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An Institute for Civil Services

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TEST COPY

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**AIR - 13
(CSE 2022)**

GEOGRAPHY OPTIONAL



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GEOGRAPHY HUMAN AND ECONOMIC (INDIA + WORLD)

Time Allowed: 90 min.

Max. Marks: 150

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none">There are 10 questions.
2.		<ul style="list-style-type: none">All questions are compulsory.
3.		<ul style="list-style-type: none">The number of marks carried by a question is indicated against it.
4.		<ul style="list-style-type: none">Answer the questions in 250 words each. All questions carry equal marks.
5.		$15 \times 10 = 150$ Marks
6.		
7.		
8.		
9.		
10.		
<i>63½</i>		



Name Vidushi Singh

Roll No. 40666

Mobile No. _____

Date _____

Signature Vidushi

1. Invigilator Signature _____

2. Invigilator Signature _____

REMARKS

- Try to be judicious every aspect of given question judiciously while rather than over emphasizing any aspect & undermining other.
- Need to identify the core part of given question & emphasize the same in your answer.

- Q1. Despite having the huge potential for hydro power, India is still dependant on non-renewable power sources, such as coal. Explain the major reasons for this. Do you think that hydro power should be developed more aggressively to achieve energy security?
(15 Marks) (250 Words)

COAL acts as a source of energy for 55% of total power produced in India. India is 3rd largest consumer of coal worldwide. Reasons for high dependence on coal are :

Satisfactory intro

-
- 1. India is 2nd largest producer of coal and contains 5th largest coal reserves. Therefore coal is a readily available resource.
 - 2. Non-Renewable Energy production requires large UNSKILLED population, thus attracting huge workers.
 - 3. Location: major oil & coal fields lie in industrial hubs and thus provide markets nearby.

Reasons for high dependence on non-renewable power resources

Sound analysis of reasons

→ 4. Infrastructure: Traditional forms of energy production already have an existing infrastructure which reduces the capital requirements & Investments compared to other renewable resources.

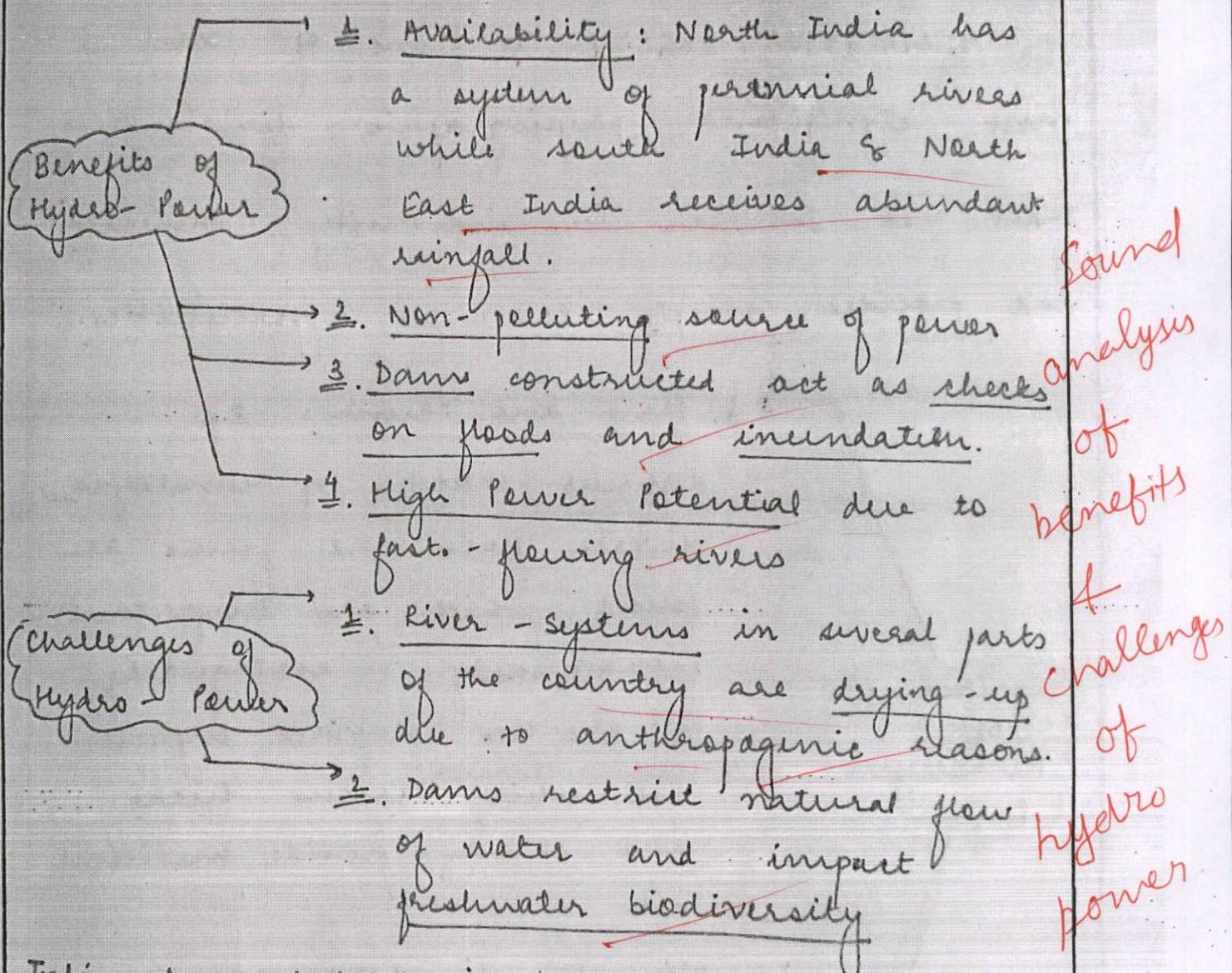
→ 5. Economies of scale: large scale production since a long time has increased relative productivity of Non-renewable resources compared to newer form of energy.

However, India is blessed with abundant water resources and hold huge potential for HYDRO-POWER.

HYDRO-POWER → as the name suggests derive power from water. Fast flowing rivers come in contact with dams which

Remarks

converts high Kinetic Energy of water into a power source.



India has pledged in its NDC to produce 450 GW of Renewable Energy by 2030. This can only be realised by investing more resources to reap benefits from non-conventional energy sources like Hydro-Power.

Remarks

71
72

- Q2.** "India can utilize vast natural resources of Himalayan region in the form of minerals, herbs, shrubs and tourism to boost its economy". Critically analyze with reference to economic opportunities and sustainable utilization of resources of the fragile Northern Mountain Complex. (15 Marks) (250 Words)

HIMALAYAN REGION is one of the most significant physiographic divisions of India. It is rich in biodiversity, minerals and provides ample economic opportunities. Good intro

Significance
of
Himalayan
region

- 1. Flora and Fauna: In different stretches of Himalayas, diverse flora and fauna are found which are important economically & ecologically. e.g.: Pine Tree provides turpentine oil while various herbs and shrubs provide medicinal aid.
- 2. Minerals: Himalayas are important source of various minerals such as copper, iron, aluminum, etc. Especially in N.E., it provides ample opportunities for mineral exploration.

Remarks

Significance of
Himalayan
Region

3. Source of Rivers: The entire River system in Northern India is perennial due to their sources lying in glaciated Himalayas. These rivers deposit essential alluvium, necessary for fertility of plains.

4. Tourism: Himalayas provide varied scope for tourism ranging from adventure tourism, eco-tourism, rural tourism, etc.

5. Meteorological Importance of Himalayas by aiding Monsoon winds to circulate in Indian Subcontinent and acting as a physical barrier.

Thus, Himalayan Region provides ecological and economical sustainability to the people.

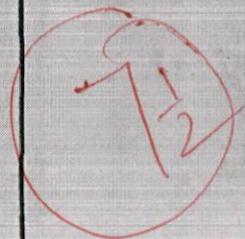
However, Himalayan Region also faces several threats in terms of sustainability.

Remarks

well analysed significance of Himalayan region

Threats to
Himalayan
Region

Good
analysis
of
threat



1. Deforestation: Since Himalayas provide essential raw materials for forestry and industries, it is being over-exploited.

2. Landslides and soil erosion:

With disturbed forest cover, exposed lands often lead to landslides during heavy rainfall and erode top soil, disturbing the overall ecological balance.

3. Tectonic movements & Earthquakes

Himalayas are Young Fold mountains, still rising up, leading to disastrous earthquakes, e.g.: Nepal earthquake of 2015.

4. Vulnerable Biodiversity: Overall disturbance to the Region is leading to several vulnerable species becoming endangered, e.g.: snow leopard.

Hence, an important reservoir of resources is being overutilised and overexploited. There is an urgent need to improve our strategies to restore the ecological importance of the Himalayan Region.

Remarks

- Q3. Sustainability of jute industry is being questioned on different occasions. But its utility has increased in recent time. Discuss the issues which are responsible poor performance of this industry. Also examine its potential in the scenario of climate change.

(15 Marks) (250 Words)

India is world's largest producer of RAW JUTE and JUTE GOODS. JUTE is also known as the golden fibre because it is one of the longest and most used natural fibres for various purposes.

JUTE INDUSTRY in India:

Large - scale jute - manufacturing started in 1850s in Calcutta with jute mills being established.

- 1) Jute mills were divided between India and East Pakistan in 1947 with majority of mills going to East Pakistan.
- 2) Jute Industry in India is located in Eastern regions of West Bengal, Assam & Bihar.

Remarks

Issues responsible for poor performance of Jute Industry:

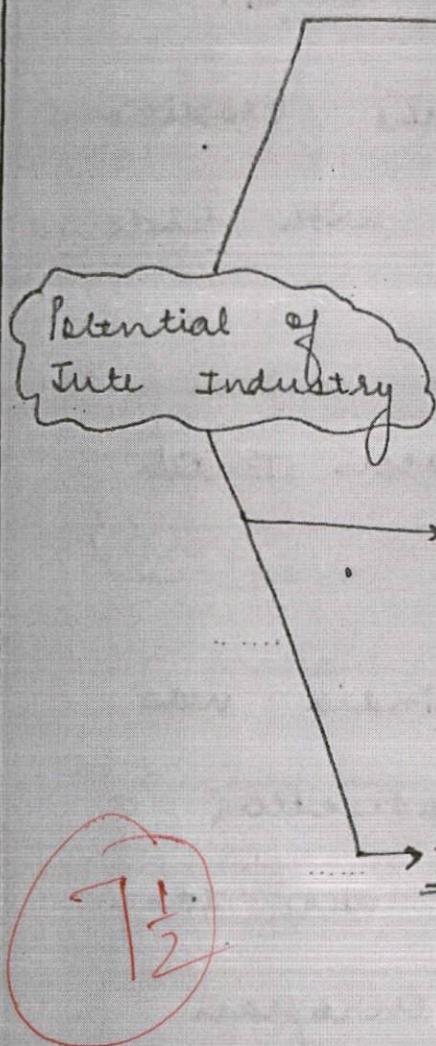
1. Dependence on MONSOONS: Monsoons are erratic in nature which directly affects jute production.
2. Delays in announcing MSP for Jute: puts extra pressure on farmers to sell raw jute elsewhere.
3. Market Share: Jute products are costlier than cheap single-use plastic products which leads to lesser market share.
4. Labour unrest and Political Interference: in Jute industries affect its output.
5. Mechanical problems of high power usage, transportation costs, lesser availability of quality jute, etc.

Remarks

Sound analysis
of
issues

However, JUTE INDUSTRY has the capacity to utilise its potential in climate change.

Scenarios:



1. Substitute PLASTICS: With govt. announcing phasing out of single use plastics by 2023, Jute Industry can regain its market share and produce low cost substitutes of plastics.
2. Jute products can eliminate non-biodegradable carriers in daily use in all forms.
3. Renewed Impetus with Aatma-Nirbhar Bharat can revitalise the industry again by providing market avenues.

Sound analysis of potential

Thus, Jute industries and their unique products can regain their lost importance with climate conscious govt. policies.

Remarks

- Q4. Explain successive development of cotton textile industry in India while describing factors affecting its localization? Also, suggest measures to strengthen cotton industry.
(15 Marks) (250 Words)

India ranks 2nd in production of COTTON in the world after China. Cotton textile industry is one of the traditional textile industries in India with historical importance.

Sound intro

(Successive development of cotton textile Industry in India:

⇒ Ancient & Medieval Times: India was known worldwide for production of 'MUSLIN' cloth and there were large cotton textile experts to European nations.

⇒ British Era: Initially British exported cotton textiles to Britain. However,

Remarks

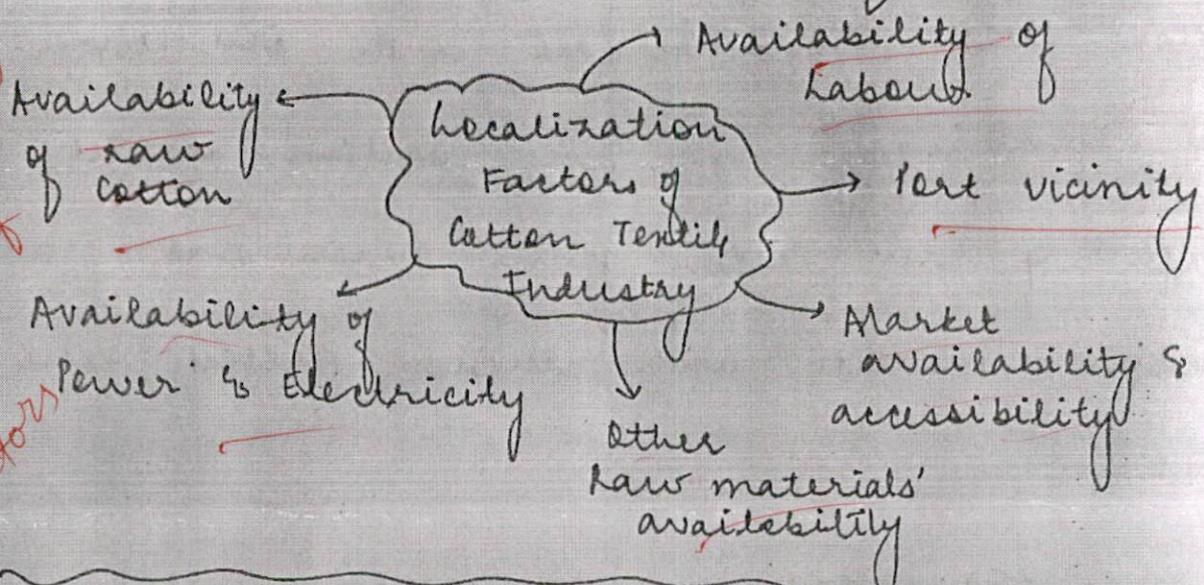
With Industrial Revolution, cotton production was revolutionised with inventions of spinning jenny. Thus, British started exporting raw cotton from India and flooded Indian markets with cheaper British Cotton Textiles.

- 1) In 1854: first modern cotton mill was established in Mumbai. This was followed by establishing several mills in Gujarat and Maharashtra.
- 2) With Swadeshi Movement, cotton textile industry in India regained its market share.
- 3) After Independence: Powerlooms and decentralised cotton production started increasing exponentially. Now, cotton textile industry is located in every state of India.

Remarks

Sound analysis of successive development

India due to localization factors.



Measures to strengthen cotton industry:

- 1. Labour training and skill development to promote handcrafted textiles
- 2. Infrastructure availability through development of multi-modal transport.
- 3. Equipping industry with Renewable Energy to sustain production (Solar Energy mainly)

Thus, cotton textile industry can further be strengthened by developing Indian market.

Remarks

Q5. Our nation's inland waterways and rivers are the hidden backbone of our transport network. In the context of given statement analyze the problems and prospects for inland waterways in India.

(15 Marks) (250 Words)

INDIA has total navigable length of 34,500 km out of which 5200 km of rivers & 4000km of canals can be used by mechanical crafts. With such huge potential of Inland Waterways, govt. announced National Waterways Bill to develop them further.

Good
intro

Prospects for Inland Waterways in India:

- 1. 14500 km of length of waterways: providing access to places all over India.
- 2. Cheaper Transport: Inland Waterways provide avenue for lesser cost of transportation of just ₹0.5/km compared to ₹1.5/km through Road transport.

Remarks

Prospects for Inland Waterways

Good analysis
of prospects

3. Underutilised freight transport by waterways:
Just 0.4% in India compared to 21% in USA.

4. Inland waterways can be a tool for:

- (i) Industrial development of steel, ~~ago~~, oil, etc
- (ii) Economic growth
- (iii) Employment
- (iv) Sustainable Development.

5. Government Policies by establishing Inland Waterway Authority of India (IWAI) & several National Waterways provides an opportunity to develop the sector further.

However, inland waterways in India also suffer from several challenges:

Challenges to Inland Waterways

Remarks

1. Infrastructure Deficiency limits scope for inland waterways.

challenges to
Inland water
ways

3. Vessels insufficient:

Vessel development in India is still ongoing and the scale of vessels required is still not achieved.

3. Rivers not perennial in

Peninsular India and

thus dry - up during
intense summer season.

This can hinder freight movement.

4. Ecological impact: several

critically endangered species

(like Gharials & Ganges
Dolphins) will be adversely affected.

Good analysis
of
challenges

71
72

Thus, there is still a scope of improvement in formulating proper strategy for Inland waterways. The most appropriate policy option is to integrate it with multi-modal transport systems to utilise it efficiently.

Remarks

- Q6. There is a need for holistic transport planning to improve the city's mobility, liveability and sustainability. In this light, suggest some of the climate friendly and sustainable public transport systems for the urban areas. (15 Marks) (250 Words)

*Better
discuss
Status
of
public
transport
systems
in India*

Smart Cities Mission (SCM) was launched in 2015 with an objective of sustainable cities with core infrastructure and clean environment. This mission highlighted the importance of 'holistic transport planning' which improves mobility & liveability.

Need for Holistic Transport Planning:

*Need for Holistic
Transport Planning*

1. There has been an increase in per capita GHG emissions in India due to increased vehicular emissions.

2. Skyrocketing AQI in

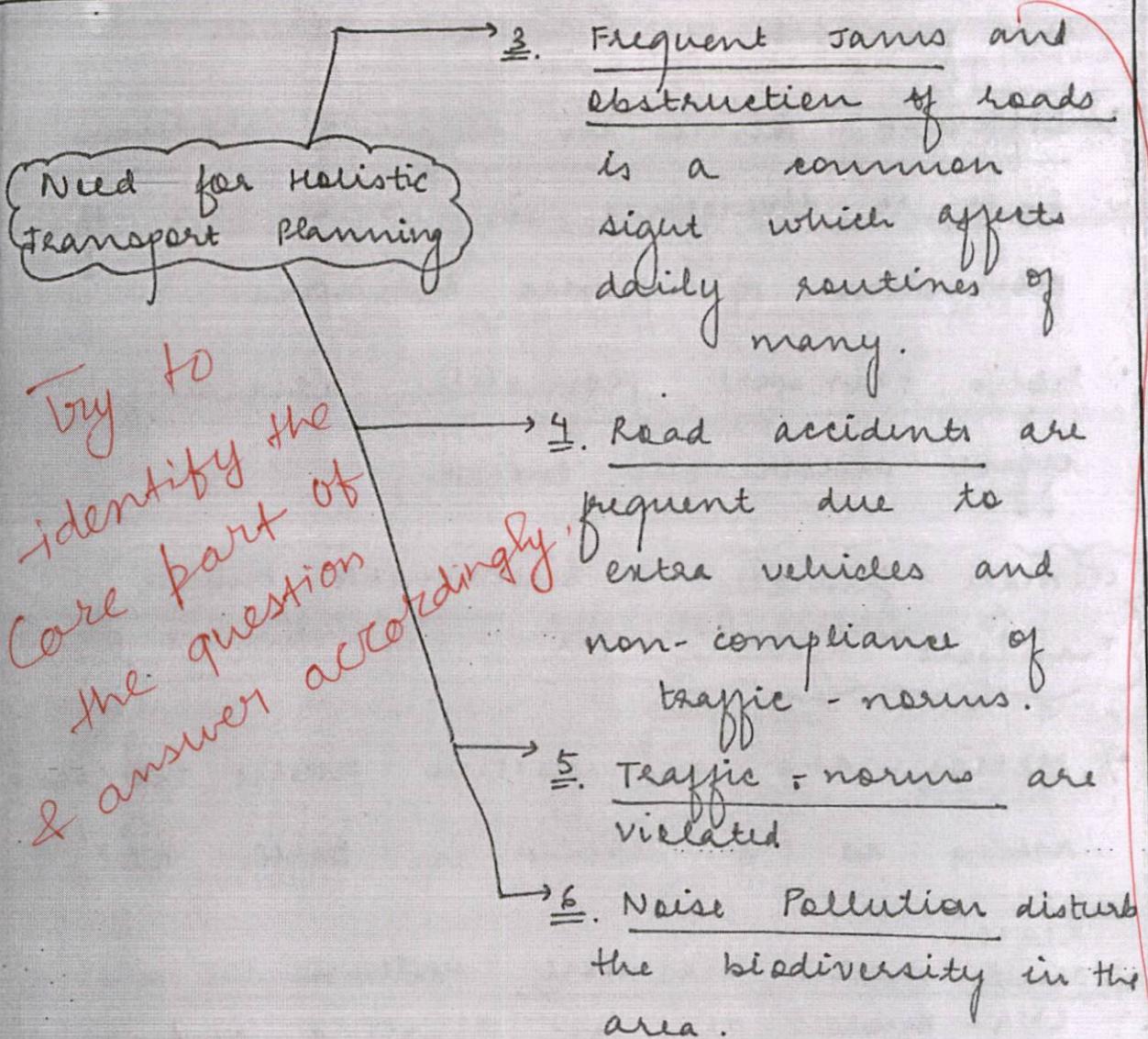
Metropolitan Areas:

nearing 1000 mark in Delhi and Jaipur

highlight need for an effective transport solution

Remarks

*Need
to
focus
on
climate
friendly
sustainable
public
transport*



Thus, holistic transport planning is the need of the hour. However, there are several roadblocks in implementing a strategic transport planning:

-) Owning a vehicle is a symbol of societal status and thus violates the

Better
highlight
problem
with Public
transport
systems

core principle of ^{public} transport systems.

•) different policies in different states

leads to divergence in consensus of promotion of public transport.

•) public transport promotion adversely affect automobile industry.

Climate - friendly & sustainable Public Transport Systems for Urban India:

(52) •) Metros: are an effective public transport, acting as a lifeline in Delhi - NCR Region.

•) multi-modal transport systems

•) CNG - Buses: are less polluting and equally effective than Diesel Buses.

•) car-pools and Odd-Even Scheme of Delhi Govt. restricts no. of vehicles on road.

•) Public Bicycles provide eco-friendly transport system.

Thus, Holistic Transport Planning is need of the hour to achieve smart & sustainable cities.

Remarks

- Q7. More than $\frac{2}{3}$ rd of Indian agriculture is dependent on erratic Indian monsoon. Discuss the importance of soil moisture map, water productivity mapping of Indian crops and role of institutions such as Revitalizing Rainfed Agriculture (RRA) Network in improving Indian agriculture. (15 Marks) (250 Words)

In India, only ~35% of total agricultural land is reliably irrigated, leaving $\frac{2}{3}$ rd cultivated land at the whims of monsoons.

Satisfactory intro

(Problems of Indian Agriculture) → This not directly asked

-) Soil degradation: due to overuse of chemical fertilizers & pesticides and over-irrigation in irrigated areas leading to salinity of soil and loss in fertility.
-) Water stress: around 250 of 700 districts surveyed under CGWB are experiencing water stress which hinders the irrigation capacity.
(Explain it for clarity)
-) other problems include low productivity, constraints of financial resources, lack of commercialisation, small landholding, unemployment etc.

Focus on problem faced by agriculture sector.

Remarks

Role of Soil Moisture Mapping in improving agriculture:

-) Soil moisture indicates the water-holding capacity of land and soil-moisture mapping can ~~not~~ help in identifying apt foodgrains to be produced.
-) For example: an area with low soil-moisture will be suitable for a ~~soy~~ drought-resistant crop like jowar, ragi or even cotton.

Role of Water Productivity Mapping in Indian crops in improving agriculture:

-) Water Productivity of crops indicates the yield of crops w.r.t. water used for their cultivation. Water productivity mapping can help in identifying areas

Remarks

You do not seem to be aware of these two concepts

suitable for water intensive crops.

For example: West Bengal is an area that receives abundant rainfall & thus is suitable for producing paddy.

Role of Institutions (such as Revitalizing Rainfed Agriculture (RRA)) in improving agriculture

RRA Network is a network of researchers, practitioners, enables working across regions with a goal to facilitate resilient and productive agricultural systems.

Such Institutions can help in providing adequate public policy measures to rainfed areas which are subject to erratic monsoons.

4

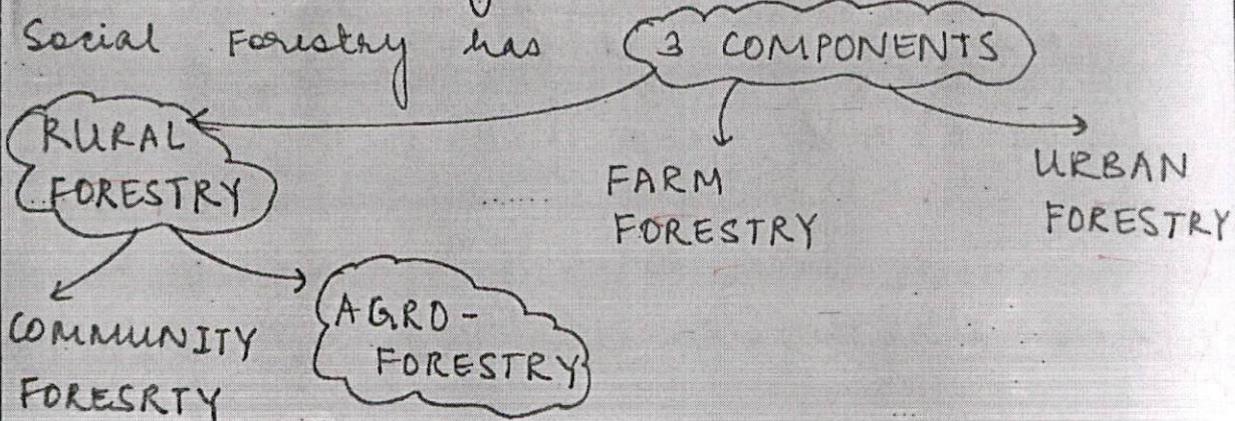
Hence, such measures can increase the productive capabilities of Indian Agriculture, leading to a more sustainable, productive agricultural sector.

Remarks

very general answer

Q8. Explain social and agro forestry. Can they be utilized as a form of economic empowerment in the rural sector? (15 Marks) (250 Words)

SOCIAL FORESTRY was suggested by National Forest Policies and National Commission on Agriculture. It's main objective is to reduce pressure on traditional forests by plantation of trees on farms and community lands.



AGRO-FORESTRY involves encouraging farmers to raise trees and agricultural crops simultaneously, on the same land. This provides additional sources of income to farmers.

Remarks

Benefits of social and agro-forestry:

- 1. Both Tree Products and Tree Services will be accessed by farmers which will generate additional income.
- 2. Trees also help in rejuvenating the farms by improved water retention and soil conservation.
- 3. Can augment Energy capacity by increased Biomass available for biodiesel, biochar, biogas, etc.
- 4. Triple-win advantage of increased food production, reduces GHG emissions & adaptation to climate change.
- 5. Tree based products can be supplement farm productivity.

However, despite all the benefits of social and agro-forestry it has not been able

Remarks

Discuss specific benefits of the two also

to gain rampant use in farms
because:

Need
to focus
on utilization
of social & agro forestry

challenges of
social & Agro
forestry

1. Adverse Policies and Bottlenecks by overlap of ministries and departments.
2. Tenant Farmers & shareholding farmers can't implement this as they are not the owners.
3. Weak Infrastructure.
4. Inadequate Investments.

For social and agro-forestry to become a form of economic empowerment, there is a need to:

- Improve agroforestry technology
- Encourage CSOs & NADs to promote agroforestry in farms.
- Adequate investment and market opportunities

Through this, the triple-win advantage can be reaped at a larger scale.

Remarks

52

Q9. Ageing global population and contracting workforce have increased the possibilities of emigration of human capital from young countries like India. Critically analyze.
(15 Marks) (250 Words)

54% of India's population lies in the category of Productive Age Category of 15 - 59 Years. India is currently witnessing demographic transition and is reaping the benefits of its DEMOGRAPHIC DIVIDEND.

Sound intro

However, India is also witnessing increased BRAIN DRAIN as its productive population migrates to advanced economies.

Reasons for emigration of Human Capital from India:

- 1) Aging global Population: provides a deficit of productive age category population in advanced economies & provides opportunities for Indian Youth to

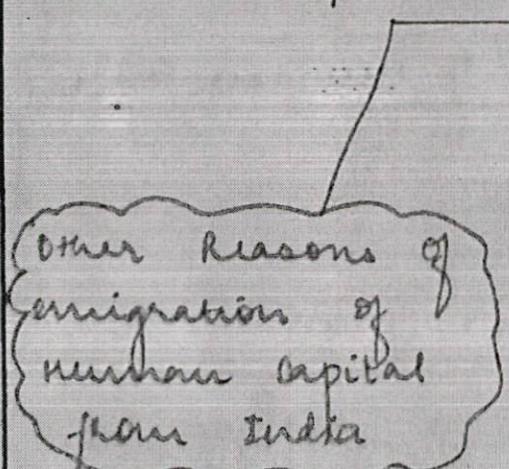
Remarks

take their places in these countries.

e.g.: Large emigration from India to Canada, USA & European Nations.

•) Contracting Workforce: With ageing population & deficit in productive age category, attraction opportunities are grasped by Indian Human capital.

However, there are several other reasons which impact the emigration of human capital from India. These are:



1. Overpopulation and rampant unemployment in India: is one of the prime reasons of BRAIN DRAIN from India as the productive population emigrates to receive better economic opportunities abroad.

Other Reasons for
Emigration of Human
Capital from India

1

2. Better Infrastructure
in developed Countries:

India is grappled with problems of poverty & lacks adequate social infrastructure like in advanced economies which provides social security.

Sound analysis
of reasons
for emigration

3. Higher Remuneration:

Skilled labour force in India is very less and these often emigrate due to better economic remuneration.

4. Better Research Facilities

in advanced economies drains the most intelligent minds from India.

Thus, there is a need to develop

Robust R&D in India and simultaneously

develop the social infrastructure as well, in order to retain the precious human

capital of India, & for it to utilise its demographic dividend

Elaborate
steps

to be
taken
to check
brain
drain

Remarks

Q10. Development of satellite town is the important remedy for tackling the issue of haphazard urban development. How far do you agree with this statement? Illustrate. (15 Marks) (250 Words)

SATELLITE TOWNS are smaller municipalities that are adjacent to a major city which is the core of a metropolitan area. Purpose of satellite towns is to provide a perfect balance to population and resources.

Satellite towns are an important remedy for tackling the issue of Haphazard Urban development.

Problems of Haphazard Urban Development.

Problems of Haphazard Urban Development

1. ECONOMIC PROBLEMS

Enormous unskilled population, overutilised resources, rampant poverty in urban areas, etc.

Remarks

Need
Problems of Hazardous
Urban Development

to
focus
on
need &
significance
of
satellite town

2. Socio-cultural Problems: of several social ills, inequality and discrimination, unavailability of social infrastructure (education, health, etc.) to female/gender-discrimination, etc.

3. Environmental Problems: of pollution (air, water, noise), GHG emissions, Heat Islands, Water stress, worsened AQI, etc.

Currently 31% of Indian population lives in Urban areas according to 2011 Census.

This is expected to grow to 60% by 2050.

Thus there is a need to develop Urban Settlements. One of the ways is by developing Satellite Towns which can act as a sponge of all the excessive population of metropolitan areas.

Remarks

This part
should be
your
main
focus

Development of Satellite Towns can be a remedy to haphazard Urban Development as:

-) Even distribution of population can reduce the stress in metropolitan areas by spreading population density to adjoining areas.
-) development of effective Public Transport can reduce the GHG emissions and allow the cities to lower their AQIs.
-) Social Infrastructure development overall will lead to better skilled workforce and improve overall efficiency.
-) Satellite Towns can also disperse the problems of overutilized water & land resources.

However, there are several roadblocks which can hinder the development of satellite towns. These include → policy differences, inadequate investments & social infrastructure.

Thus, it is imperative to develop these parameters to develop the Urban Settlements in India.

Remarks

Sound analysis

Better
discuss
ways to
make
satellite
town
sustainable