

GENERAL STUDIES MAINS

GEOGRAPHY OF INDIA

- Previous Year Questions Trend Analysis
- Answer Format / Synopsis of Mains Questions
- Expected / Practice : Questions

PART I

INDIA PHYSIOGRAPHY

Previous Year Questions:

1. What do you understand by Deccan Trap? Describe its characteristics. (95/20)
2. Why do the Western Ghats receive more rainfall than the Eastern Ghats? (95/3)
3. Mention the advantages which India enjoys being at the head of the Indian Ocean. (96/15)
4. What are the geo-economic causes of underdevelopment of various regions in India? (98/15)
5. How do the Andaman and Nicobar Islands and the Lakshadweep differ in the geological evolution and topographical conditions? (98/15)
6. How is deforestation of Himalayas disturbing the ecological balance of north India? (99/15)
7. What is the importance of Indian Ocean for India? (99/15)
8. Write note on Linguistic regions of India. (00/10)
9. Had there been no Himalayas, what would have been the winter climate in north India? (01/10)
10. Write short note on Glacier. (01/2)
11. Write short note on Equinox. (01/2)
12. Write short note on Define Terai Region. (03/2)
13. Why are the Aravallis called a divide between Mewar and Marwar? (04/10)
14. Write short note on Karewas. (05/2)
15. Write short note on New Moore Island. (06/2)
16. Explain how the Himalayan and the Tibetan highlands play an important role in the-development of the South - West monsoon. (07/10)
17. Write notes on Indira Point. (07/2)
18. Write notes on Causes of Chambal Ravines. (07/2)
19. Write about Terai Region. (08/2)
20. Assess the significance of coastal regions in the economic development of India. (09/15)

ANSWER FORMAT/ SYNOPSIS OF QUESTIONS

(Source- previous year Q papers)

Lets select this question asked in 2009 mains-

Q- Assess the significance of coastal regions in the economic development of India.

(09/15)

We have to give a brief introduction about coastal regions first, and then main answer would be their significance in the economic development (Hidden-as compared to the regions which are present in the hinterland, so you have to actually give extra benefits which coastal regions enjoy as compared to the regions in mainland)

Synopsis-

- India- Prominent country in Indian ocean
- Coastal regions- from Gujarat to W.Bengal
- Vast coastline, 2.02 million sq km EEZ (exclusive economic zone)
- Economic significance-
 - a) Trade with foreign countries (being on coast-coastal regions have easy access to foreign countries)
 - b) Fishery & other sea food potential
 - c) Hydrocarbon production (Mumbai high, Gujarat's coast, KG delta)
 - d) Renewable methods of energy production through tidal energy, OTEC.
 - e) Tourist attraction- coral reefs, mangroves, beaches, etc- generate economy.
 - f) Coastal regions suitable for the growth of some crops like sugarcane

Let's take another question-

Q- Explain how the Himalayan and the Tibetan highlands play an important role in the-development of the South - West monsoon.

(07/10)

Synopsis-

HIMALAYAS- in foothills of Himalayas is location of sub-tropical high pressure (STHP) belt. In summers, pressure belts shift to north so STHP belt also move to the north, which disintegrates the jet stream (which was blowing originally over northern plains), thus causing a monsoonal trough (vacuum) in this region, thus sucking the SW monsoonal winds. In addition, Himalayas also prevent the further northward movement of the monsoons and hence confine them to Indian landmass.

TIBETAN HIGHLANDS- also strengthen SW monsoons by giving birth to tropical easterly jet stream. In summers, the surface of Tibetan plateau become very warm (warm air always rise) and the warm air rising from Tibet move south towards Indian ocean because of the presence of STHP belt north of Tibet. These currents of warm air deflect to their right as they move due to coriolis force and hence sink over Arabian sea. This air picks up moisture from Arabian sea and joins SW monsoonal winds.

QUESTIONS FOR PRACTICE

Q- "Coastal pollution has increased now a days" Comment. What are the major contents of pollutants.

Q- Bay of Bengal islands are the extension of Himalayas. Comment.

Q- Write a short note on bhabhar.

Q- Deccan plateau is geologically different from chhota-nagpur plateau. Explain.

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NATURAL VEGETATION

Previous Year Questions:

1. Where do mangrove forests occur in India? Describe their main characteristics. (96/15)
2. Why has there been opposition from the North-Eastern States to the Supreme Court ban on all activities inside forests ? (97/10)
3. Which parts of India have been identified as draught-prone? Mention the norms for such identification. (98/15)
4. What is waste land ? Write a note on prospects of waste land development in India. (00/10)
5. What are mangroves and in what way are they useful to us ? (00/10)
6. Mention the area of Shola forests in India. (03/2)
7. Write short note on the following:
 - (a) The Sambhar lake
 - (b) The Sundarbans
 - (c) Bombay High
 - (d) Sabarkantha & Banaskantha (04/2)
8. Discuss the wetlands and their role in the ecological conservation in India. (09/15)

ANSWER FORMAT/SYNOPSIS

Q- Discuss the wetlands and their role in the ecological conservation in India.

(09/15)

Synopsis:

Definition of wetland- According to the Wetland Conservation Act of 1991 a wetland is defined by the following criteria: 1) it has mostly hydric soils; 2) it must generally be inundated or saturated above or below the surface; and 3) support vegetation adapted to wet soil conditions.

Floodplains, marshes, deltas, swamps, peatlands, dambos and lakes are all types of wetland.

Role in ecological conservation-

REGULATING SERVICES

- Water storage
- Groundwater recharge & discharge
- Flood control & river regulation
- Water purification
- Sediment retention

PROVISIONING SERVICES

- Water supply - domestic & animals
- Agriculture resources
- Fisheries
- Forage resources
- Craft materials
- Medicinal plants

CULTURAL SERVICES

- **Biodiversity- IMPORTANT (expand it)**
- Cultural sites

Wetlands are part of a wider hydrological system, the services and benefits they provide can play a key role in sustaining the livelihoods of communities and the survival of wildlife and biodiversity both in the catchment and downstream..(also resting and breeding place of migratory birds).

Q- Where do mangrove forests occur in India? Describe their main characteristics.

(96/15)

Mangroves are marine tidal forests and they are most luxuriant around the mouths of large rivers and in sheltered bays.

Distribution in India- Sunderbans- Ganga delta, W.Bengal, Goa, Andaman & Nicobar IS, Gujarat , Andhra Pradesh, Tamil Nadu, Orissa, Karnataka, Kerala

Characteristics-

Mangrove forests are one of the most productive and bio diverse wetlands on earth. Growing in the inter-tidal areas and estuary mouths between land and sea, mangroves provide critical habitat for a diverse marine and terrestrial flora and fauna. Mangrove plants include trees, shrubs, ferns and palms. These plants are found in the tropics and sub-tropics on riverbanks and along coastlines, being unusually adapted to anaerobic conditions of both salt and fresh water environments. These plants have adapted to muddy, shifting, saline conditions. They produce stilt roots, which project above the mud and water in order to absorb oxygen. Mangrove plants form communities which help to stabilize banks and coastlines and become home to many types of animals. Mangrove forests fix more carbon dioxide per unit area than phytoplankton in tropical oceans.

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QUESTIONS FOR PRACTICE

Q- Write a short note on the natural vegetation of India with map.

Q- Demarcate the areas of tropical evergreen forests. What relationship they share with south-west monsoon?

Q- What is wasteland? What steps govt of India is taking for its remuneration?

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CLIMATE OF INDIA

Previous Year Questions:

1. What is 'intensity of rainfall'? Discuss its importance to Indian farmers. (95/15)
2. Discuss the origin of Monsoon in India. (97/15)
3. Mention the agro-climatic regions of India stating the basis of classification. (00/10)
4. Write short note on Mango Showers. (00/2)
5. Explain the causes of the Indian Monsoon. (01/10)
6. Discuss the distribution of winds and rainfall over India in the summer monsoon season. (02/10)
7. Write note on winter rains in India. (06//2)
8. The winter rains in North India are largely related to Jet Streams and Western Disturbances. Bring out the relationship. (08/15)
9. Write about Nor'westers . (08/2)
10. Bring out the Significance of the various activities of the Indian Metrological Department. (09 ,15)
11. List the significant local storms of the hot-weather season in the country and bring out their socio-economic impact. (10,15)

ANSWER FORMAT/SYNOPSIS

Q- . Bring out the Significance of the various activities of the Indian Metrological Department.

(09 ,15)

Synopsis-

The India Meteorological Department was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology, seismology and allied subjects.

Various activities it performs-& their Significance-

Take meteorological observations and provide forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc. Warn against severe weather phenomena like tropical cyclones, norwesters, duststorms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property, thus protect life & property. Provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities. Conduct and promote research in meteorology and allied disciplines. Detect and locate earthquakes and to evaluate seismicity in different parts of the country for development projects.

Q- Discuss the distribution of rainfall in India in summer monsoon season.

The rainfall in India is seasonal, uncertain and unevenly distributed. Most of the rain comes during the South-West Monsoon period. Rainfall may be too much or too little. There are also long dry periods in between. On the basis of the quantity of rainfall, we can divide India into five major rainfall regions.

1)Very low rainfall region (Less than 30 cms per year). It is found in Karakoram ranges, northern Kashmir and western parts of Kachchh and Rajasthan (Thar desert).

2) Low rainfall region (30 cms. to 60 cms. per year). It is found in Zaskar range, parts of Punjab and Haryana, Central Rajasthan, Western Gujarat and the rain-shadow areas of the Western Ghats.

3) Moderate rainfall (60 cms. to 100 cms. per year). It is found over a greater part of India, excluding the areas of low rainfall and heavy rainfall. Most of the rain is from the South-West Monsoon winds.

4) Heavy rainfall region (100 cms. to 200 cms. per year). It is found in four separate areas, including a narrow belt of the western coast, eastern coastal belt, the foothills of the Himalayas and a part of north-east India.

5) Very heavy rainfall region (over 200 cms. per year). It is found on the western side of the Western Ghats , the foothills of Himalayas, Meghalaya plateau (Shillong plateau) and Andaman and Nicobar Islands. Mawsynram in Meghalaya plateau has recorded 1141 cms. of rainfall per year and it is the place which gets the heaviest rainfall in India/world

QUESTIONS FOR PRACTICE

Q- Why Tamil Nadu coast receive rainfall during retreating monsoon and not during SW monsoon?

Q- What are the factors responsible for variability of rainfall over India?

Q- Why tropical cyclones mostly hit the east coast of India and not the west coast?

Q- Write a short note on ENSO.

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SOILS IN INDIA

Previous Year Questions:

1. Write short note on India's Litterate soils. (00/2)
2. Write short note on Regurs. (05/2)
3. Write note on Causes of Soil erosion and its control in India. (05/10)
4. Write notes on Inceptisol. (07/2)

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ANSWER FORMAT/SYNOPSIS

Q- Write notes on Inceptisol.

(07/2)

(This is asked for two marks..examiner can ask vertisol, alfisol, mollisol , etc next year for 2 marks so below I am giving the short answer for USDA taxonomy)-

USDA Soil Taxonomy developed by United States Department of Agriculture and the National Cooperative Soil Survey provides an elaborate classification of soil types according to several parameters (most commonly their properties) and in several levels: Order, Suborder, Great Group, Subgroup, Family, and Series.

Alfisols — form in semiarid to humid areas, typically under a hardwood forest cover.

Andisols — soils formed in volcanic ash and defined as soils containing high proportions of glass and amorphous colloidal materials, including allophane, imogolite and ferrihydrite

Aridisols — (from the Latin aridus, for “dry”) form in an arid or semi-arid climate.

Entisols — are soils that do not show any profile development other than an A horizon

Gelisols — are soils of very cold climates which are defined as containing permafrost within two meters of the soil surface.

Histosols — a soil consisting primarily of organic materials

Inceptisols — form quickly through alteration of parent material

Mollisols — form in semi-arid to semi-humid areas, typically under a grassland cover

Oxisols — are best known for their occurrence in tropical rain forest

Spodosols — are the typical soils of coniferous, or boreal forests

Ultisols — commonly known as red clay soils

Vertisols — a soil in which there is a high content of expansive clay.

Q- Write note on Causes of Soil erosion and its control in India.

(05/10)

1) Heavy population pressure on land: - forest cover as low as 20.55% of total area – population continues to rise at a rapid rate – more forests are destroyed – heavy pressure on land.

2) Nature of Rainfall:- receives 80 to 90 per cent of rainfall in the monsoon season. – heavy downpour during monsoon months causes floods. - remaining months – droughts – these affect soils.

3) Overgrazing – number of domestic animals, esp cattle highest in world – cattle freely graze in open lands making them bare of vegetation-winds carry away dry soil particles – Rajasthan

4). Bad farming techniques – plough fields in traditional ways – small size of holdings, absence of terracing, contour cultivation, crop rotation, improper use of manure have caused erosion

5) Topography – North –Eastern parts of India, Shiwaliks and the hilly regions in south India are affected by soil erosion because of steep slopes and heavy rainfall. During heavy rainfall, soils are washed away by running water down the slope.

6) Deforestation: destruction of forests for cultivation – cutting of trees exposes the soil to water and wind which leads to soil erosion

SOIL CONSERVATION SCHEMES

1. The centrally sponsored scheme of Integrated Watershed Management in the catchments of flood-prone rivers was launched during sixth Plan in eight flood-prone rivers of the Gangetic Basin covering seven States and one Union Territory. It aims at enhancing the ability of the catchment by absorbing larger quantity of rainwater, reducing erosion and consequent silt load in the stream and river beds and thus helping to mitigate the fury of floods in the productive plains.

2. A scheme for reclamation and development of ravine areas was launched in 1987-88 in MP, UP and Rajasthan. – included peripheral bunding to halt further ingress of ravines, afforestation of ravines, afforestation of ravines for fuel, fodder and reclamation of shallow ravines.

3. Control of shifting cultivation is implemented since 1994-95 in the States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Tripura

The integrated programme envisages settling of families practising shifting cultivation.

it helps them to practise terraced cultivation, raising of horticultural plantations and afforestation to support animal husbandry and to meet fuel and fodder requirements.

4) In urban areas, rain water harvesting is means of checking soil erosion, besides recharging ground water.

Alongwith it- new farming techniques- contour bunding, ploughing, terrace farming, strip cropping, shelter belts and afforestation.

(shorten it, keep with in word limits).

QUESTIONS FOR PRACTICE

Q- Laterite soils occur in regions of alternative wet and dry conditions. Explain.

Q- Name the regions of soil erosion in India. What is the effect of soil erosion and what measures should be adopted to prevent it.

Q- Write a short note on black cotton soils. Why they are known as cotton soils?

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DRAINAGE SYSTEM OF INDIA

Previous Year Questions:

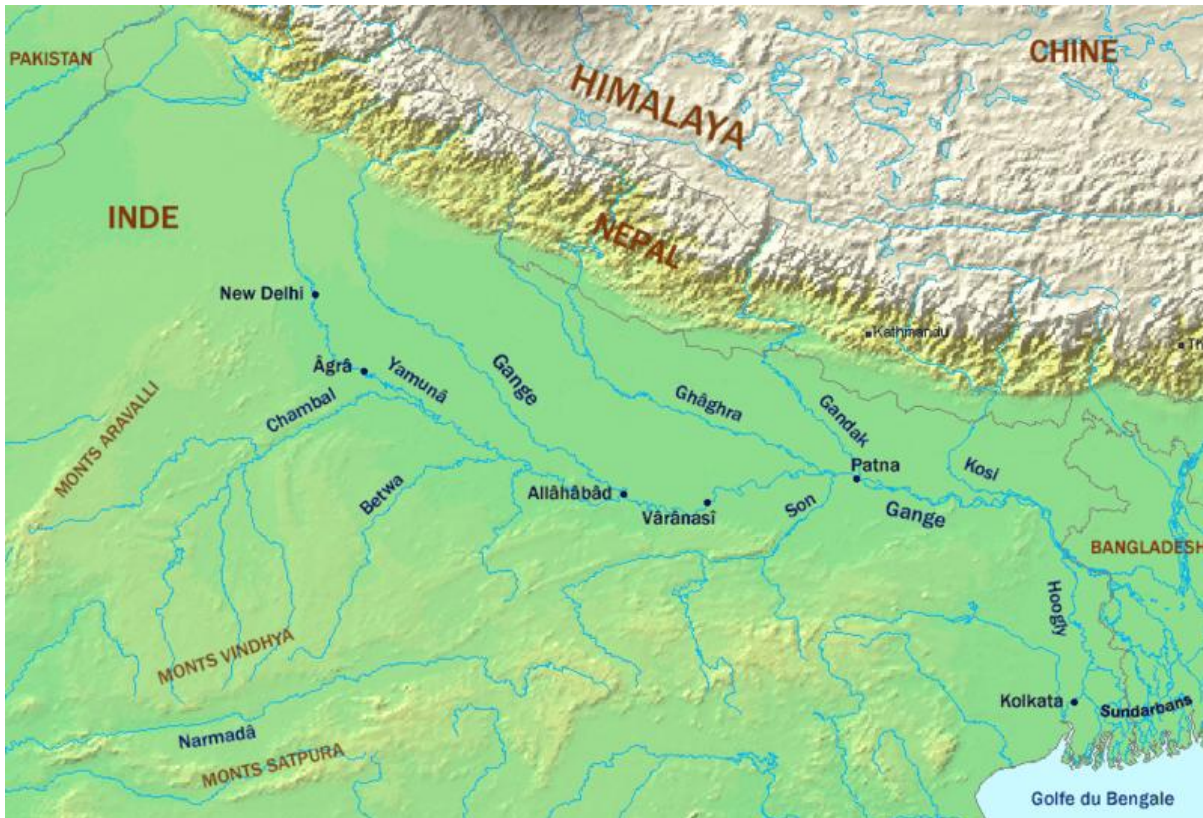
1. Why have the rivers of the peninsular India well-defined rigid channels in sharp contrast to the Himalayan rivers? (95/20)
2. Write short note on "Two prominent left bank tributaries of river Ganges". (01/2)
3. Describe the major characteristics of the rivers of Peninsular India. (03/10)
4. Elucidate the factors contributing to the growing need for water harvesting in India, both rural and urban. (05/10)
5. Write note on Significance of Lake Chilka. (05/2)
6. Why do the rivers of west coast not form a delta ? (06/10)
7. Write note on Hussain Sagar. (06/2)
8. Write about Buckingham Canal. (08/2)
9. Causes for dominant dendritic pattern of drainage in the Gangetic plains (10,5)

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ANSWER FORMAT/SYNOPSIS

Q- Write short note on “Two prominent left bank tributaries of river Ganges”.

(01/2)



Map is just to assist you in learning various right and left bank tributaries of Ganga and from where they originate.

Two left bank tributaries- let's take Ghaghra and Kosi

Ghaghra- Karnali or Ghaghara is a perennial trans-boundary river originating on the Tibetan Plateau near Lake Mansarovar. It cuts through the Himalayas in Nepal and joins the Sarada River at Brahmaghat in India. Together they form the Ghaghra River, a major left bank tributary of the Ganges.

Kosi river- or sapta-kosi for its seven Himalayan tributaries—is a trans-boundary river flowing through Nepal and India. Some of the rivers of the Koshi system, such as the Arun, the Sun Kosi and the Bhote Koshi, originate in the Tibet Autonomous Region of China. It is one of the largest tributaries of the Ganges. Also known as ‘sorrow of Bihar’ for its frequent floods it causes in Bihar.

Q- Why have the rivers of the peninsular India well-defined rigid channels in sharp contrast to the Himalayan rivers? (95/20)

Peninsular rivers- Show all the characteristics of the mature rivers- less erosion, graded & shallow valleys, short courses, low waterfalls, etc

These are Geologically older, Flow through hard granitic soils of peninsular India.

Himalayan rivers- young, more erosion, high valleys, long courses, meanders- because they pass through northern plains- through region of soft alluvial soils, thus often change their courses (eg kosi) .

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QUESTIONS FOR PRACTICE

Q- what are the differences between west flowing rivers and east flowing rivers of India?

Q- write a short note on lake sambhar.

Q- Write a short note on National waterways of India.

Q- Which pattern does streams in peninsular India follows?

Q- What are the benefits of inter-linkages of rivers

Q- Write a short note on river water pollution and its mitigation efforts by GOI.

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