foundation for models and modeling in geography.
- 2019 : “A language originates at a particular place and diffuses to other locations through the migration of its speakers.” Examine this statement in the context of language hot spots and endangered language hot spots.

2019 : Discuss the genetic classification of boundaries suggested by Hartshorne

2019 : HDI has brought a paradigm shift in the way people think about the development process. Critically examine the inherent limitations of HDI.

2020: "Human ecology is the study of mutual relationship of people and their environment both natural and social." Discuss in details using ecological concepts.

2021: The interrelationships between the social and spatial structure are complex. Explain in the context of socio-spatial dialectic.

2021: Suggest criteria, indicators, and techniques for delimitation of formal regions.

2021: Why is radicalism seen as major a paradigm shift in geography? Explain its causes, approaches, and criticism.

2022 : Analyse the effects of Globalisation on languages.

2022 : "Culture is a dynamic concept". Elucidate with examples.

2022 : Critically examine the significance of the Quantitative Revolution and its influence in the development of Geography.

**Economic Geography: *World economic development: measurement and problems; World resources and their distribution; Energy crisis; the limits to growth; World agriculture: typology of agricultural regions; agricultural inputs and productivity; Food and nutrition problems; Food security; famine: causes, effects and remedies; World industries: locational patterns and problems; patterns of world trade.***

1991 : Examine the world patterns of industrial development and explain the problems of industrial development at national levels.

1992 : No question.

1993 : Give an account of the agricultural typology of the world as presented by Whittlesey and critically examine the parameters used in its delineation.

1994 : No question. 1995 : No question.

- 1996 : Examine the bases of classification of agricultural regions as proposed by Whittlesey and explain the causes for the essential difference between intensive subsistence tillage with rice dominant and without rice in the crop association.
- 1997 : “Water is a scarce resource in plenty”. Comment and discuss its importance in the balanced habitat development. Support your answer with examples from Asia.
- 1998 : Explain the term resource management. Discuss its relevance in the context of global resource scarcity and the future of mankind.
- 1998 : Examine the impact of advanced agricultural technology on environment. Support your answer with examples.
- 1999 : How far do the patterns of economic development and those of human development correspond with each other in the world? Illustrate your answer with examples.
- 2000 : No question.
- 2001 : Examine the spatial patterns of development disparity prevailing in the world.
- 2002 : No question. 2003 : No question. 2004 : No question.
- 2005 : Discuss Weber’s theory of industrial location ,and assess its relevance in the present-day context.
- 2006 : No question.
- 2007 : Explain the concept of sustainable development and propose a model for agricultural development.
- 2008 : Discuss the views of Von Thunen on agricultural location.
- 2009 : Discuss the consequences of Climate Change on agriculture and food security, and on the Coastal Zones of the world.
- 2009 : Provide a geographical account of global production and distribution of food.
- 2010 : Famine to a considerable extent, is a man made Hazard. Elaborate.
- 2010 : Discuss the role of WTO in determining the pattern of World Trade.
- 2011 : Mention the agriculture regions as classified by Whittlessy and discuss their relevance.



- 2012 : Problems faced by industries which developed due to inertia.
- 2012 : Impact of failure of Monsoon on Gujarat Agro-climate zone.
- 2012 : Locational significance of Rotterdam European economy.
- 2013 : Role of Venezuela in the production and export of oil.
- 2013 : Countries most affected in case of shut-down of Nuclear power.
- 2013 : Discuss the changing pattern of production and export of Coffee in the world.
- 2013 : Analyze the causes for changes in the pattern of world trade.
- 2014 : Discuss environmental and economic problems associated with coal production.
- 2014 : “World is passing through a global resource dilemma.” Comment.
- 2015 : “Energy mix is a step towards sustainability.” Discuss.
- 2016 : “Linkages between resource-endowed regions and resource-utilizing regions determine the pattern of international trade.” Elaborate with suitable examples.
- 2017 : “Whittlesey’s agricultural regions are relevant even today”. Discuss.
- 2017 : Give an account on sustainable development and its components.
- 2017 : “The intensity of energy crisis varies regionally”. Explain.
- 2018 : Discuss the degree of importance of transportation costs as a factor of industrial location with respect to “footloose industries”.
- 2018 : “Famine is a social phenomena rooted in institutional and political economic arrangements, which determine access to food by different classes and strata.” Comment.
- 2018 : Discuss in brief the main thesis in “Limits to Growth” (1972) and also provide a critique of the same.
- 2019 : Define stunting and wasting. Why are these more prevalent among children in developing countries.

- 2019 : “A large-scale global shift in manufacturing is the outcome of deindustrialization in the developed world matched by industrialization in the developing world.” Analyze this statement.
- 2019 : Globalization can often subsume folk culture. What are its positive and negative effects?
- 2020: Identify the causes and effects of energy crisis, and suggest suitable measures to solve the problem.
- 2020: "Where economic growth is sustained over long time periods, its incidence works towards a progressive integration of space economy" elucidate.
- 2021: How is energy transition seen as an instrument for achieving zero carbon by 2050?
- 2021: Protected cultivation assists in healthier and larger produce. Justify with examples.
- 2021: Development-induced displacement poses serious challenges. Mention its causes, consequences, and solutions.
- 2021: Describe the role of accessibility and affordability in the food security of the developing world.
- 2022 : “Shifting global trade patterns create new opportunities”. Examine this statement.
- 2022 : “Automation is rapidly changing the economies of labour and will affect trade patterns in significance ways”. Clarify.
- 2022 : “Climate change is a serious problem to global food security and poverty eradication”. Critically examine.

**Population and Settlement Geography: Growth and distribution of world population; demographic attributes; Causes and consequences of migration; concepts of over- under-and optimum population; Population theories, world population problems and policies, Social well- being and quality of life; Population as social capital.**

**Types and patterns of rural settlements; Environmental issues in rural settlements; Hierarchy of urban settlements; Urban morphology: Concepts of primate city and rank- size rule;**

*Functional classification of towns; Sphere of urban influence; Rural - urban fringe; Satellite towns; Problems and remedies of urbanization; Sustainable development of cities.*

1991 : Trace and account for the various trends of population growth in the world during the present century.

1992 : Citing suitable examples from India, explain the role of site and other physical factors in determining the types and patterns of rural settlements.

1993 : Discuss the major international streams of migration in the world in recent times and account for the relationship that exists between population pressure areas and migration prospects.

1994 : No question.

1995 : Examine the theories about population control and explain the relative merits of these theories in limiting population growth.

1996 : No question. 1997 : No question. 1998 : No question.

1999 : Bring out the contrast between the internal structure of the pre-industrial and industrial cities.

2000 : Discuss the causes and consequences of population migration.

2001 : Bring out the main points of difference between the central place theories of Christaller and Losch.

2002 : No Question.

2003 : Examine the concept of sphere of urban influence and discuss the qualitative and quantitative methods used in its delimitation.

2004 : No question. 2005 : No question.

2006 : In Urban geography, what are the concepts of primate city and Rank Size Rules ?

2007 : Give an account of functional bases to central place hierarchy.

2007 : Write a note on the parameters used to describe the demographic transitions in the developing countries like India.

2008 : Discuss the social and economic theories of population growth.

- 2008 : Describe the laws of international boundaries and frontiers.
- 2009 : What are the causes and consequences of environmental degradation in India's industrial areas ? Give specific examples.
- 2010 : Identify the regions affected by Chikangunya with the help of sketched map and bring out the regional pattern of the disease.
- 2011 : Secondary cities in the context of urbanization in developing world.
- 2011 : Population and Food security.
- 2011 : Critically examine the salient feature of Central Place Theory propounded by Christaller and Losch.
- 2012 : Relevance of distance decay principle in Indian cities.
- 2012 : Impact of migration on urban demography.
- 2012 : Similarities in the population distribution of southern continents and reasons for the same.
- 2012 : Status of infant mortality rate in the world.
- 2012 : Evaluate the various models on population density distribution in urban centres.
- 2012 : ' Though 70% of Indian population is rural urban planning is crucial to the development of India'. Discuss.
- 2012 : Impact of changing fertility ratio on world population distribution.
- 2012 : ' Colonial forces resulted in the primate pattern of urban process in most Southeast Asian Countries.' Discuss
- 2012 : Regional shift in the world urbanisation after 1950 and the varied characteristic of urban process.
- 2013 : What is Geriatrics? What are the problems associated with Geriatric population?
- 2014 : Discuss the factors responsible for counter-urbanization
- 2014 : "Rural sustainability is necessary for urban sustainability". Discuss the statement in the backdrop of integrated development approach.

2014 : “Indo-Gangetic hearth is considered to be one of the world’s richest cultural realms.”  
Examine.

2014 : Explain the qualitative and quantitative methods of delineation of the sphere of urban influence.

2015 : Discuss Nelson’s method of functional classification of towns.

2015 : “Marx’s view on population is more humanistic.” Comment.

2015 : Critically examine the theories on population migration.

2016 : Discuss the major characteristics of ‘CBD’.

2016 : Discuss the role of site in determining the types and patterns of rural settlements.

2016 : Describe the regional pattern of Life Expectancy in the world and bring out the challenges faced by developing countries due to increasing life expectancy.

2017 : Examine the causes and consequences of forced migration of population in the present context.

2017 : “There are considerable demographic similarities between West European nations and Japan”. Explain.

2017 : Explain the concept of social capital in relation to India.

2018 : Explain the concepts of “megalopolis” and “exopolis” with regard to the growth of cities indicating whether the two can and do overlap.

2018 : Citing examples from Asia and Europe, comment upon the contexts within which pronatalist population policies are advanced. What could be the implications of these policies on women’s workforce participation?

2019 : Explain the relationship between net reproductive rate (NRR) and true replacement level of population.

2019 : What do you mean by ‘climatic migrants’? Suggest appropriate policies and programmes for their resettlement.

- 2019 : What changes in the current planning, management and governance of human settlements are needed to face the changing environment including climate change and disaster vulnerabilities in cities?
- 2019 : Assess the challenges for countries with the largest shares of aged populations.
- 2020: Analyse India's food security in context of population growth.
- 2020: Distinguish between mobility and migration. What are the causes and consequences of rural to urban migration in India?
- 2020: Compare and contrast the Malthusian and Neo -Malthusian perspectives in the context of population growth, resource use and environmental impact.
- 2020: Discuss the concept of urban resilience in the context of planning for sustainable development with reference to towns and cities of India.
- 2020: Write an essay on gender equity and equality in India in the context of balanced human development.
- 2020: Provide an account of world population transition in the context of fertility decline and socio- economic development.
- 2021: Aging population has adverse social and economic consequences. Explain with examples.
- 2021: Small number of mega-cities are playing a key role in organization of global economics and culture. Explain.
- 2022: Examine the morphological factors that influence the origin and growth of towns.
- 2022 : “Over crowding leads to chronic problems of shortage of housing in Indian cities”. Explain citing relevant examples.
- 2022 : How migration is affected by push and pull factors? Explain how these factors play a role in understanding new settlement patterns.
- 2022 : Discuss the concept of ‘Rank-Size-Rule’ given by G. K. Zipf. Is this rule relevant in Indian context?

**Regional Planning:** *Concept of a region; Types of regions and methods of regionalisation; Growth centers and growth poles; Regional imbalances; regional development strategies; environmental issues in regional planning; Planning for sustainable development.*

1991 : No question. 1992 : No question.

1993 : No question.

1994 : Oil has placed in the hands of Arab nations a tremendous geopolitical weapon with which to wield power. Comment.

1995 : No question.

1996 : “Without the Mediterranean Europe could not be held, without the Middle East the Mediterranean could not be held”. Discuss.

1997 : No question. 1998 : No question. 1999 : No question.

2000 : What is a region? Discuss the types of regions and methods of regionalization.

2001 : Critically examine the role of growth centres and growth poles in regional development process.

2002 : To what extent do the regional patterns of economics development and human development in the world correspond with each other ? Highlight situations of departure, in particular.

2003 : No question.

2004 : Discuss various strategies for correcting regional imbalances.

2005 : What is a region ? Discuss the methods of regionalisation.

2006 : What is the concept of region ? Discuss the types of regions.

2007 : No question. 2008 : No question.

2009 : Highlight the significance of environmental issues in Regional Planning.

2010 : No Question

- 2011 : Ingredients of Sustainable Development.
- 2011 : Enumerate alternative strategies of planning for backward regions.
- 2012 : Salient feature of watershed planning and its advantages and disadvantages,.
- 2013 : Misra's theoretical stages of Rural-Urban Process.
- 2014 : Explain the relevance of bottom-up and top-down approaches in the development of agrarian economy.
- 2014 : Explain the necessary conditions of takeoff and subsequent stages of development of a nation as propounded by Rostow.
- 2015 : "Development planning has a component of environmental cost." Discuss.
- 2015 : "Geographical traits lead to regional imbalances." Examine.
- 2015 : "Vital statistics are necessary ingredients for development planning." Elaborate.
- 2016 : Elaborate the idea of 'Compage'.
- 2016 : What is a 'region'? Describe 'Thiessen' polygon method of regional delimitation.
- 2016 : In what ways can geographers contribute towards optimal land use planning in a region?
- 2017 : Examine the role of small towns in the regional development process.
- 2018 : No question.
- 2019 : What are natural regions? How are they different from planning regions?
- 2019 : "Growth is not uniform in different places." Critically examine this statement in the context of the growth pole theory.
- 2020: " Land degradation is a threat to productivity and sustainable resource management." Explain with suitable examples from India.
- 2020: Analyse the dynamics of industrial location in the metropolitan cities of India.
- 2021: Explain the processes of contagion and hierarchical diffusion in addressing regional imbalances.
- 2021: The environmental issues are not adequately addressed in the regional planning. Comment.



2022 :What are the high altitude environmental hazards? Explain with suitable examples.

2022: Discuss the role of transportation accessibility in regional development.

2022: Explain in detail the impact of regional disparities on economic development.

**Models, Theories and Laws in Human Geography: *Systems analysis in Human geography; Malthusian, Marxian and demographic transition models; Central Place theories of Christaller and Losch; Perroux and Boudeville; Von Thunen's model of agricultural location; Weber's model of industrial location; Ostov's model of stages of growth. Heartland and Rimland theories; Laws of international boundaries and frontiers.***

1991 : No question.

1992 : Discuss on the theories of Industrial location propounded by any two of the following :Weber : Hoover and Smith.

1993 : Define umland and discuss, with specific examples, the criteria for its delimitation.

1994 : Discuss Van Thunen's model of agricultural land use and examine if the model is applicable to India.

1995 : Explain and illustrate the models of internal structure of cities as proposed by Burgess and Hoyt. Mention also the limitations of these models.

1996 : No question.

1997 : Critically examine Alfred Weber's Theory of the Location of Industries.

1998 : No question. 1999 : No question.

2000 : Explain the basis and applicability of Christaller's Central place theory. Bring out the recent modification.

2001 : No question. 2002 : No question.

2003 : Critically examine the stages of Economic Growth Model propounded by Rostov. Illustrate your answer with suitable examples.

- 2004 : To what extent are the Heartland and Rimland theories helpful in understanding the world political situation today ? Express your opinion clearly.
- 2005 : Examine the Heart -Land theory , and assess its merits and demerits.
- 2006 : Write down main agriculture types and their associated features with special reference to Whittlesey. Show these regions on the World map provided to you.
- 2007 : No question.
- 2008 : No question.
- 2009 : No question.
- 2010: No question.
- 2011 : Isodapne in the Theory of Industrial Location.
- 2011 : Distinguish between boundaries and frontiers. Identify different types of boundaries.
- 2011 : Discuss Systems Approach and its applicability in Geography.
- 2012 : No Question.
- 2013 : What are the basic postulates in the Central Place Model of Christaller?
- 2014 : No Question.
- 2015 : Discuss the relevance of Von Thunen's model on agricultural location in the contemporary context.
- 2016 : Explain 'Isodapane'.
- 2016 : Discuss the application of Gravity model in Geographical studies.
- 2016 : Define and differentiate between boundaries and frontiers. Describe the geometrical boundaries with suitable examples.
- 2016 : Give a critical account of Losch's theory of central places.
- 2017 : Write an explanatory note on geographical systems.
- 2017 : Discuss the applicability of Christaller's Central Place Theory.

- 2017 : “The Heartland Theory is gaining importance once again”. Comment.
- 2018 : Write a note on “forward and backward linkages’ in Perroux’s thesis of economic growth and regional development.
- 2018 : Outline briefly the “age of mass consumption” as ` described by Rostov in his ‘multi-stage theory of growth’.
- 2019 : Distinguish between ‘isodapanes’ and ‘isotims’. Critically examine the least cost theory of industrial location given by Alfred Weber.
- 2019 : Examine the relevance of the ‘rim land theory’ in the contemporary world.
- 2020: Write note on the relevance of Von Thunen's agriculture location theory in present context.
- 2020: In modern world most of the frontiers have been replaced by boundaries. Explain with reasons.
- 2020: Discuss how and why Mackinder modified his concept of Pivot Area after World Wars?
- 2021: Examine the relevance of the Central Place Theory of Christaller in the present context.
- 2021: Boundaries are important in geopolitics. Explain. What issues develop from the inclusionary and exclusionary aspects of borders?
- 2021: Present a critical account of Alfred Weber Theory of Industrial location.
- 2022 : Explain the relevance and applicability of Von Thunen theory of Agriculture-location in today’s world.

## **Geography Optional**

### **QUESTION PAPER ANALYSIS (INDIAN HUMAN GEOGRAPHY -PAPER-II)**

**1991 - 2022**

## INDIAN HUMAN GEOGRAPHY (SYLLABUS)

**Cultural Setting:** Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas and their problems; cultural regions; Growth, distribution and density of population; Demographic attributes: sex-ratio, age structure, literacy rate, work-force, dependency ratio, longevity; migration (inter-regional, intra-regional and international) and associated problems; Population problems and policies; Health indicators.

**Settlements:** Types, patterns and morphology of rural settlements; Urban development's; Morphology of Indian cities; Functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; Slums and associated problems; town planning; Problems of urbanization and remedies.

**Regional Development and Planning:** Experience of regional planning in India; Five Year Plans; Integrated rural development program; Panchayati Raj and decentralized planning; Command area development; Watershed management; Planning for backward area, desert, drought prone, hill, tribal area development; multi-level planning; Regional planning and development of island territories.

**Political Aspects:** Geographical basis of Indian federalism; State reorganization; Emergence of new states; Regional consciousness and interstate issues; international boundary of India and related issues; Cross border terrorism; India's role in world affairs; Geopolitics of South Asia and Indian Ocean realm.

**Contemporary Issues:** Ecological issues: Environmental hazards: landslides, earthquakes, Tsunamis, floods and droughts, epidemics; Issues relating to environmental pollution; Changes in patterns of land use; Principles of environmental impact assessment and environmental management; Population explosion and food security; Environmental degradation; Deforestation, desertification and soil erosion; Problems of agrarian and industrial unrest; Regional disparities in economic development; Concept of sustainable growth and development; Environmental awareness; Linkage of rivers; Globalization and Indian economy.

*Note : Candidates will be required to answer one Compulsory map question pertinent to subjects covered by this paper.*

**Cultural Setting:** Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas and their problems; cultural regions; Growth, distribution and density of population; Demographic attributes: sex-ratio, age structure, literacy rate, work-force, dependency ratio, longevity; migration (inter-regional, intra-regional and international) and associated problems; Population problems and policies; Health indicators.

- 1991 : Identify the major tribal communities in India by regions and examine the problems common to all of them and the ways of their solution.
- 1992 : Examine critically the major factors responsible for the growth of two highest population density zones in India.
- 1992 : Salient features of Tribal area planning.
- 1993 : Elucidate the current population policy of India and comment on its effectiveness.
- 1993 : Analyse the changes in the literacy rate during the post- independence period in India.
- 1994 : Elucidate the population density types in India.
- 1995 : Discuss the problems of tribal areas in India.
- 1995 : Elucidate the measures taken to limit the growth of population in India.
- 1996 : Name the million cities of India according to 1991 census and critically examine the factors for unprecedented growth in their population in the last 40 years.
- 1996 : Explain the salient features of the tribal development programme with particular reference to either Dandakaranya or Chotanagpur.
- 1997 : Examine the genesis of racial diversity in India.
- 1997 : Critically examine the factors affecting the distributional pattern of population in India.
- 1998 : Critically examine the problems and prospects of tribal areas in India.
- 1998 : Discuss the role of languages in regional consciousness and national integration in India.
- 2000 : Analyse the distribution of population in India in the perspective of nature resources and identify the over- population and under-population region in the country.
- 2001 : Elucidate the sex and age structure of the population of India.
- 2002: In what way the language, religion and tradition can form the basis of cultural regionalization of India ?
- 2003 : No question. 2004 : No question. 2005 : No question. 2006 : No Question 2007 : No Question 2008 :No Question 2009 : No Question 2010 : No Question 2011 : No Question

2012 : Factors affecting innovation diffusion.

2012 : Linguistic diversity in North-eastern states.

2012 : Geographical reasons for the variation in literacy from state to state in India.

2012 : Evaluate the population policy of India and examine its relevance to the nation's population control.

2012 : How age structure affects dependency ratio? Explain with suitable examples.

2013 : What do you understand by 'Young India'? How can the present state of population composition be converted into an asset for the country?

2013 : Describe the impact of linguistic diversity on the development of various regions of India.

2014 : Highlight the implications of declining child sex ratio in India.

2014 : Discuss the trends in emigration focusing on its major thrust.

2015 : "Age-sex pyramid is representative of the history of a region." Explain.

2015 : Discuss the social and spatial ramifications of increasing longevity.

2015 : In population planning, the thrust of the Government has been 'planning the population' not 'plan for the population'. Elaborate.

2016 : Point out the ethnic disparities in the N.E. India.

2016 : Discuss the factors influencing the distribution of sex ratio in India.

2017 : "Linguistic diversity is an asset as well as a challenge in India". Explain the statement focusing on the distribution of languages and the major steps taken to address the related issues.

2018 : Critically assess the vanishing ethnic linguistic plurality of India.

2018 : Discuss the socio-economic problems associated with the left behind families of international migrants from India.

2019 : No Question

2020 : Identifying areas covered under tribal sub-plan, discuss the programmers initiated to address to their problems.

2020 : The process of demographic transition is not uniform in India. Examine this statement in the context of demographic transition theory.

2020 : Analyze the changing nature of workforce composition vis-à-vis rural-urban divide in India.

2021: Critically examine the relevance of Ravenstein's law of population migration with reference to India.

2022: How would decline in Total Fertility Rate (TFR) below the replacement level, in many states of India affect the future population structure of the country?

**Settlements: Types, patterns and morphology of rural settlements; Urban developments; Morphology of Indian cities; Functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; Slums and associated problems; town planning; Problems of urbanization and remedies.**

*Types and patterns of rural settlements; Environmental issues in rural settlements; Hierarchy of urban settlements; Urban morphology: Concepts of primate city and rank- size rule; Functional classification of towns; Sphere of urban influence; Rural - urban fringe; Satellite towns; Problems and remedies of urbanization; Sustainable development of cities. Central Place theories of Chris taller and Losch (Paper -I)*

1991 : Analyze the extent of urban population growth in India in the last four decades.

1991 : Explain the basis and characteristics of Dispersed Settlements in the N.E. Region of India.

1991 : Explain the hierarchical pattern of Indian cities and discuss their growth and distribution.

1992 : Major characteristics of the rural urban fringe.

1993 : Salient features of Tribal area planning.

1993 : Elucidate the current population policy of India and comment on its effectiveness.

- 1993 : Analyze the changes in the literacy rate during the post- independence period in India.
- 1994 : Elucidate the population density types in India.
- 1995 : Discuss the problems of tribal areas in India.
- 1995 : Elucidate the measures taken to limit the growth of population in India.
- 1996 : Name the million cities of India according to 1991 census and critically examine the factors for unprecedented growth in their population in the last 40 years.
- 1996 : Explain the salient features of the tribal development program with particular reference to either Dandakaranya or Chotanagpur.
- 1997 : Examine the genesis of racial diversity in India.
- 1997 : Critically examine the factors affecting the distributional pattern of population in India.
- 1998 : Critically examine the problems and prospects of tribal areas in India.
- 1998 : Discuss the role of languages in regional consciousness and national integration in India.
- 1999 : No question.
- 2000 : Describe the salient characteristics of the morphology of Indian cities.
- 2001 : No question. 2002 : No question. 2003 : No question.
- 2004 : ‘Economic characteristics of an area exert a much more direct effect upon its population patterns than do the physical characteristics’. Explain with examples.
- 2005 : No question.
- 2006 : Explain the processes and patterns of regional disparities in India and suggest measures for bringing about the regional balances.
- 2006 : Explain the morphology of Indian cities in the background of existing morphological models.
- 2007 : “Slums are urban menace” Elucidate with Indian cities as examples.
- 2008 : ‘Unplanned urban development has created numerous problems.’ Comment.



- 2009 : “ There is no sharp divide where an urban settlement stop and rural area begins.” Analyze the statement with reference to the sprawl of Indian cities.
- 2009 : How do the ‘Push’ and ‘Pull’ factors operate for the emergence of slums in the metropolises of India ?
- 2010 : Out line the role of class I and II towns in urban process of India and indicate their contribution towards balanced urban development.
- 2011 : Discuss the problem of environmental degradation generated by urban wastes in India.
- 2012 : Morphological characteristics of villages situated in hilly region.
- 2012 : Give an account of geographical conditions responsible for the development of different types of rural settlements in India.
- 2013 : City-regions as territorial unit for regional planning and development
- 2013 : Define slums and explain their problems.
- 2013 : Discuss the objectives of ‘Vision 2020’ in creation of viable village complex in India for ‘Inclusive Rural Development’ program.
- 2013 : Describe how urbanization creates air and water pollution in India.
- 2014 : Analyze the feasibility of ‘Smart Towns’ Development in India.
- 2014 : Account for the multiple problems of urban agglomerations.
- 2014 : How has an inappropriate urban land use policy accounted for undesirable development in and around metropolitan cities?
- 2015 : “Mono-functional towns are economically vulnerable.” Discuss.
- 2015 : Reduction in regional disparities has been one of the priority goals of national planning in India. How the proposed new Smart urban centers may contribute to the process?
- 2016 : How do slums develop? Give concrete suggestions for their improvement.
- 2016 : Present a comparative analysis of geographical factors responsible for distribution of human settlements in Rajasthan desert and North-Eastern regions of India.

- 2016 : Describe the causes and effects of urbanization in India and explain its impact on rural landscape and urban ecology.
- 2017 : Small towns in India have problems and prospects of their own. Elaborate.
- 2017 : Mention various methods of functional classification of towns in India and explain the method applied by Asok Mitra.
- 2018 : Explain the contemporary agricultural scenario in the context of rapid urbanization in India.
- 2018 : Examine the driving forces of changing urban morphology of million-plus cities of India with suitable examples.
- 2018 : Peri-urbanization has created enormous environmental problem. Discuss their causes and consequences with reference to the National Capital Region (NCR) of India.
- 2018 : Describe the changing regional morphology of rural settlements in India.
- 2019 : Provide a reasoned account on emerging conurbations in India and explain with suitable examples the problems associated with it.
- 2020 : Give a reasoned geographical account of changing rural folk houses in india.
- 2020 : Identify challenges faced by generative and parasitic towns in India and their possible remedies.
- 2020 : Urban sprawl around planned cities evolve leading to emergence of squatter settlements. Discuss the advantages and disadvantages of such outgrowth.
- 2021: Discuss Ashok Mitra's classification method of Indian cities.
- 2021: Critically examine the importance of the Smart Cities Programme for solving the urban problems in India.
- 2022: Examine the role of high population concentration in Indian slums in making them more vulnerable during pandemic conditions like the COVID-19.
- 2022: What are the drivers of urban sprawl around the major cities of the country? How have new investments in transport projects supported sprawl development?

**Regional Development and Planning: Experience of regional planning in India; Five Year Plans; Integrated rural development program; Panchayati Raj and decentralized planning; Command area development; Watershed management; Planning for backward area, desert, drought prone, hill, tribal area development; multi- level planning; Regional planning and development of island territories.**

1991 : Discuss the changes brought about in Indian agriculture by the successive Five-Year Plans, mentioning their successes and failures.

1992 : Examine critically the advantages and disadvantages of multi-level planning with special reference to India.

1993 : Discuss briefly the overall pattern of inter-regional trade in India.

1994 : Discuss the growth of regional planning in India and account for regional disparities in development.

1995 : Give the hierarchy of planning regions and bring out the role of metropolitan planning in fostering regional development in India.

1996 : Explain the criteria used in the identification of drought- prone areas in India.

1996 : Magnitude of regional imbalances in economic development in India.

1997 : Evaluate the benefits of Block Level development planning in India.

1997 : Draw a sketch map of India showing major river basins. Examine the feasibility of the concept of river basins as a planning unit.

1998 : No question.

1999 : Nature and utility of multi-level planning in India.

1999 : Analyze the causes of regional disparities in the economic development of India and suggest measures for their removal.

2000 : No question.

2001 : Provide the geographical background and characteristics of the distribution of Hill Stations of India.

2001 : Explain the concept of watershed and its utility in land management.

- 2002 : Give a reasoned account of regional disparities in economic development in India and bring out the contribution of decentralized planning in solving this problem
- 2003 : Discuss the programs and policy development of dry areas in India.
- 2003 : Present an account of the experience of regional planning in India in the context of Damodar Valley.
- 2004 : Examine the regional development policy of India in various Five Year Plans.
- 2005 : Give an account of the distribution of flood-prone areas of controlling the impact of floods in the country.
- 2005 : Examine the relationship between geography and regional planning
- 2005 : Discuss the experiences of regional planning in India in the context of the National Capital.
- 2006 : Present an account of tribals, tribal areas and their problems in India.
- 2007 : No Question.
- 2008 : Discuss the problems and prospects of development of catchment and command areas.
- 2009 : No Question.
- 2010 : What is regionalism and Discuss how regionalism affects the development process with suitable examples.
- 2011 : Discuss the spatial pattern of intra-regional migration in India and examine its implications in regional development.
- 2011 : Identify the ravine-affected areas in India and discuss the environmental and economic impact of their reclamation.
- 2012 : Elucidate the role of Tribal Development Blocks in the development of Tribal areas.
- 2013 : Planning and development of 'Tribal Regions' in India.
- 2013 : Enumerate the basic indicators of development and explain their application in identification of the spatial diversity in development in India.
- 2014 : Comment on the criteria of identifying Drought Prone Areas in India.

- 2014 : Evaluate the Backward Regions Grant Fund Program.
- 2014 : How can a meaningful skill development program contribute to the economic growth of hill areas?
- 2014 : Discuss the concept of Command Area Development and evaluate its success with reference to Indira Gandhi Canal.
- 2015 : Discuss the relationship of watershed approach to village level planning.
- 2015 : Decentralized planning through the strengthening of the Panchayat systems is the focus of planning in India in recent times. Suggest a blueprint for an integrated regional development plan.
- 2015 : Is planning for a cluster of villages a viable option, when planning for backward areas of the country? Discuss with suitable examples.
- 2015 : Discuss the concept of multi-level planning as practised in India, and explain the implications of 73rd and 74th Constitutional Amendments in this respect.
- 2016 : Describe the major tribal regions of India and their problems.
- 2016 : Examine the causes of regional disparities in economic development in India.
- 2017: Discuss the freshwater crisis in India and prepare a blueprint for its sustainable management.
- 2017: “An effective three-tier Panchayat Raj System will strengthen the bottom-up approach to multilevel planning in India”. Explain.
- 2017: Explain the role of ‘Hill Transport Subsidy Scheme’ in reducing regional imbalances in areas identified by the Government of India.
- 2017: Goods and Services Tax (GST) has differential impact on developed and backward States of the country. How and why?
- 2017: Interlinking of rivers may serve as a major source of assured irrigation and all-weather inland navigation in India. Comment on its feasibility taking into account physical, economic and ecological implication.

- 2018 : Examine the role of people's participation in successful decentralized planning in India.
- 2019 : Discuss how watershed management has become a tool in eradication of rural poverty in India.
- 2019 : "Intra basins linkages of rivers are more feasible economically, socially and ecologically". Discuss with Suitable example from India.
- 2019 : Analyze the role of interstate migration in regional disparity in India.
- 2019 : Analyze the incentive oriented programs for removing regional imbalances in socio-economic development of India.
- 2020 : The success of Panchayati Raj depends upon meaningful participation of people grass root level. Examine.
- 2021: Critically examine how the Panchayati Raj system is a catalyst in decentralized planning in India
- 2021: Discuss the Command Area Development Programme and its impact on eliminating regional inequalities in India.
- 2021: Discuss the role of watershed management for soil and water conservation in hilly regions of India.
- 2022: Why do disparities in development and incomes between regions persist in large countries like India? How does the recent ADP plan address the issue?

**Political Aspects: Geographical basis of Indian federalism; State reorganization; Emergence of new states; Regional consciousness and inter state issues; international boundary of India and related issues; Cross border terrorism; India's role in world affairs; Geopolitics of South Asia and Indian Ocean realm.**

***Heartland and Rim land theories; Laws of international boundaries and frontiers.***

- 1991 : Discuss the political issues involved in the 'Tin Bigha' or Siachen dispute. (Short notes).
- 1992 : No question.
- 1993 : Examine critically the geographical basis of the Indian federation.

- 1994 : Problems of militancy in India's border states. (Short notes).
- 1995 : Importance of India in the geopolitics of the Indian Ocean realm. (Short notes).
- 1996 : Geographical basis of the Indian Federation. (Short notes).
- 1997 : Explain the basis and consequences of the establishment and implementation of recommendations of the State Re-organisation Commission in India since 1950s.
- 1998 : Discuss the geopolitical importance of Indian Ocean area. (Short notes).
- 1999 : Regional consciousness versus national integration in India. (Short notes).
- 2000 : No question.
- 2001 : Discuss the geopolitical importance of India's Land Boundaries.
- 2002 : No question. 2003 : No question. 2004 : No question. 2005 : No question 2006 : No Question 2007 : No Question
- 2008 : Critically examine the bases of state reorganisation in India since independence.
- 2009 : No Question 2010 : No Question 2011 : No Question 2012 : No Question 2013 : No Question
- 2014 : Discuss the implications of India's strategic location with reference to the Indian Ocean.
- 2014 : India is involved in a number of border disputes. Explain the reasons and remedies.
- 2015 : How has India's 'Look East' policy taken shape in the past two decades and how it may affect India's external trade?
- 2015 : Indian island territories are vulnerable to the sea level rise. Explain.
- 2015 : Give a reasoned account of river water disputes related to the River Krishna.
- 2016 : No Question
- 2017 : Explain the inter-State issues involved in implementation of the Satluj-Yamuna Link Canal Project.
- 2017 : Identify the Naxal-affected areas in India and discuss their socio-economic problems.

- 2017 : Bring out the geopolitical implications of Doklam dispute in the context of Indo-China relations.
- 2017 : Religious minorities are largely concentrated in border States of India. Discuss its causes and consequences.
- 2018 : Discuss the strategies of integrated development of island territories in India.
- 2018 : Cross border terrorism has implications on border area development in India. Examine it with suitable examples.
- 2018 : Is the land boundary of India with its neighbouring countries a cultural divide or divided culture? Explain with suitable examples.
- 2019 : Discuss the political aspects of Himalaya. Explain how it has affected the geo-strategy, geo-politics and regional consciousness of Indian federalism.
- 2019 : "Indian is emerging as global power in relation to Indian ocean realm." Elaborate.
- 2020 : Has the regional aspiration of the people of Jammu and Kashmir been addressed through re-organization of the state? Make an assessment.
- 2020 : Border area development is an important national priority. What are the resilient steps needed for peaceful borders?
- 2020 : Describe the economic, maritime and strategic interests of India in South China Sea.
- 2021: Critically examine the problems of inter-State border disputes in India.
- 2021: Discuss the geopolitical impact of the bilateral relationship between India and Bhutan.
- 2022: Discuss the continuing disputes on water sharing between the riparian states of North-West India.
- 2022: Can the Panchayat Raj institutions play a role in grassroot level planning in India? If yes, discuss how.
- 2022: Kalapani dispute has opened a new front on the India-Nepal international border. Explain.
- 2022: Discuss the emergence of linguistic regions and states in India.



2022: Discuss the geopolitical significance of Quad in the Indo-Pacific realm with reference to marine trade in the region.

**Contemporary Issues: Ecological issues: Environmental hazards: landslides, earthquakes, Tsunamis, floods and droughts, epidemics; Issues relating to environmental pollution; Changes in patterns of land use; Principles of environmental impact assessment and environmental management; Population explosion and food security; Environmental degradation; Deforestation, desertification and soil erosion; Problems of agrarian and industrial unrest; Regional disparities in economic development; Concept of sustainable growth and development; Environmental awareness; Linkage of rivers; Globalization and Indian economy.**

1991 : Critically examine the relationship between deforestation the last four decades. .

1992 : No question. 1993 : No question.

1994 : Examine the nature and extent of environmental degradation in the Himalayas.

1994 : Explain the salient features of Sardar Sarovar Project and elucidate the controversy related to its implementation.

1995 : No question. 1996 : No question.

1997 : Evaluate the nature of ecological problem in India and suggest measures for measurement.

1998 : No question. 1999 : No question.

2000 : Analyse the role of India in the geo-politics of the Indian Ocean region.

2001 : Explain the geographical characteristics of the regional distribution of earthquakes in India.

2002 : Explain the causes, impacts and remedial measures of earthquake disaster.

2003 : Explain the causes of regional disparities in economic development of the India.

2004 : Explain the causes, impacts and remedial measures of flood-hazards in Middle and Lower Ganga Plain.

2005 : No question

- 2006 : Explain the processes and patterns of regional disparities in India and suggest measures for bringing about the regional balances.
- 2007 : Discuss environmental problems of India in the context of rapid economic development and population growth.
- 2008 : No question
- 2009 : What are the causes and consequences of environmental degradation in India's industrial areas ? Give specific examples.
- 2009 : Discuss the impacts of globalization on India's industry and agriculture sectors.
- 2010 : Identify the regions affected by Chikangunya with the help of sketched map and bring out the regional pattern of the disease.
- 2010 : How does formation of national park help ecological restoration and conservation and Explain with suitable example.
- 2011 : Analyze the causes of desertification in India. Represent the decertified areas of the country on a sketch map and suggest remedial measures to control it.
- 2012 : Examine the origin, dimension and implications of the Sino-Indian border dispute.
- 2012 : Examine the relevance of linkage of rivers in India with special reference of Ganga-Cauvery linkage canal
- 2013 : Comment on the basis of creation of new States in India in 2000.
- 2013 : Write a note on geopolitics of the Indian Ocean realm. 2014 : No Question
- 2015 : Outline the Government of India's strategies of conservation of the Western Ghats.
- 2015 : Account for the growing frequency and intensity of floods in India, and suggest short- and long-term remedial measures indicating the chronically flood-prone areas.
- 2015 : How does climate change affect the process of desertification of India?
- 2016 : Explain the role of India in the geo-politics of South Asia.
- 2016 : Analyze the pattern of India's trade with the S-E Asian countries.

- 2016 : Explain the origin, dimension and implications of Sino- Indian border dispute.
- 2017 : What do you understand by soil pollution? Delineate the area vulnerable to it in India and suggest remedial measures.
- 2017 : Why has solar energy in India not been developed to desired level in spite of its high potential?
- 2018 : Explain the changing river sources and their impacts on the riparian population in India with suitable examples.
- 2018 : Describe the socio-spatial consequences of the recent Nipah viral encephalitis in India.
- 2019 : Give a reasoned account of high level of pollution in North Indian cities as compared to south Indian cities.
- 2019 : Describe the altitudinal and spatial geo-environmental hazards in the Himalayas.
- 2020 : Stunting and wasting among children are major consequence of food in insecurity. Discuss various schemes of Government of India to address insecurity. Address these problems and their achievements.
- 2020: Avalanche is a major hazard in the Himalayas. What are its causes and mitigation measures?
- 2020 : Demarcating the seismic zones of India, suggest suitable interventions required most sensitive seismic zones for sustainable human settlements.
- 2021: Landslide is a major problem in the Himalayan region. Discuss its causes and mitigation measures.
- 2021: Appraise why drought is one of the most common climatic extremes in India.
- 2021: Discuss the ecological and economic challenges of river linking in India.
- 2022: Why has extreme particulate pollution remained a festering issue in Delhi NCR region?
- 2022: The process of desertification leads to soil desiccation and soil loss. Explain.
- 2022: Groundwater contamination in the fast expanding urban landscape of India appears to have become a major public health issue. Discuss.
- 2022: Incidence of extreme rainfall events and flash floods in recent times have led to devastating consequences for people living in low-lying areas and flood plains of the country. Discuss.
- 2022: Evaluate the role of the National Food Security Act, 2003 in providing access of food to the poor in India.

*Note : Candidates will be required to answer one Compulsory map question pertinent to subjects covered by this paper.*

**1991 :**

1. Bhadravati
2. Chumbi Valley
3. Lakshadweep
4. Palk Strait
5. Hirakud Reservoir
6. Parasnath Hill
7. Port Blair
8. Main Boundary Fault
9. Bombay High
10. Areas receiving less than 25 cm (10") rainfall

**1993 :**

1. Pokaran
2. Banihal
3. Kolleru Lake
4. Minicoy Is.
5. Maikal Range
6. Sabarmati River
7. Nunmati
8. Bababudan Hills

**1992 :**

1. Kalpakkam
2. Shyok Valley
3. Salsett Is.
4. Adam's Bridge
5. Farakka Barrage
7. Itanagar
8. Somnath
9. Khetri
10. Alignment of Konkan Railway under construction

9. Singrauli Coalfield

10. 35°C June Isotherm

**1994 :**

1. Barren Island
2. Marmagao
3. Agartala
4. Vadodara
5. Tapi
6. Rana Pratap Sagar
7. Kavaratti Island

8. Leh

9. Badrinath

**1995 :**

1. Malwa Plateau

2. Pamban Island

3. Zaskar Range

4. The Godavari

5. Koyana Project

6. Gold mines of India

7. Ranthambore

8. Barauni

9. Nanda Devi biosphere

10. Atomic Power Project in U.P.1.0.  
Rourkela

**1996 :**

1. Kolleru lake

2. Maikal range

3. Palghat

4. Darjeeling

5. Ellora

6. Rann of Kachchh

7. January Isotherm of 20°C

8. Ghaghara river

9. Bokaro

10. Corbett Park

## 1997 :

1. Mettur Dam
2. Kaziranga Park
3. Loktak Lake
4. Puri
5. Vindhyan Mountains
6. Mahanadi
7. Itanagar
8. Haldia
9. Sunderbans
10. Khetri copper mines

## 1998 :

1. Hirakud Dam
2. Konkan Coast
3. Satpura Range
4. Narmada River
5. Lava Region
6. Pradip Port
7. Visakhapatnam
8. Lucknow
9. Chilka Lake
10. Bangalore

## 1999 :

1. Farakka barrage
2. Kavaratti

3. Manali-Leh highway
4. Majuli riverain island
5. Rajmahal hills
6. Palghat gap
7. Chhatisgarh plain
8. Luni river
9. Karwar
10. Anadpur Sahib

## 2000 :

1. Cauvery
2. Narmada River
3. Chilka lake
4. Nagarjunsagar
5. Agra
6. Cochin
7. Satpura range
8. Aravalli hills
9. Bombay High
10. Kaziranga National Park
11. Kargil region
12. National Highway No. 7

## 2001:

1. Harishchandra range
2. Bhima River
3. Semi Arid Climatic zone

4. Manas National Park

5. Anai Mudi

6. Sambhar lake

7. Digboi oil field

8. Baghelkhand

9. National Highway No.8

10. Anjar

11 Red and Yellow soil area

12. Minicoy Island

**2002:**

1. Blue Mountain

2. Tawa river

3. Dallirajhara mines

4. Marmugao

5. Coimbatore

6. Kodaikanal

7. Wular lake

8. Rourkela

9. Konkan railway

10. Laterite soils

11. Gulf of Mannar

12. Rana Pratap Sagar

**2003:**

1. Loktak Lake

2. Elephanta Island

3. Kali Sindh River

4. Ranikhet

5. Girnar Hills

6. Always

7. Shillong Plateau

8. Kolar Gold Mines

9. Salem

10. Rohtang Pass

11. Gobind Ballabh Pant Sagar

12. New Mangalore

**2004 :**

1. Gulf of Kachchh

2. Indravati river

3. Mount Abu

4. Ganga river waterway from Allahabad

5. Dhauladhar

6. Kudermukh

7. Block Soils

8. Nagarajun Sagar

9. Bhuj

10. Rajrappa fall

11. Dimapur

12. Gulmarg

**2005:**

1. Jawahar Lal Nehru Port

2. Chandra Bhaga River

3. Kiamur Range

4. Dhalousie

5. Ganga Sagar

6. Indira Point

7. Cardamom Hills

8. Bombay High

9. Nag Pahar

10. Gersoppa Falls

11. Pulicate Lake

12. Kakinada

**2006 :**

1. Malaygiri

2. Sibsagar

3. Khetri

4. Sind River

5. Kalakot

6. Nathula Pass

7. Renukoot

8. Sabarigiri

9. Surendranagar

10. New Moore Island

11. Javadi Hills

12. Kolleru Lake

**2007 :**

1. Najarjun Sagar

2. Dharmasala

3. Aizawl

4. Konkan Railway

5. Kovalam Beach

6. Periyar Wildlife Sanctuary

7. ICRISAT

8. Vishakhapatnam Port

9. Panna

10. Nuclear Fuel Complex

11. Gurgaon

12. Bodh Gaya

**2008 :**

1. Butcher Island

2. Gopalpur Beach

3. Lavasa

4. Gandhisagar

5. Nam Dapha

6. Pampore

7. Mount Harrier

8. Barail Ranges

9. Palitana



- 10 . NIO
- 11.Baltel
- 12.Pindari

- 18.Dalma Hills
- 19.Dhanjori Hills
- 20.Rangit river

## 2009

*Write in your answer script the significant geographical relevance or strategic importance of these locations, whether physical/Commercial/ economic/ecological/ environmental/cultural in not more than 30 words*

1. Akarimota
2. Kolleru Lake
3. Van Tivu
4. Silent valley
5. Amravati River
6. Pirotan Island
7. Mangla
8. Meghnagar
9. Shipki La
- 10.Bhachau
- 11.The home of Sunderi
- 12.Origin of river Narmada
- 13.Gokak
- 14.Ken river
- 15.Bailadila
- 16.Bhavani Sagar Dam
- 17.Kutralam Falls

## 2010 :

- 1.Narcondam or Narcondum
- 2.Kavvayi
3. Krishnapatnam
- 4.Shadnagar
5. Gahirmatha Beach
6. Point Calimere
7. JaitapurJaitapur
8. Parichha
9. Salto Kangri
- 10.Shencottah,
- 11.Banas
- 12.Falgu River
- 13.Sirpur or Sirpur Tandura
- 14.Sanand
- 15.Dras

## 2011 :

1. Badami
2. Mandvi
3. Dodital

- |  |                                      |
|--|--------------------------------------|
| 4. Yanam                               | <b>2013:</b>                         |
| 5. Netarhat                            | (1)Mishmi Hills                      |
| 6. Shamsabad                           | (2)Lipulekh Pass                     |
| 7. Lakshmantirth River                 | (3)Beas River                        |
| 8. Bara-Lacha-La                       | (4)Rihand Dam                        |
| 9. Kakolat Fall                        |                                      |
| 10.Singrauli                           | (5) Amarnath                         |
| 11.Daria Hills                         | (6) Rajgir                           |
| 12.Tree island                         | (7)Sindri                            |
| <b>2012 :</b>                          | (8) National Highway No. 24 (9)Churk |
| 1. Manas                               | (10) Indira Gandhi Canal             |
| 2. Bachau                              | <b>2014 :</b>                        |
| 3. Ganga river waterway from Allahabad | (i) Tharangambadi                    |
| 4. Indravati River                     | (ii) Namcha Barwa                    |
| 5. Amaravati River                     | (iii) Narcodam                       |
| 6. Pir Panjal Ranges                   | (iv) Khajjiar                        |
| 7. Narkondam Island                    | <b>2015</b>                          |
| 8. Kharkai River                       | (i)Guru Shikhar                      |
| 9. Kalahandi                           | (ii) Bhor Ghat                       |
| 10.Kakarapara                          | (iii) Shravanabelagola               |
| 11.Murshidabad                         | (iv)Kalibangan                       |
| 12.Khetri                              | (v)Ganga Sagar                       |
| 13.Pawapuri                            | <b>Section -B</b>                    |
| 14.Kolhan Highland                     | (i)Mundra Port                       |
| 15.North Koel River                    | (ii)Chandipur                        |

(iii) Mahendragiri

(iv) Hazira

(v) Vembanad Lake

## 2016

(i) Pir Panjal Range

(ii) River Indravati

(iii) Nathu La Pass

(iv) Jog Falls

(v) Pulicat Lake

(vi) Kudankulam

(vii) Nalanda

(viii) Kudremukh

(ix) Headquarters of N.E. Railways

(x) Farakka Barrage

## 2017

(i) Thumba

(ii) Nayachar Island

(iii) Doddabetta

(iv) Devasthan

(v) Pangong Lake

(vi) Hampi

(vii) Havelock Island

(viii) Luni River

(ix) Daringbadi

(x) Dudhsagar Waterfalls

## 2018

(i) Shyok River

(ii) Mawlynnong

(iii) Shravasti

(iv) Kori Creek

(v) Amarkantak

(vi) Ghatshila

(vii) Tawang

(viii) Neyyar

(ix) Dandeli

(x) Mulshi Lake

## 2019

(i) Lothal

(ii) River Beas

(iii) Chikhaldara

(iv) Narora

(v) Lengpui

(vi) Kuldiha Wildlife Sanctuary

(vii) Thenmala

(viii) Anamudi

(ix) Barren Island

(x) Durgaduani Creek

## 2020

(i) Vadhawan

(ii) Salkhan

(iii) Coorg

(iv) Mhow

(v) Umroi

(vi) Thoothukudi

(vii) Bargarh

(viii) Atal Tunnel

(ix) Gurushikhar.

(x) Bum La

## 2021

1) Ziro Valley

2) Khecheopalri Lake

3) Toranmal

4) Subarnarekha River

5) Koderma

6) Sir Creek

7) Periyar Wildlife Sanctuary

8) Peechi Dam

9) Digha Beach

10) Pamban Island

## 2022:

1) Tarangambadi

2) Mahe

3) Bomdila

4) Dhola Sadiya Bridge

5) Talakaveri

6) Satkosia

7) Dholavira

8) Sonamarg

9) Maliku Atoll

10) Gangasagar

## Geography Optional

### QUESTION PAPER ANALYSIS (INDIAN PHYSICAL & ECONOMIC GEOGRAPHY)

#### 1991 - 2022

#### INDIAN PHYSICAL AND ECONOMIC GEOGRAPHY (SYLLABUS)

**Physical Setting:** Space relationship of India with neighboring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.

**Resources:** Land, surface and ground water, energy, minerals, biotic and marine resources; Forest and wild life resources and their conservation; Energy crisis.

**Agriculture:** Infrastructure: irrigation, seeds, fertilizers, power; Institutional factors: land holdings, land tenure and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro and social-forestry; Green revolution and its socio- economic and ecological implications; Significance of dry farming; Livestock resources and white revolution; aqua - culture; sericulture, apiculture and poultry; agricultural regionalization; agro-climatic zones; agro- ecological regions.

**Industry:** Evolution of industries; Location factors of cotton, jute, textile, iron and steel, aluminium, fertilizer, paper, chemical and pharmaceutical, automobile, cottage and agro - based industries; Industrial houses and complexes including public sector undertakings; Industrial regionalization; New industrial policies; Multinationals and liberalization; Special Economic Zones; Tourism including eco -tourism.

**Transport, Communication and Trade:** Road, railway, waterway, airway and pipeline networks and their complementary roles in regional development; Growing importance of ports on national and foreign trade; Trade balance; Trade Policy; Export processing zones; Developments in communication and information technology and their impacts on economy and society; Indian space program.

*Note : Candidates will be required to answer one Compulsory map question pertinent to subjects covered by this paper.*

**Physical Setting: Space relationship of India with neighboring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.**

1991 : Explain the origin and consequences of earthquakes in the Himalayas with special reference to the Uttarkashi earthquake.

1991 : Elucidate the character of the Himalayan Rivers and examine their role in the Indian plains.

1992 : Explain the characteristics and productivity of the 'Regular' back soils of India.

1992 : Major issues involved in the Sino-Indian boundary conflict. (Short notes).

1992 : Discuss the major characteristics of the Indian monsoon with special emphasis on the causative factors.

1993 : "India presents an example of unity in diversity".

- 1993 : Elucidate this statement in the context of India's physical and human aspects.
- 1993 : Delineate the flood-prone areas of India by drawing a sketch map in the answer book and discuss the causes and consequences of floods in the North Indian plains.
- 1994 : Explain the drainage characteristics of Peninsular India. (Short notes).
- 1994 : Discuss the recent theories put forward to explain the origin and mechanism of the Indian Monsoon.
- 1995 : Explain the factors responsible for uneven distribution of rainfall in India (Short notes).
- 1995 : Draw a sketch-map in your answer-book to delineate the main physiographic regions of India and provide a reasoned account of the relief and structure of the Himalayan region.
- 1996 : Examine the origin and characteristics of the antecedent drainage system of the Himalayas.
- 1996 : Draw a sketch-map in your answer-book to delineate the main climatic regions of India and discuss the important climatic characteristics of each region.
- 1997 : Discuss the origin and main geomorphic feature of Thar Desert of India.
- 1998: No question.
- 1999 : Explain the rise of the Himalayan ranges.
- 1999 : Elucidate the mechanism of the Indian Monsoon.
- 2000 : Describe the structure and relief feature of peninsular India.
- 2001 : Discuss the relief features of Indian Northern Plains.
- 2002 : Explain the Origin, Mechanism and characteristics of Summer Monsoon in India.
- 2003 : Highlight the salient differences between the Himalayan and the Peninsular drainage Systems.
- 2004 : Discuss the role of spatial pattern of rainfall and temperature in the delimitation of climatic regions of India, especially with reference to Stamp's climatic regionalization.
- 2005 : No question

- 2006 : Give a Critical account of the recent theories of origin of Indian monsoon with special reference of Jet Stream Theory.
- 2007 : Explain the different views put forth about the origin of Himalayas and divide Himalayas into vertical division
- 2008 : Distinguish between the Himalayan and the peninsular drainage systems.
- 2009 : Distinguish between the West and East coast of India in terms of their evolution , present topography and drainage pattern.
- 2010 : Explain Himalayan orogeny and illustrate how the process has affected the geomorphic characteristics of macro division of Himalayas.
- 2011 : Present a comparative analysis of the regimes of Himalayan and Peninsular rivers of India and examine their implications in the irrigation system of the country.
- 2011 : Identify the major biosphere reserves of India and discuss their role in the conservation of forest and wildlife.
- 2012 : Explain the structure characteristics of the Deccan Plateau.
- 2012 : Discuss the role of spatial pattern of rainfall and temperature in the delimitation of climatic regions of India, specially with reference to stamp's climatic regionalization
- 2013 : Explain the topographical and structural characteristics of the Siwalik Range.
- 2013 : Discuss the mechanism of Indian Monsoon.
- 2013 : Identify the earthquake-prone zones and suggest strategy for their management.
- 2014 : How is drainage pattern determined by the water divide?
- 2014 : Why has agro and social forestry failed to achieve its objectives?
- 2014 : Bring out the distribution of Laterite soils in India and their specific use for agriculture.
- 2014 : Describe the salient climatological characteristics of Rayalaseema region.
- 2014 : Differentiate between the 'intensity' and 'magnitude' of an earthquake and explain its varying impact in different parts of India.

- 2015 : Explain the pattern of winter rainfall in India
- 2015 : How does natural vegetation affect the formation of in situ soils.
- 2016 : Explain the shifting of river courses and river capturing in the Himalayas.
- 2016 : Discuss the role of spatial pattern of rainfall and temperature in the delimitation of climatic regions of India especially with reference to Stamp's climatic regionalization.
- 2016 : Describe the distribution of black soils in India and their specific use for agriculture.
- 2017 : Give a reasoned account of unusual pattern of distribution of monsoonal rainfall in India in 2017.
- 2017 : Justify the inclusion of Meghalaya in Peninsular India and discuss its vegetation and soil types.
- 2017 : Drainage pattern in Peninsular India is a result of its geological structure and topography. Elaborate.
- 2018 : Explain the unusual intensity of dust storms and thunderstorms across India in the pre-monsoon period of year 2018.
- 2018 : Distinguish the geographical aspects of North-Western lava plateau and Chotanagpur plateau of peninsular India.
- 2019 : Why is the Indian Monsoon erratic in nature ? Explain.
- 2019 : Discuss the rainfall pattern and correlate it with spatial distribution of natural vegetation in India.
- 2019 : Present the salient features of West flowing rivers of India.
- 2020: Climate change has unsettled the rhythm of seasons. Comment with examples and empirical evidences.
- 2020: Soil types in India, classified on the basis of color, possess specific chemical and mineral characteristics. Discuss.
- 2021: Discuss the economic significance of the volcanic soils of India.
- 2021: Describe the salient features of the east-flowing rivers of India
- 2021: Describe the problems of cloud burst in India giving suitable examples.



2021: Explain the impact of tropical cyclones and western disturbances on the climate of India.

2021: Describe the structure and relief features of the Deccan Plateau.

2022 : How do physiography and climate of India explain the biological diversity of the country?

2022: The process of desertification leads to soil desiccation and soil loss. Explain.

2022 : Critically examine the factors affecting the unpredictability of South West Monsoon system in India.

2022 : Soils of India , are clear reflections of the structure and process. Comment.

**Resources: Land, surface and ground water, energy, minerals, biotic and marine resources; Forest and wild life resources and their conservation; Energy crisis.**

1991 : No question.

1992 : Explain the distribution of major mineral resources of the Deccan plateau together with the extent of their exploitation.

1993 : Explain the geographical factors responsible for the growth of mangrove vegetation in India and discuss its role in coastal ecology.

1993 : Critically examine the marine resources of India and discuss the problems encountered in their development.

1994 : Examine the forest resources of India and explain the principles of conservation which could be applied to improve the forest wealth of India.

1995 : Examine the origin and characteristics of the soils of the North Indian Plain.

1995 : Examine the fossil fuel resources of India with particular reference to the present and future demands for energy.

1996 : Discuss the distribution and characteristics of the evergreen forest in India.

1996 : Critically examine the metalliferous mineral resources of India with particular reference to their present and future demand.

1997 : No question.

- 1998 : Examine the resources of Andaman and Nicobar Island.
- 1998 : Bring out the present day position of exploitation and processing of nuclear minerals in India.
- 1998 : Examine the pattern of distribution and mode of exploitation of bauxite in India.
- 1999 : Examine the need for conservation of biotic resources in India..
- 2000 : No question.
- 2001 : Explain the sequence of vegetation zones of the Himalayas.
- 2002 : No question. 2003 : No question.
- 2004 : Identify the important biotic-resource of India.
- 2004 : Highlight, in brief the problems and remedial measures of biotic resource conservation in India.
- 2005 : “ Non convention energy is the energy of the future in India.” Justify this statement.
- 2006 : No Question
- 2007 : Discuss the need of conservation and utility of water resource in India.
- 2008 : No Question
- 2009 : Discuss the formation and their distribution of the major soil types of India.
- 2010 : Discuss the spatial distribution of nature vegetation in India with help of sketch map.
- 2010 : Discuss the emerging pattern of surface water utilization in India.
- 2011 : Give an account of potentiality and prospects of development of marine resources of India.
- 2012 : Delineate the mineral belts of India and mention their distinctive features.
- 2013 : Delineate the coalfields of India and mention their distinctive features.
- 2014 : Location of thermal power plants and coal fields in India are not mutually conducive. Analyze.

- 2014 : Suggest the measures of wild-life conservation with reference to extinction of rare species.
- 2015 : Account for the geographical distribution of groundwater resources of India. How serious is its depletion in recent decades.
- 2016 : Give an account of the development of renewable resources of India.
- 2016 : Evaluate the impact of technology on resource utilization in India.
- 2017 : No Question
- 2018 : Why setting up of Water Management Boards is a controversial issue in India?
- 2018 : Keeping the recent developments in view, how can the energy crisis of India be circumvented by harnessing non-conventional energy resources?
- 2018 : Make a critical appraisal of the factors affecting river water quality in India.
- 2018 : Illustrate with suitable examples the endeavors undertaken in augmenting conservation of water and vegetation in India.
- 2019 : Examine the major causes of ground water depletion in India.
- 2019 : Discuss the problems of wildlife conservation and management in India.
- 2021 : Discuss the importance of solar energy in the future economic development of India.
- 2021 : Discuss the reserves, distribution, and production of all varieties of coal in India.
- 2021 : Discuss the salient features of Project Tiger in India.
- 2021 : Examine the critical issues of groundwater resources in India.
- 2022 : The peninsular location of India provides scope for harnessing non conventional energy resources. Discuss with examples.
- 2022 : Ground water contamination in fast expanding urban landscape of India appears to have become a major public health issue. Discuss.

2022 : India is bestowed with rich mineral resources due to its geological structure. Correlate the above statement with large mineral belts of India.

**Agriculture: Infrastructure: irrigation, seeds, fertilizers, power; Institutional factors: land holdings, land tenure and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro and social-forestry; Green revolution and its socio- economic and ecological implications; Significance of dry farming; Livestock resources and white revolution; aqua - culture; sericulture, apiculture and poultry; agricultural regionalization; agro-climatic zones; agro- ecological regions.**

1991 : What is meant by 'Operation Flood'? Discuss the manner of its implementation and its success in India.

1991 : Discuss the role of animal husbandry in the agricultural economy of India with special reference to any one region.

1992 : Explain the distribution and characteristics of dry zone agriculture.

1992 : What is meant by Green Revolution? Explain its successes and failures.

1992 : Discuss the role of social forestry in any one region of India.

1993 : Explain the role of institutional factors in the development of agriculture in India.

1994 : Differentiate between agricultural efficiency and agricultural productivity and discuss the methods used in the determination of agricultural efficiency in India.

1995 : Discuss the role of infrastructural, scientific and technological developments in the recent transformation of Indian agriculture.

1996 : Discuss the importance of irrigation in Indian Agriculture and describe the methods of irrigation practiced in either the Ganga Valley or the Karnataka-Maharashtra region.

1997 : Examine the significance of social forestry in the rural economy of India.

1997 : Discuss the impact of green revolution on the agricultural production in India.

1997 : Divide Peninsular India into agricultural regions. Explain the basis of such a regionalisation.

1998 : Discuss the role of institutional factors in the efficiency and productivity of agriculture in India.

1998 : Discuss the cropping patterns in different agricultural regions of India.

- 1999 : Write an essay on the role of animal husbandry and household industries in the development of rural economy in India.
- 2000 : Critically examine the role of infrastructural and institutional factors in the recent transformation of Indian agriculture.
- 2001 : Examine the geographical basis of agro-climatic planning regions of India.
- 2002 : Critically evaluate the dual impacts of green revolution in India.
- 2003 : Give an account of the success and prospects of Blue Revolution with comments on its impacts on rural economy of India.
- 2004 : No Question
- 2005 : Present an account of the success and constraints of White Revolution in India
- 2006 : Discuss the problems and prospects of dry zone agriculture in India and highlight strategies schemes for its development.
- 2007 : “The institutional factors have grip over the crop pattern and crop productivity on Indian agriculture.” Justify.
- 2008 : Discuss the bases of identifying agro-climatic zones and explain the core strategies for agricultural development
- 2009 : No Question
- 2010 : Assess as to how surface water utilization affects food production and food security in the country.
- 2011: Discuss the potentiality and status of aquaculture in the Ganga Plain.
- 2012 : Divide India into agriculture regions and critically examine the role of ecological and human factors responsible for transformation of agriculture economy in any one region.
- 2013 : Explain the method of delineating crop-association regions with reference to India.
- 2013 : Discuss the potentiality and present status of horticulture in the Western and Central Himalaya.
- 2013 : Discuss the role of institutional factors in shaping the pattern of Indian agriculture.

- 2013 : Define agricultural productivity. Mention the methods of its measurement and bring out the disparities in its regional distribution.
- 2013 : Snags in the Food Security Policy of India.
- 2014 : ‘In spite of various negative impacts of Green Revolution, there is a demand for New Green Revolution’. Elaborate.
- 2015 : Explain how modernization of Indian agriculture is affected by unfavourable institutional factors with suitable examples.
- 2015 : Distinguish between ‘agricultural productivity’ and ‘agricultural efficiency’, and bring out the disparity in regional distribution of agricultural efficiency.
- 2015 : With the help of a map, indicate the principal areas of dryland farming in the country and account for farmers’ suicides mainly in those areas.
- 2015 : Discuss the scope of replication of ‘White Revolution’ in India.
- 2016 : Define agricultural intensity and bring out its regional distribution in India.
- 2016 : “India has paid heavily for achievement of Green Revolution in the form of economic, social and ecological cost.” Discuss.
- 2017 : Farmers’ suicide is one of the major agrarian problems in India. Bring out its causes and suggest the remedial measures with special preference to Maharashtra, Andhra Pradesh and Punjab.
- 2017 : Land reform is a key to modern agriculture in India.
- 2017 : Describe various measures taken in this direction after Independence.
- 2018 : Examine the ongoing process of agricultural diversification and its implications for food security in India.
- 2019 : Explain the significance of dry farming in drought prone areas of India.
- 2019 : Correlate the agro-climatic zones with agro-ecological regions of India
- 2019 : Discuss the use of chemical fertilizer, pesticides and insecticides in agriculture and its impacts on human health.
- 2020 : Discuss the method of crops residue management in rural India to reduce pollution.

2020 : Identify oilseeds producing areas in India and the discuss the measure to promote edible oil industry.

2020 : The Essential Commodities (Amendment) Bill 2020 aims to deregulate the production, supply and distribution of farm produce. Critically examine its spatial consequences.

2020 : Elucidate the benefits of neem coated urea scheme for Indian agriculture.

2020 : Canal irrigation has led to mono cropping in India. Explain with suitable examples.

2020 : The pattern of growing ecological foot-prints is uneven in nature. Analyze with reference to land resources in India.

2021 : No Question

2022 : Discuss the recent changes brought about in institutional frameworks of agriculture in India. Evaluate its impact on agrarian economy of the country.

2022 : Discuss importance of "Dry Land " farming in drought prone regions of India.

2022 : How do agro climatic and land capability indicators assist in macro agriculture regionalization of India? Illustrate with an appropriate map.

**Industry: Evolution of industries; Location factors of cotton, jute, textile, iron and steel, aluminium, fertilizer, paper, chemical and pharmaceutical, automobile, cottage and agro - based industries; Industrial houses and complexes including public sector undertakings; Industrial regionalization; New industrial policies; Multinationals and liberalization; Special Economic Zones; Tourism including eco -tourism.**

1991 : Discuss the advantages and disadvantages of Industrial Centralization with specific examples.

1992 : Types of rural industries and their basis in Rajasthan, Gujarat region.

1993 : Growth of agro-based industries in Uttar Pradesh and Bihar.

1993 : Identify the important periods of industrialization in India and analyses the character of the two most developed industrial regions.

1994 : Identification of industrially backward areas and problems in their development.

- 1994 : Draw a sketch-map to delineate the major industrial complexes of India and discuss their important characteristics.
- 1995 : Recent changes in India's basic industrial policy.
- 1995 : Examine critically the factors for the localization of iron and steel industry in India with special reference to the newer centres of steel production.
- 1996 : Analyses the factors for the localization of either the cotton textile or the sugar industry in India and note the recent trends in the industry.
- 1997 : Analyse the locational pattern of cement industry in India.
- 1997 : Critically examine the locational pattern and trend of production of forest based industries in India.
- 1998 : Examine the importance of industrial estates in Indi 1998 : Bring out the trends in the development of fertilizer industry in India.
- 1999 : Discuss the factors for the localisation of either the cement or the cotton textile industry in India and analyse the pattern of its distribution.
- 2000 : Discuss the growth, location and distribution of iron and steel industries in India.
- 2001 : Describe the growth ,characteristic and distribution pattern of India's industrial regions.
- 2002 : No question. 2003 : No question. 2004 : No Question 2005 : No Question
- 2006 : Trace the evolution of industries in India and evaluate the role of multinational and liberalisation policies in this context.
- 2007 : Bring out the impact of multinational and liberalisation on the Industrial Economy/Pattern of India.
- 2008 : Explain the factors promoting the rapid growth and development of the automobile industry in India giving suitable examples.
- 2009 : Examine the role of raw materials in the location of the Iron and Steel Industry in India. Illustrate your answer with suitable examples.
- 2010 : No Question
- 2011 : Assess the scope and development of Pharmaceutical Industry in India.



- 2012 : Describe the development of textile industries in India.
- 2012 : Identify the spatial pattern of agro-industrial regions of India. Analyze the potentiality of Malwa as an important agro-industrial region of the future.
- 2013 : Identify the main industrial clusters of India and account for their development.
- 2013 : Explain the role of multinational in globalization of industries in India.
- 2013 : Discuss the problems in realization of benefits of globalization and liberalization in industrial sector of India.
- 2014 : Describe the problems of agro-based industries in India in general and cotton textiles in particular.
- 2014 : What are the desired possible changes in our trade policy to promote the development of cottage industry?
- 2015 : Why does the pharmaceutical industry concentrate largely in the western region of the country?
- 2015 : Why is the traditional crafts industry in India on the decline?
- 2016 : “The Bokaro Iron and Steel Plant is an example of Industrial Complex.” Explain.
- 2016 : Analyze the location, distributional pattern and problems of cotton textile industries in India. (In about
- 2016 : Explain the New Industrial Policies in India. (In about
- 2017 : Mini steel plants can act as an instrument of decentralization of iron and steel industry in India. Explain.
- 2018 : Startups may play important role in giving fillip to economic growth in India. Illustrate with examples.
- 2019 : Critically analyse the role of multinational corporations in India's economic development with suitable examples.
- 2019 : Examine ongoing space programmes of India and their implications for national security in future.
- 2019 : Explain the relevance of green tourism for sustainable development of mountain environment in India.

- 2020 : The Pharmaceutical industry in India depend on the import of raw material. Evaluate this statement in view of the Indo-Chinese relationship.
- 2020 : What kind of skill promotion program have been initiated for job deficient regions in India ? Explain
- 2021 : Give a reasoned account of the difference between the sugar industry of North and Peninsular India.
- 2021 : Examine the significance of ecotourism in relation to socio-economic development and biodiversity conservation in India.
- 2021 : Identify the major industrial corridors of India and discuss the characteristics of the Bengaluru-Mumbai Corridor.
- 2021 : Assess the growth of multinational corporations in the liberalized economic environment of India.
- 2022 : Discuss the salient characteristics of industrial complexes of Western India. Examine the impact of SEZ policy on the region

**Transport, Communication and Trade: Road, railway, waterway, airway and pipeline networks and their complementary roles in regional development; Growing importance of ports on national and foreign trade; Trade balance; Trade Policy; Export processing zones; Developments in communication and information technology and their impacts on economy and society; Indian space program.**

- 1991 : Analyze the role of different types of transport in the commodity flows of the Delta regions of East India.
- 1991 : Give an account of the major groups of agro based industries of India. Critically examine their contribution to regional economy and rural employment.
- 1992 : Discuss the basis on which the current network of Airways is built in India, highlighting its role in the overall transportation milieu.
- 1993 : Discuss briefly the overall pattern of inter-regional trade in India.
- 1994 : Competitive and complementary character of the Indian rail-route and road network.
- 1995 : Role of rural market centres in promoting intra and inter-regional trade.
- 1996 : Geographical impediments in the development of inland waterways in India..

- 1997 : Discuss the nature of commodity flows in India. 1998 : Evaluate the feasibility of the proposed Ganga- Cauveri Drainage link.
- 1998 : Explain the role of railways as a unifying factor in Indian economy.
- 1999 : Critically examine the complementary and competitive character of the Indian rail-routes and the road network.
- 2000 : No question. 2001 : No question.
- 2002 : Discuss the oil and natural gas pipeline networks in India. Highlight their complementary role in regional development.
- 2003 : Discuss the growing importance of ports in foreign trade of India.
- 2004 : Give a comparative account of the development of River Water Transport in Pre-colonial and Post- independence in regional development
- 2005 : What is the Golden Quadrilateral ? Discuss the progress made in its execution and impacts on India economy
- 2006 : No Question 2007 : No Question 2008 : No Question 2008 : No Question 2009 : No Question 2010 : No Question
- 2011 : Assess the growing importance of air transport in India and examine its role in the regional development of the country.
- 2012 : Examine the role of road transport in regional development taking suitable examples from an area you have studied in detail.
- 2013 : No question.
- 2014 : Discuss the problems and prospects of National Waterway No. 1
- 2015 : Evaluate the contribution of Communication and Information Technology to the development of economy and society, and examine the relevance of the recently launched 'Digital India' program.
- 2016 : Bring out the development of river water transport in India and its role in regional development.
- 2016 : Evaluate the impact of technology on resource utilization in India.

- 2017 : Critically examine the feasibility of development of a comprehensive network of airways in India.
- 2017 : Bring out the significance of Indian Regional Navigation Satellite System (IRNSS).
- 2018 : Assess the suitability of Special Economic Zone (SEZs) for the sustainable economic development in India.
- 2018 : Account for the persisting negative trade balance of India.
- 2018 : Give a critical account of region specific constraints of sustainable tourism in India.
- 2018 : Explain the pipeline network across India and its impact on regional development.
- 2018 : Discuss the changing composition of international trade through major seaports of India.
- 2019 : Examine the development of information technology in India and its influences on work culture and society.
- 2019 : With special reference to India examine the changes in the nature and patterns of international trade. Mention the major influencing factors.
- 2020 : India has opened-up its space to private sector for satellite based activities. Critically examine its implications indicating the major security concerns.
- 2020 : Digital Divide in India needs quick redressal to reduce regional disparity in development. Elaborate with suitable examples.
- 2020 : What are the characteristics of Blue Flag certified beaches? Discuss their significance for beach tourism in India.
- 2021: Examine how information and communication technology has boosted the development of certain regions of India.
- 2021: Critically assess the status of the balance of trade in India and suggest some measures to combat the issues.
- 2022 : Discuss the significance of new ports on the Western Coast of India on external trade of the country.
- 2022 : Critically examine the role of IRNSS-NavIC program on satellite navigation system of India.

## Geography Optional

### QUESTION PAPER ANALYSIS (PHYSICAL GEOGRAPHY -PAPER-I)

1991 - 2022

#### PHYSICAL GEOGRAPHY (SYLLABUS)

**1. Geomorphology:** Factors controlling landform development; endogenetic and exogenetic forces; Origin and evolution of the earth's crust; Fundamentals of geomagnetism; Physical conditions of the earth's interior; Geosynclines; Continental drift; Isostasy; Plate tectonics; Recent views on mountain building; Vulcanicity; Earthquakes and Tsunamis; Concepts of geomorphic cycles and Landscape development ; Denudation chronology; Channel morphology; Erosion surfaces; Slope development ; Applied Geomorphology : Geohydrology, economic geology and environment.

**2. Climatology:** Temperature and pressure belts of the world; Heat budget of the earth; Atmospheric circulation; atmospheric stability and instability. Planetary and local winds; Monsoons and jet streams; Air masses and front genesis, Temperate and tropical cyclones; Types and distribution of precipitation; Weather and Climate; Koppen's, Thornthwaite's and Trewartha's classification of world climates; Hydrological cycle; Global climatic change and role and response of man in climatic changes, Applied climatology and Urban climate.

**3. Oceanography:** Bottom topography of the Atlantic, Indian and Pacific Oceans; Temperature and salinity of the oceans; Heat and salt budgets, Ocean deposits; Waves, currents and tides; Marine resources: biotic, mineral and energy resources; Coral reefs, coral bleaching; sea-level changes; law of the sea and marine pollution.

**4. Biogeography:** Genesis of soils; Classification and distribution of soils; Soil profile; Soil erosion, Degradation and conservation; Factors influencing world distribution of plants and animals; Problems of deforestation and conservation measures; Social forestry; agro-forestry; Wild life; Major gene pool centers.

**5. Environmental Geography:** Principle of ecology; Human ecological adaptations; Influence of man on ecology and environment; Global and regional ecological changes and imbalances; Ecosystem their management and conservation; Environmental degradation, management and conservation; Biodiversity and sustainable development; Environmental policy; Environmental hazards and remedial measures; Environmental education and legislation.

## QUESTION TREND (1991 - 2022)

*Compilation of questions asked in UPSC Main Examination from 1991-2022 is to help you in comprehending the question trend and mould your answer writing skills accordingly*  
**Geomorphology: Factors controlling landform development; endogenetic and exogenetic forces; Origin and evolution of the earth's crust; Fundamentals of geomagnetism; Physical conditions of the earth's interior; Geosynclines; Continental drift; Isostasy; Plate tectonics; Recent views on mountain building; Volcanicity; Earthquakes and Tsunamis; Concepts of geomorphic cycles and Landscape development ; Denudation chronology; Channel morphology; Erosion surfaces; Slope development ; Applied Geomorphology : Geo hydrology, economic geology and environment.**

1991 : Analyze the sequential development of landforms in either Karst or Coastal region.

1992 : Discuss, with examples, the influence of volcanism and diastrophism on the evolution of landscape.

1993 : Explain the factors causing rejuvenation in landscape and describe the resultant landform.

1994 : Discuss the concept of cycle of erosion and bring out clearly the difference between the views of Davis and Penck.

1995 : Discuss the limitations of the theory of Continental Drift and show how the theory of Plate Tectonics is an improvement over it.

1996 : Discuss the processes of mechanical and chemical weathering and show their relationship with soil formation.

1997 : Discuss the concept of polycyclic landforms and present an analytical study of the polycyclic landforms of a selected region.

1998 : Discuss the concept of volcanicity and show how the theory of Plate Tectonics explains the mechanism of volcanism and volcanic eruptions.

1999 : Bring out the distinctions between the 'continental drift' theory and the 'plate tectonics' theory.

2000 : With reference to the theory of plate tectonics, explain the origin and growth of young fold mountain

2001 : Present a critical analysis of the theory of isostasy. 2002 : Provide a critique of the 'geographical cycle' model propounded by Davis.

- 2003 : Explain the sequential development of landforms associated with the coastal areas.
- 2004 : Describe the landforms which are products of endogenetic forces.
- 2005 : “ Structure is a dominant control factor in the evolution of Landforms” Discuss with suitable examples.
- 2006 : Critically evaluate the continental drift hypothesis of A.Wegener.
- 2007 : Define the concept of isostasy and discuss the postulations of Airy and Pratt.
- 2008 : Critically examine the concept of geomorphic cycle and discuss the views of W.M.Davis and W.Penck.
- 2009 : Highlight the geomorphic features essentially found in topographies under the Second Cycle of Erosion.
- 2009 : Discuss views on slope development provided by L.C.King.
- 2010 : Karst Topography ( Short Notes)
- 2010 : Bring out the relevance of seismic study in determining the structure of earth’s interiors
- 2010 : Weathering is a complex phenomenon involving a number of the process and is influenced by various factors.
- 2011 : Name the climatically controlled agents of erosion. Explain how they differ in terms of properties of matter. Compare the landforms produced by each one of them
- 2011 : Explain the concept of Isostasy as postulated by Airy and Pratt.
- 2012 : Palaeozoic glacial evidence for Continental Drift.
- 2012 : Systems approach to landforms analysis.
- 2012 : Explain how Bosche and Haldenhang lead to the Theory of Slope Replacement.
- 2012 : Characteristics of the standard epigene cycle of erosion.
- 2012 : Programmes initiated by the International Council of Science on Earth System Studies.
- 2013 : Differences between Normal cycle and Arid cycle of Davis.
- 2013 : What is ‘Base level’? Explain the types of base level.

- 2014 : Define the term ‘meander’ and describe the basic characteristics of entrenched meander and in grown meander.
- 2014 : State the concept of plate tectonics. How does it help in explaining the formation of the Himalayas and Appalachian Mountains?
- 2014 : Explain weathering and mass wasting, and describe their geomorphic significance.
- 2015 : Attempt a classification of geomorphic processes from the zonal point of view.
- 2015 : Discuss the contributions of the American School of Sub aerial Denudation in geomorphology.
- 2015 : Explain with examples as to how channel dynamics has been responsible for the development of alluvial fans and cones.
- 2015 : “Present-day landforms bear more complexity than simplicity.” Elucidate.
- 2016 : Describe the “Basket of eggs topography”.
- 2016 : “In explaining the concept of ‘Pediplanation’, King combined the ideas of Davis, Penck and Wood with his own.” Elaborate.
- 2016 : “Geological structure has a dominant control on landforms and is reflected on them.” Discuss.
- 2017 : Write a note on pseudovolcanic features.
- 2017 : “The knowledge of slope analysis has limited field application in the slope management”. Explain.
- 2017 : Discuss the concept of Periglacial cycle as propounded by Peltier.
- 2017 : “Climate, slope gradient and rock structure influence the avulsion of channels”. Explain.
- 2018 : “Landscape is a function of structure, process and stage.” Critique the statement.
- 2018 : Evaluate how far Kober’s geosynclinals theory explains the mountain building process.
- 2019 : Describe phreatic eruptions and their consequences.
- 2019 : How are sand spits and tombolos formed?
- 2019: Compare and contrast different types of plate boundaries.



- 2019 : Discuss the methods of measuring the intensity and magnitude of earthquakes. How are seismic zones demarcated?
- 2019 : The impact of floods on life and property can be most effectively reduced by hazard mapping. Comment.
- 2020 : Why is mapping important for geo-hydrological investigations? Explain with relevant examples.
- 2020 : Write an essay on evolution of continents and oceans using various theories and models.
- 2020 : Discuss the problems of erosion surfaces and explain the different methods to identify them with suitable diagrams.
- 2021 : Describe the concept of Altiplanation.
- 2021 : The concept of Plate tectonics has been derived from the isostasy and continent drift theory. Elaborate citing suitable examples.
- 2021 : Stream basins and drainage divides are important components to delineate a watershed area, explain.
- 2022 : Define 'speleotherm'. Discuss the various forms and features of speleotherms.
- 2022 : Explain how various aspects of channel morphology are used in transportation, settlement and land use planning, flood control and flood management?
- 2022 : Discuss the role of Slope, Altitude and Relief (SAR) in the landscape development.
- 2022 : With the help of suitable sketches describe the mountain genesis and mountain types. Give suitable examples from various mountain systems of the world.

**Climatology:** *Temperature and pressure belts of the world; Heat budget of the earth; Atmospheric circulation; atmospheric stability and instability. Planetary and local winds; Monsoons and jet streams; Air masses and fronto genesis, Temperate and tropical cyclones; Types and distribution of precipitation; Weather and Climate; Koppen's, Thornthwaite's and Trewartha's classification of world climates; Hydrological cycle; Global climatic change and role and response of man in climatic changes, Applied climatology and Urban climate.*

- 1991 : Explain the origin, distribution and characteristics of tropical cyclones.
- 1992 : Discuss the origin, movements and characteristics of air masses and explain their role in influencing world climates.

- 1993 : No question.
- 1994 : Explain the basis of Koppen's classification of climates. Also mention its merits and limitations.
- 1995 : Explain and illustrate the life-cycle of a temperate cyclone and also describe the weather associated with it.
- 1996 : Examine critically the drawbacks of Koppen's Classification of climates. Explain how Thornthwaite attempted to overcome Koppen's limitations.
- 1997 : Define air masses. How do they originate? Classify them and state the characteristics of any one type.
- 1998 : Discuss the nature and composition of earth's atmosphere.
- 1999 : Make a comparative study of the tropical and temperate cyclones.
- 2000 : Discuss the distribution of precipitation in the world.
- 2001 : Discuss the concept of air masses and present their classification.
- 2002 : Discuss the criteria which Thornthwaite adopted in his 1948 classification of world climates.
- 2003 : Discuss the mechanism and significance of tricellular meridional circulation of atmosphere.
- 2004 : No question.
- 2005 : Discuss the main features of the climatic classification system evolved by Koppen. Also point out its anomalies.
- 2006 : Compare the structure and associated weather conditions of tropical cyclone with that of temperate cyclone
- 2007 : Discuss the development of local winds, and their influence on local weather, giving three examples of the well-known local winds in the world.
- 2008 : Discuss the mechanism and origin of Monsoon winds and explain the role of El Nino on Monsoon circulation.
- 2009 : How does Climate Change affect urban areas ?

2010 : Inversion of temperature

2010 : What is polar front and How does cyclone develop along this front ? Describe the weather conditions associated with it.

2010 : Examine the various kinds of atmospheric humidity and their associated forms.

2011 : Give an account of global distribution of precipitation.

2011: " Contemporary global climate change is an anthropogenic phenomenon." Discuss

2012 : Compare and contrast tropical cyclone and temperate cyclone.

2012 : Classify air mass and explain how 'cP' air mass affects global climate.

2012 : Impact of Cryosphere on global climate.

2013 : Differentiate Storm Surges and Seiches.

2013 : With suitable examples, bring out the impact of local winds on the climate of an area.

2013 : Discuss Dew point and the various forms of condensation.

2014 : Discuss the salient features of 'sirocco' and 'mistral'.

2014 : Describe the origin and development of thunderstorms with examples.

2014 : Discuss the nature and origin of Indian monsoon and recent techniques of its prediction.

2015 : Discuss as to how frontogenesis contributes to weather instability.

2015 : What is Potential Evapotranspiration? Explain how it is used in assessing the water balance in an area.

2015 : Discuss the basis of Koppen's climatic classification. Bring out the salient characteristics of 'Cs' type of climate.

2015 : Explain the meridional circulation of the atmosphere and its importance in world climate.

2016 : Differentiate between insolation and temperature and explain anomalous temperature.

2016 : Compare the origin and weather conditions associated with the tropical and temperate cyclones.

- 2017 : Discuss the impacts of ocean currents on air mass behaviour.
- 2017 : Discuss the forces which govern the air movement on the Earth's surface.
- 2018 : Explain the role of evaporation in the hydrologic cycle.
- 2018: Critically examine the basis and scheme of climatic classification proposed by Trewartha.
- 2018 : Explain the origin, progress and retreat of the Indian monsoon and discuss its impact on the Indian economy.
- 2019 : Explain the techniques to calculate potential evapotranspiration suggested by Thornthwaite.
- 2019 : Explain the nature of urban climates and their impact on global environmental change.
- 2019 : Discuss in detail the tri-cellular model of atmospheric circulation.
- 2020: Write a geographical note on Halloween Storm.
- 2020: Explain how various factors influence the origin and development of Indian monsoon system.
- 2020: Explain the characteristic features of Frontogenesis and Frontolysis.
- 2021: What are important factors in air masses modifications?
- 2021: Examine major influencing factors for varied patterns of precipitation on the continents.
- 2021: Indicating causes of lightning, describe the threats associated with it.
- 2022 : What is pollution dome? Discuss its formation and impacts.
- 2022 : With suitable examples describe the impacts of movement of airmasses on weather and winds in different parts of the continents.
- 2022 : Describe how short term variations in temperature are related to the processes of receiving energy from the sun to the Earth's surface and dissipating it to the atmosphere.

**Oceanography: Bottom topography of the Atlantic, Indian and Pacific Oceans; Temperature and salinity of the oceans; Heat and salt budgets, Ocean deposits; Waves, currents and tides;**

*Marine resources: biotic, mineral and energy resources; Coral reefs, coral bleaching; sea-level changes; law of the sea and marine pollution.*

1991 : Draw a hypsographic curve to represent the major physiographic units of the ocean and comment on their permanency.

1992 : No question.

1993 : Give a reasoned account of the distribution of salinity in the oceans and partially enclosed seas.

1994 : No question. 1995 : No question.

1996 : Explain and illustrate the ocean floor topography and give a detailed account of the Mid-Atlantic Ridge.

1997 : Examine critically the theories of the formation of coral reefs and atolls.

1998 : Explain and illustrate the submarine relief of the Atlantic Ocean.

1999 : No question. 2000 : No question. 2001 : No question. 2002 : No question.

2003 : Present a concise account of bottom relief of the Indian Ocean.

2004 : Discuss the mid-Atlantic Ridge in terms of its origin extent and relief.

2005 : No question. 2006 : No question.

2007 : Discuss the different bases for classifying the ocean deposits and give a detailed account of pelagic deposits of the oceans.

2008 : Describe the ideal conditions for coral reef formation and discuss the glacial control theory of coral reef formation.

2009 : Examine economic significance of the resources of the Continental shelf of the Indian Ocean.

2009 : Comment on marine heat budget and the oceanic circulation system.

2010 : Ocean Deposits

2010 : Methods (Scientifically sound) of bathymetry and account of bottom topography of Atlantic ocean

- 2011 : ‘‘Temperature, salinity and density differences in ocean water are the prime causes of ocean water circulation.’’ Elaborate.
- 2012 : Different layers of ocean water above abyssal plain.
- 2012 : ‘Atolls present the most challenging explanation in the evolution of coral reefs’. Discuss
- 2013 : ‘‘Offshore Acoustic Study helped the development of the concept of sea floor spreading.’’ Explain.
- 2013 : Compare the Subsidence and Glacial control theories on the formation of coral reefs.
- 2013 : Analyze the reasons for a comparatively poorer development of fishing grounds in tropical areas.
- 2014 : Illustrate the origin and nature of Sargasso Sea and Lagoon.
- 2014 : Give an account of recent observations on coral bleaching with reference to Clive Wilkinson’s Report.
- 2015 : Describe the characteristics of different types of pelagic deposits.
- 2016 : Discuss Maritime Zones.
- 2016 : ‘‘The relationship between the winds and the currents is best seen in the Indian Ocean.’’ Justify.
- 2016 : Bring out the various ecological problems associated with the exploitation and use of oceans and their resources.
- 2017 : Distinguish between low energy coasts and coral coasts.
- 2017 : Describe the configuration of the Pacific Ocean floor.
- 2018 : Describe the causes and consequences of sea level changes.
- 2018 : Describe the potential marine energy resources with reference to their benefits, harvestibility and environmental impacts.
- 2019 : How are ocean waves formed? Distinguish between a wave of oscillation and a wave of translation.
- 2020: Marine resources are economically very significant. Discuss citing suitable examples.

- 2020: Discuss the concept of coral bleaching, its recovery and macroalgal regime shift due to this process.
- 2020: Explain the currents of the North Atlantic Ocean and their significant role in the climate of Western Europe.
- 2021: Give a detailed account of the bottom topography of Pacific Ocean.
- 2021: Maritime security is being neglected. Indicate the major challenges and suggest solutions in context of Laws of the seas
- 2022 : When corals are affected by stress it causes them to turn completely white. Explain the reasons of such an occurrence.
- 2022 : What is the relationship between ocean currents and global surface wind systems? Explain with examples how does the gyre in the Northern Hemisphere differ from the one in the Southern Hemisphere.
- 2022 : Rise of Surface temperature brings severe consequences. Elaborate the potential changes and threats associated with it in the world.

**Biogeography: *Genesis of soils; Classification and distribution of soils; Soil profile; Soil erosion, Degradation and conservation; Factors influencing world distribution of plants and animals; Problems of deforestation and conservation measures; Social forestry; agro-forestry; Wild life; Major gene pool centers.***

- 1991 : No question.
- 1992 : Present a classification of the soils of the world and give their economic significance.
- 1993 : Define ecosystem and describe briefly its various components. Also discuss how and to what extent the modern man has affected the various types of ecosystems.
- 1994 : Indicate the major biotic regions of the world and discuss the ecological aspects of the monsoon region.
- 1995 : ‘Man must realize the importance of maximizing agricultural production without destroying the ecological basis on which our entire food production system rests.’ Explain with examples.
- 1996 : No question. 1997 : No question. 1998 : No question.

- 1999 : Discuss the relevance of 'watershed', as an ecosystem for the purpose of sustainable development.
- 2000 : No question.
- 2001 : Discuss the concept , components and functioning of an ecosystem.
- 2002 : Write in detail on the concept of biosphere as an ecosystem.
- 2003 : No question. 2004 : No question. 2005 : No question. 2006 : No question.
- 2007 : No question. 2008 : No question.
- 2009 : Give a brief account of the principal land biomes and their latitudinal distribution.
- 2010 : Floristic kingdoms based on their global distribution
- 2010 : Account of the structure of ecosystem and describe its functional aspect.
- 2011 : Define the term biome. List the terrestrial biomes and describe the characteristics of Savanna biome.
- 2012 : Major components of IGBP.
- 2012 : Adaptation and distribution of animals in the Ethiopian realm.
- 2013 : Uniqueness of fauna in the Notogean realm.
- 2013 : Bring out the relationship between climate and vegetation in the Mountain Biome.
- 2014 : Give an account of the nature of biosphere as an ecosystem.
- 2014 : State the uniqueness of the Eurasian Steppe Biome.
- 2014 : Define zoogeographic region. Also describe the basic faunal makeup of the Neo-Arctic zoogeographic region.
- 2015 : Explain the characteristics of ecological succession.
- 2015 : Classify soils based on their zonal distribution and describe the characteristics of pedocals.
- 2015 : Explain the different stages of ecological adaptation of man and bring out the changing balance between man and environment.



- 2016 : Bring out the ecological significance of Tropical Rainforest Biome.
- 2016 : Describe Newbiggin's scheme of Floristic regions of the world and explain the Mediterranean Floristic region.
- 2017 : Distinguish between the characteristics of Chernozem and Sierozem soils.
- 2017 : Give a classification of plants based on the amount of water requirement.
- 2018 : Distinguish between intrazonal and azonal soils.
- 2018 : Describe in brief the characteristics and importance of azonal soils.
- 2018 : Discuss the causes of degradation of tropical rainforests and suggest remedial measures for their prevention, conservation and development.
- 2019 : Amensalism is a biotic factor that determines the geographic limits of species. Explain.
- 2019 : Why is it necessary to conserve genetic diversity of species? Do protected areas serve any useful purpose in this context?
- 2019 : How are soil acidity and alkalinity related to soil fertility?
- 2020: Which factors influence the growth of wild plants in India? Discuss their economic significance.
- 2020: Explain the effects and causes of deforestation and its impact on pattern of agriculture in India.
- 2021: Gene Pool centers are Good Hope for biodiversity conservation elucidate.
- 2021: Describe how ecosystem services of Himalayas are essential for Highland-Lowland sustainability in Asia.
- 2022 : Well developed soils typically exhibit distinct layers in their soil profile. Elaborate.
- 2022 : Plants and animals that exist in a particular ecosystem are those that have been successful in adjusting to their habitat and environmental conditions. Elucidate with examples.

**Environmental Geography:** *Principle of ecology; Human ecological adaptations; Influence of man on ecology and environment; Global and regional ecological changes and imbalances; Ecosystem their management and conservation; Environmental degradation, management and conservation; Biodiversity and sustainable development; Environmental policy; Environmental hazards and remedial measures; Environmental education and legislation.*

2000 : No question.

2001 : No question.

2002 : Write an essay on 'sustainable development' from the perspective of geography.

2003 : No question.

2004 : How would the impact of global warming differ from one part of the earth to another Give a reasoned account.

2005 : Bring out the major problems of environmental pollution at global scale and suggest measures to check it.

2006 : Discuss the global ecological imbalances and their managements.

2007 : No question.

2008 : No question.

2009 : Explain factors contributing to the Global Climate Change.

2010 : No Question 2011 : No Question

2012 : Discuss how different types of mining lead to different types of environmental problem

2013 : Impact of Pleistocene Ice Age on the crust of the Earth.

2013 : Types of endemic plants and their degree of vulnerability to extinction.

2013 : What are the characteristics that make CHC a serious threat to the ecosystem? Give examples.

2013 : Explain the levels of Noise pollution and the legislative measures to control it.

- 2013 : “Urban Solid Waste Management poses the greatest challenge in Metropolitan planning.”  
Elaborate.
- 2014 : Enumerate the major causes of increasing degradation of environment in hills and hill slopes, and state its down-valley impact.
- 2014 : Give a critical account of reasons and consequences of marine pollution.
- 2015 : Comment on the impact of environmental education on quality of life.
- 2015 : Discuss the methods of conserving biodiversity for sustainable development.
- 2015 : “Man-induced famines are becoming more common than nature-induced ones.”  
Comment.
- 2016 : Explain the hydro-meteorological hazards in the Himalayas.
- 2016 : Give a reasoned account on how the impact of Global Warming differs from one part of the Earth to the other.
- 2016 : Discuss the significance of World Climate Research Programme (WCRP) and its core projects in the understanding of climatic change.
- 2016 : Write a critical note on the tendency of “use and throw” in the context of economic status and environment.
- 2017 : Describe the characteristics of biological deserts.
- 2017 : Explain the concept of micro carbon sink and its relevance.
- 2017 : “Climate change is a reality”. Explain with suitable e examples.
- 2017 : Discuss the Perception, Attitude, Value and Emotion (PAVE) Theory of environmental management.
- 2018 : Explain the natural and anthropogenic causes and mitigation measures of frequent flooding in Mumbai.
- 2018 : Discuss the objectives and principles of environmental education. Describe the basic concerns of formal and non-formal environmental education in India.

- 2018 : ‘Geomorphologic changes are largely responsible for environmental hazards in the Himalayan region.’ Comment with relevant examples.
- 2018 : “Controlling population growth is the sustainable solution to environmental problems.” Express your views with suitable arguments.
- 2018 : Explain the ecosystem approach to environmental management and highlight its advantages and disadvantages.
- 2019 : How do mountaineers constitute a threat to Mount Everest?
- 2019 : “The web of life is seamless and the consequences of disruption to one part of the ecosystem ripple throughout the whole.” Elaborate.
- 2020: Discuss the problems associated with the living environment in million plus cities in India. How these can be managed?
- 2020: Land use/ Land cover and soil type's influence forage quantity and quality in semi arid regions of the world. Discuss with relevant examples.
- 2020: Discuss the human response to and management of hazards and disasters in India.
- 2021: Discuss the hazard associated with rise in sea surface temperature.
- 2021: oil erosion and soil degradation are threat to food supply, discuss.
- 2021: Explaining the concept of carbon neutrality, describe the measures taken by carbon positive and carbon negative nations.
- 2021: With suitable examples, elaborate human ecological adaptations. Explain its impacts on ecology and environment in various parts of the world.
- 2022 : What are the high altitude environmental hazards? Explain with suitable examples.
- 2022 : Sequential changes in land use and land cover have brought global and regional ecological changes and imbalances. Elucidate.

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