

**VISIONIAS**  
INSPIRING INNOVATION  
**ABHYAAS MAINS**

**सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)**

निर्धारित समय: तीन घंटे  
Time Allowed: **Three Hours**

अधिकतम अंक: 250  
Maximum Marks: 250

**सामान्य अनुदेश**

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू.सी.ए. पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू.सी.ए. पुस्तिका प्राप्त कर लें।

**General Instructions**

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 01203839

अभ्यर्थी का नाम/Name of Student : AAYUSH SAINI

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

English

तारीख  
Date

25-08-24

**सामान्य अध्ययन (प्रश्न पत्र-III)  
GENERAL STUDIES (Paper III)**

केंद्र  
Centre Bhai Joga Singh  
School,  
Kanod  
Bagh

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

W. J. Singh

|   | <p style="text-align: center;"><b>महत्वपूर्ण अनुदेश</b></p> <p>उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।</p> | <p style="text-align: center;"><b>Important Instructions</b></p> <p>Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.</p>                  |
|---|---|--|
| 1 | <p>(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें।</p> <p>(ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।</p>          | <p>(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates.</p> <p>(b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet</p> |
| 2 | <p>अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।</p>   | <p>Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.</p>   |
| 3 | <p>परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।</p>  | <p>Do not make any direct/indirect appeal/threat to the examiner.</p>  |
| 4 | <p>उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।</p>   | <p>Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.</p>   |
| 5 | <p>उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।</p>  | <p>Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.</p>  |
| 6 | <p>प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।</p>  | <p>Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.</p>  |
| 7 | <p>प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।</p>  | <p>Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.</p>  |
| 8 | <p>यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।</p>   | <p>If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.</p>   |

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|--|---|
| कार्यालय के प्रयोग हेतु<br>For Official Use      | कार्यालय के प्रयोग हेतु<br>For Official Use |
| परीक्षक के हस्ताक्षर<br>Signature of Examiner(s) |   |

**प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))**

| प्रश्न सं.<br>Q. No.              | अंक<br>Marks |  | प्रश्न सं.<br>Q. No.       | अंक<br>Marks |  |
|-----------------------------------|--------------|--|----------------------------|--------------|--|
| 1                                 |              |  | 11                         |              |  |
| 2                                 |              |  | 12                         |              |  |
| 3                                 |              |  | 13                         |              |  |
| 4                                 |              |  | 14                         |              |  |
| 5                                 |              |  | 15                         |              |  |
| 6                                 |              |  | 16                         |              |  |
| 7                                 |              |  | 17                         |              |  |
| 8                                 |              |  | 18                         |              |  |
| 9                                 |              |  | 19                         |              |  |
| 10                                |              |  | 20                         |              |  |
| उप-योग (A)<br>Subtotal (A)        |              |  | उप-योग (B)<br>Subtotal (B) |              |  |
| सकल योग (A+B) / GRAND TOTAL (A+B) |              |  |                            |              |  |



**सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)**

निर्धारित समय: तीन घंटे  
Time Allowed: **Three Hours**

अधिकतम अंक: 250  
Maximum Marks: **250**

**प्रश्न-पत्र संबंधी विशेष अनुदेश**

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

कुल बीस प्रश्न दिए गए हैं जो हिंदी और अंग्रेजी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

**QUESTION PAPER SPECIFIC INSTRUCTIONS**

*Please read each of the following instructions carefully before attempting questions.*

*There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH**.*

*All questions are compulsory.*

*The number of marks carried by a question/part is indicated against it.*

*Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.*

*Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.*

*Keep the word limit indicated in the questions in mind.*

*Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.*

## EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1.

खाद्य प्रसंस्करण उद्योग का तीव्र विकास किस प्रकार भारत में खाद्य सुरक्षा संबंधी चुनौतियां उत्पन्न कर रहा है? (उत्तर 150 शब्दों में दीजिए)  
How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words)

उम्मीदवारों को इस हिसाब में नही लिखना चाहिए  
Candidates must not write on this margin

Currently food processing industries contribute around 9.9% of GVA to manufacturing sector

Rapid growth leading to food safety challenges

- 1) Poor hygiene maintenance  
As 75% are unorganized (poor checks)
- 2) largely located in suburbs and small cities/towns where lab testing facilities are inefficient
- 3) Processed food in India has very high salt/sugar content  
- issues of hypertension  
- Diabetes

4) Failure to meet international standards

(Eg): Recent ban of Indian spices  
in Singapore

5) Profit centric approach by  
companies at the expense of  
health due to very high competition

### Way forward

1) FSSAI should expand the food testing labs

2) Strict law enforcements with  
stricter fines

3) Dedicated food safety related  
grievance portal.

4) Ideological changes and trans  
people's empowerment towards  
healthy eating.

Recent initiative of  
compulsory mentioning of salt/sugar  
content at packaging by FSSAI  
is a positive step in this regard

2.

भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)  
Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words)

10

Through PDS and FPS,  
81 crore beneficiaries avail  
free ration for free { PM A K A Y now  
extended to 2029 )

FPS transformation  
an evolving process

1) Traditional FPS

- less usage of ICT
- Poor inventory management
- leakages and inefficient supply chains
- Bogus beneficiaries issue and corruption by FPS shop owner.
- For Transportation related inefficiencies and leakages.

## 2) Undergoing Transformations

- Usage of ICT is making the distribution more efficient  
(eg): e-Aram PDS system.
- Schemes such as ONOR has helped in effective service delivery
- GPS linking to track the trucks { in Chhatisgarh }
- Inventory digitalization for curbing wastage (First in First out)
- linking with Aadhar to tackle leakages beneficiaries issues.

These transformations needs to be applied to all the states to improve the functioning of PDS scheme

3.

भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

10

Use of modern tech and ICT in agriculture can bring about another green revolution. Startups can play vital role in it.

Enhancing farm productivity

- 1) Drone based dispersal of seeds / fertilizer helps in decreasing input cost and putting optimum resource
- 2) Use of Artificial Intelligence - for watering / fertilization (etc).
- 3) Startups undertaking R&D in seed production for countering climate change impacts and less usage of water/resource to improve productivity.

## Enhancing market access

1) Direct linking of farmer to consumer

- removal of APMCs intermediaries

{ Ashok Dalwai Committee - only 15-20% of market price goes to the farmer }

(Eg): Zepro.

2) Linking with supply chains and transportation.

3) Promoting Agriculture tourism

(Eg): Peas based startup (alternative income source)

4) Improved inventory management to bring down losses

{ ₹90,000 crore - NITI Aayog }

These startups will can play a vital role in doubling the farmers income

4.

भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Discuss the role of digitization of land records in the effective implementation of land reforms in India. (Answer in 150 words)

10

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
Candidates must not write on this margin

Land reforms were intended to provide land to the landless, land consolidation, improving productivity and improving access to finances.

Digitization of land reforms

- 1) To resolve land based disputes & curb land mafias and illegal encroachments & land to the tillers (original allocations)
- 2) Digitization will lead to better access & to credits (using as collaterals)
- 3) Will facilitate easier transfers and land acquisitions.

4) Prepares a ground for private  
participation

[leasing of land  
- contract farming.] with  
conclusive land records.

5) Digitalization will bring down  
land related pending cases in  
India,  $\Rightarrow$  farmers could focus  
on effective usage

Current Schemes  
in place

1) SUAMITVA scheme: For rural  
lands

2) Digitalization and modernization  
of land records scheme.

Further, government  
should move towards conclusive  
land digitalization for better  
land management in India

5.

भारत को अपने जनसांख्यिकीय लाभांश का पूर्ण उपयोग करने और आर्थिक विकास में तेजी लाने के लिए एक विनिर्माण-केंद्रित विकास मॉडल को अपनाने की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

To fully exploit its demographic dividend and accelerate economic growth, India needs to adopt a manufacturing-led growth model. Discuss. (Answer in 150 words) 10

Currently manufacturing  
sector contributes to around  
17% to GDP.

Manufacturing led  
growth model

For utilizing  
demographic dividend

- 1) Large youth population (average age 29 years) to contribute to manufacturing sector
- 2) To curb the extra pressure on primary sector, manufacturing sector development is side-que-now
- 3) Manufacturing sector ~~also~~ provides employment to large populations (compared to service sector)

## Accelerating economic growth

- 1) To serve the vision of Make in India
- 2) To improve the GDP contribution by manufacturing sector to 25%. (Indian Manufacturing Policy 2013)
- 3) Manufacturing sector provides boost to other sectors  
Primary →  
- Raw material demand  
Tertiary →  
- Transport, marketing
- 4) To tap in China + 1 opportunity to serve Amrit Kaal vision

### Steps to be taken

- Skilling of population (currently only 2%)
- extension of PLI schemes
- Boost to FPI (huge potential)

To be developed @ 2047,  
it is important to provide  
boost to manufacturing.

sketch

6.

जलवायु परिवर्तन के परिणामस्वरूप बढ़ते प्राकृतिक खतरों से निपटने के लिए भारतीय तटीय समुदायों की प्रत्यास्थता को किस प्रकार मजबूत किया जा सकता है? (उत्तर 150 शब्दों में दीजिए)

How can the resilience of Indian coastal communities be strengthened to tackle the growing natural hazards resulting from climate change? (Answer in 150 words) 10

①

India has a large coastline of 2500 km with millions of people living and important metro cities located.

growing natural hazard due to CC

- 1) Cyclones - due to rising of Ocean temperature
- 2) Rising sea levels - 0.2m since Industrial revolution (IPCC-AR6)
- 3) Loss of resource → Fisheries loss  
→ Tourism Potentials
- 4) Flooding → Cyclones  
→ Urban heat islands  
→ Marine heat waves
- 5) Disease spread due to contaminations of freshwater sources and storm surges

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
Candidates must not write on this margin

## Resilience of Coastal communities.

- 1) Alternate livelihood opportunities  
↳ Coastal fisheries replaced  
by aquaculture/aquaponics
- 2) Construction of retaining wall,  
sublile stacks, sand bars to  
counter extreme weather pattern
- 3) New development of seed variety  
(resistant to saline weather)  
environment
- 4) Ecosystem restoration
  - Planting of Mangroves (e.g. By West Bengal after Cyclone Amphan)
  - Restoring Corals using bio-rock techniques.
- 5) Better adaptability ⇒ setting up of  
dedicated adaptation fund for  
coastal region
- 6) Ideological changes ⇒ "Mission LIFE"  
to conserve the environment

Resilient coastal communities  
are prerequisites to ensure smooth  
trade and maritime security

7.

भारत में अधिक संधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)

How does the Green Credit Programme extend beyond carbon management to promote a more sustainable environment in India? What are the various concerns about its implementation? (Answer in 150 words)

10

Recently, India and UAE launched global green credit programme at COP28 on the lines of India's initiative of launching GCP in India.

Going beyond carbon management

- 1) Facilitates conservation of the whole protected environment, in violation of just reducing the Carbon.
- 2) GCP initiatives can earn Carbon credits but ~~is~~ vice-versa is not true.
- 3) It not only focuses on reversing climate change but also
  - Biodiversity protection
  - ~~be~~ Improving lifestyles of people

## Promoting more sustainable environment

- 1) Provides for economic benefits a person / organization can earn through environmental conservation efforts.
- 2) Provides a nudge to the individual to participate, not just the organizations.

## Various concerns

- 1) Overlapping with Carbon Credit Programme
- 2) Confusion among stakeholders (not clearly defined yet)
- 3) Development v/s sustainability debate {for a developing country like India}
- 4) Poor awareness of general people

## Way Forward

- 1) Link the initiative with Mission LIFE
  - 2) Easier can user interface to operate and use.
- GEP can play a vital role in curbing "Triple planetary crises"

8.

जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

What is the need for NavIC when existing satellite navigation systems are already available? (Answer in 150 words)

10

NavIC is a ~~to~~ geographical positioning system indigenously developed by India (IRNSS).

It comprises of 7 satellites system and provides navigation upto 1500 Km from Indian Borders.

Need for NAVIC  
despite other options

- 1) To hold autonomy item in the time of geopolitical crises  
(eg): USA suspended GPS services during Kargil war
- 2) To emerge as a net security provider in the region.
- 3) To boost the market of Geo spatial data to undertake economic growth.

4) To slowly move ~~a~~ towards  
indigenization of ~~the~~ critical  
infrastructure.

5) To safeguard Indian borders.  
Go Way forward

1) Provide for more satellites for  
global coverage.

2) Collaboration with like minded  
countries for better data  
sharing and utilization.

3) Provide to neighbouring countries  
for free (Gyujal doctrine)

4) Improving awareness and  
user-interface to deepen down  
its utilization among common  
people.

the NAVIC put ~~the~~ India  
among, handful of countries having  
indigenous navigation. This deepens  
~~the~~ India's geopolitical position

9.

साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए।  
सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए) (1)  
Cyber-enabled financial crime has emerged as the new frontier of global money laundering.  
Discuss. How can the government address this issue? (Answer in 150 words) 10

उम्मीदवारों को  
इस हार्डिफ में  
नहीं लिखना  
चाहिए  
Candidates  
must not  
write on  
this margin

As per UN reports  
nearly \$2 trillion worth of  
money is laundered each year.

Cyber enabled  
financial crimes  
for money laundering

- 1) Usage of crypto currency etc  
launder money (out of reach  
of central banks)
- 2) Usage of online banks and  
financial institutions  
(having lower safeguards)
- 3) Using Dark web to launder  
money
- 4) Ransomwares attacks to  
gain illicit money are on  
the rise (~~blow~~)  
(Eg): ALLNS ransomware  
attack

## Addressing the issue

- 1) International cooperation to bring down cyber shell companies and safe havens
- 2) Flexibility in law making ⇒ quickly adapting with new challenges.  
(eg): Reform PNLA '2002.
- 3) Linking CERT-IN with money laundering prevention unit for better cooperation and resolutions.

Prevention of money laundering is important for not just preventing excessive losses but also to prevent drugs smuggling and trafficking

10.

इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्रक में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

The Indian Army is observing the year 2024 as the 'Year of Technology Absorption'. In light of this, explain why there is a need for technology absorption in the defence sector of India. What challenges can India face in this initiative? (Answer in 150 words)

उम्मीदवारों को इस हार्जिए में नही लिखना चाहिए  
Candidates must not write on this margin

Indian Army is slowly moving towards indigenization and innovation to emerge as a self dependent super power at global stage.

Need for technology absorption

- 1) To modernize the weaponry
  - developing state of the art weapon equipments
  - better radars / situational awareness tools
- 2) To reduce its dependency on imports
  - SIPRI report  $\Rightarrow$  India as largest importer (3% of GDP)
- 3) To be self sustaining and indigenous

even in the times of geopolitical  
crises (maintaining its strategic  
autonomy)

4) To boost private participation  
and encouraging new startups

(Eg): TDF fund.

5) To enhance market of India's  
defence products

### Challenges

1) Low RnD fund allocation

- India spends 6% of defence budget  
on RnD  
China spends 20%.

2) Reluctance of among private  
participants to engage

- huge capital cost required.  
- greater responsibilities

3) Dependence for key input materials  
for an imports (Eg) Semiconductors.

Increasing the RnD  
fund and boosting support to  
startups via grants could help  
India to serve its vision

11.

भारत के पूर्वोत्तर क्षेत्र (NER) में व्यापार एवं उद्योगों के विकास में किन समस्याओं का सामना करना पड़ा है? इन समस्याओं से निपटने हेतु किए गए उपायों पर टिप्पणी कीजिए। (उत्तर 250 शब्दों में दीजिए)  
What are the issues faced in the development of trade and industries in the North-Eastern Region (NER) of India? Comment on the measures that have been taken to tackle these issues. (Answer in 250 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
Candidates must not write on this margin

15

NER is <sup>comprised of</sup> a group of ethnically diverse people, having unique cultures and lifestyle, much different to that of other regions.

Issues faced for  
Trade and Industrialization

1) Insurgency - industries reluctant to set up due to law and order situation.

ULFA outfits  
NSCN led demands of NAGALIM  
Kuki-Meitei conflict  
Mizo liberation front

2) Hostility in neighbourhood

- Myanmar → refugees incursions  
→ drug smuggling

- Bangladesh → Illegal migration issues  
→ Smuggling and trafficking

### 3) Cultural fundamentalism

- ethnicities do not allowing other people (outsiders) to reside and participate

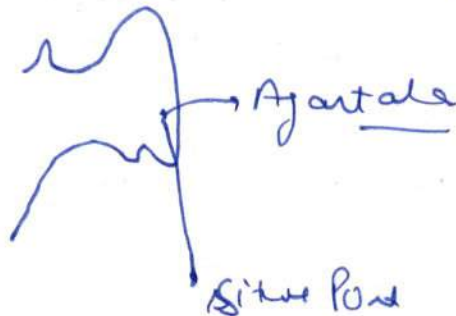
(e.g.): ULFA did violence (Nerulie Massacre)

### 4) Poor connectivity / geographical isolation

- poor access to market of mainland

### 5) Poor international trade

- <u>0.02%</u> of total FDI India received.
- Non-completion of projects such as Kaladan Multimodal Connectivity



## Initiatives taken

1) PM-DEVINE - for boosting industrialisation  
- skilling of people

2) A F S P A } To counter insurgency  
- Manipur  
- Assam  
- Nagaland  
- Arunachal Pradesh

3) International linkages

ⓐ: IMT ~~to~~ Trilateral highway  
BBIN highway project.

4) National project for horticulture development in NER.

5) Various Peace deals with insurgents

ⓑ: UNLF - Deal (2023)

What | What to do next?

1) Club the development of NER with Act East policy

2) Facilitating peace <sup>and development</sup> through Civil Action Plans,

3) Extensive skilling programmes

NER is a gateway to South-east Asia which holds ~~the~~ large trade potential.

12.

जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

In the era of climate change and growing water scarcity, how can micro-irrigation systems contribute to sustainable agricultural practices in India? (Answer in 250 words)

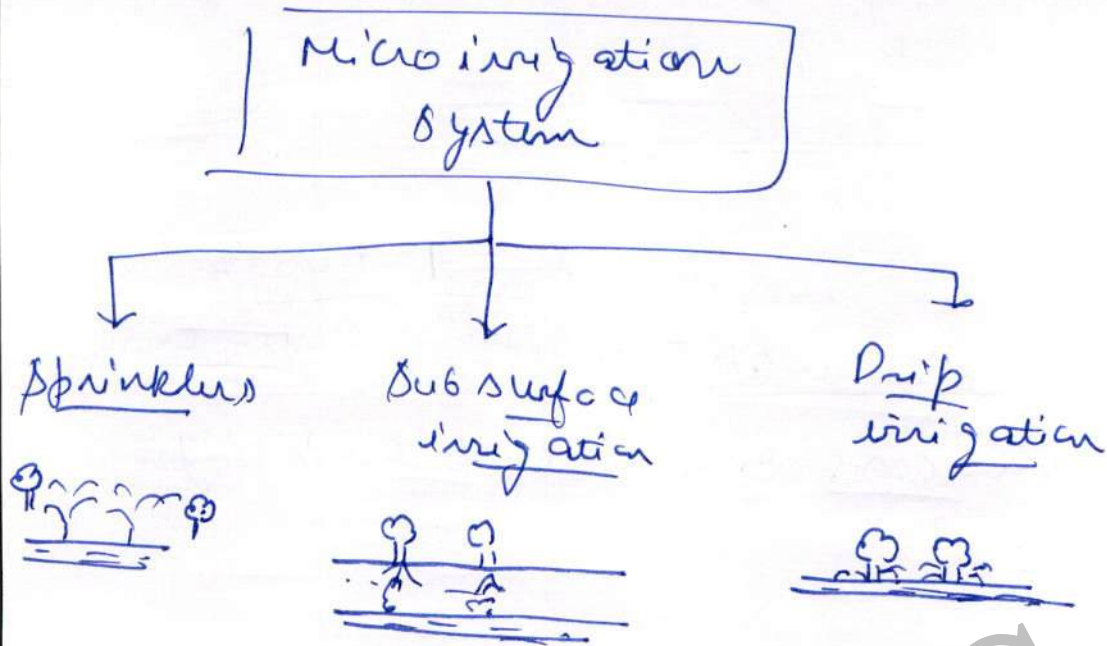
उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
Candidates must not write on this margin

As per NITA Ayoji's Composite water Index, water crises will cost India 5% of GDP by 2050.

Era of Climate change and water scarcity:  
Impacts of agriculture

- Shift in cropping patterns ⇒ will hamper food security
- Declining soil productivity
- Depleting ground water will create agricultural issues
- Rise in extreme weather patterns
  - Heat waves
  - Cloud burst etc

(will decrease crop yield)



**Sustainability of Agriculture**

- 1) **Higher water <sup>use</sup> efficiency** - reduces excess water usage  
{ less burden on ground water currently 8%, diverted to agriculture }
  
- 2) **Less dependence of monsoon** which is fluctuating due to climate change



13.

भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल ढुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)  
What strategies can be adopted to overcome the issues pertaining to freight transportation in the Indian Railways and increase its share in the domestic freight? (Answer in 250 words)

15

Railway currently contributes around 25% to the movement of domestic freight, against 71% by road transport.

Current issues pertaining

- 1) Competition with passenger trains (lack of dedicated corridor)
- 2) Delays ⇒ Average speed lesser than road transport (priorities given to passenger trains)
- 3) Poor linkages with other modes of transport  
↳ Roads      ↳ Waterways
- 4) Old carriers ⇒ Slower speeds and prone to accidents

- 5) Poor private linkages - most  
transporte for the government.
- 6) Minerals-centric - majorly transporte  
coal / ores / gypsum ⇒ ~~poor~~ poor  
linkages for consumer good
- 7) Poor port linkages - to the main  
ports and dry ports.

Strategies  
to improve

- 1) Create more dedicated freight  
Corridors  
(like Eastern DRSC ⇒ Sambhal  
to Dankuni)
- 2) Provide for private participations  
(Bibek Debroy committee)
- 3) Synergies with other modes  
of transport (will bring down  
logistical cost ⇒ currently 14% of GDP.)  
Ⓔ: PM Yatishakti a positive step.

- 4) Extend Kovach system for freights as well to reduce accidents.
- 5) Modernization of freight with aluminium, rakes and faster (more powerful) engines.
- 6) Expanding rail network to target suburbs and Tier II and Tier III cities
- 7) Better port linkages  
(Sagar mala project a positive step)

Efficient freight network will not only provide more market <sup>access</sup> through exports and internal movements but will also bring down logistical cost.

14.

उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

Discuss the factors that have aided India in making impressive strides in the renewable energy sector and establishing itself as a frontrunner in the global renewable energy transition. (Answer in 250 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
Candidates must not write on this margin

15

India recently ranked under 5 in progress in meeting its INDCs in the world.

Factors that aided India

1) Government's proactiveness

- slowly undertaking phase down of coal plants and policies to develop renewable energy

(e.g.): PM Surya Yojana, MUFT Bijel Yojana

2) Improvements in manufacturing of equipments

- PLI scheme in solar cell manufacturing

### 3) Undertaking of attitudinal changes

- mission LIFE (life style for environment)

### 4) International Cooperations to develop renewable sector and technological sharings

eg) ICET signed with USA for renewable power as one of the components.

### 5) Emerging as an International leader

- ISA (One sun One world one grid)
- IBA (international cooperation for biofuel development) (awig 20)

### 6) Innovation and R&D

- swiftness in adopting 3phased nuclear plan  
\* 2<sup>nd</sup> phase (FBR) under experiments

- Indigenization of technology

(eg): High ash content coal gasification plant developed by BHEL (to produce methanol)

### Issues exists

- 1) Expensive as compared to thermal
- 2) Still large dependence on Imports ⇒ Solar cells from China  
⇒ Lithium cells from Hong Kong
- 3) Poor Private participation in R&D.

### Way forward

- 1) Extend PLI scheme for other energy producers → Electrolyzers (Hydrogen cell)  
→ wind turbines
- 2) Make people partners  
(augment GOBARDHAN schemes in rural)
- 3) Innovation fund for Startups.

Shifting to green energy is sine qua non to meet our Panchamrit targets.

15.

उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words)

15

Agriculture is the 2<sup>nd</sup> largest greenhouse gas producer after power sector. Further it leads to other pollution factors

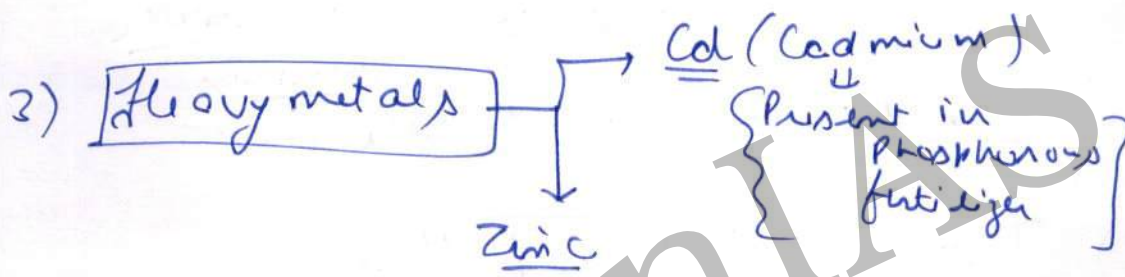
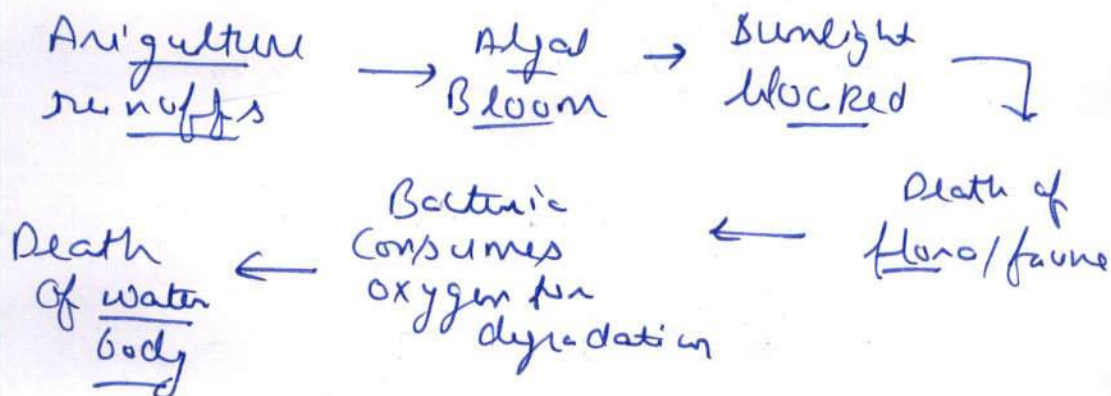
Land ← ↓ → Air  
Water

Agricultural runoffs leading to environmental pollution

1) Water pollution ⇒ inclusion of chemicals → Copper  
Zinc  
Sulphate in water

- detrimental to fisheries
- Bio magnified
- Impacts human health due to water used for drinking

## 2) Eutrophication



- Heart related problems due to Cadmium
- Heavy metals often leads to Cancer cell production.

## 4) Greenhouse gases emissions

when NO<sub>x</sub> gases dissolves in water and gets released overtime.

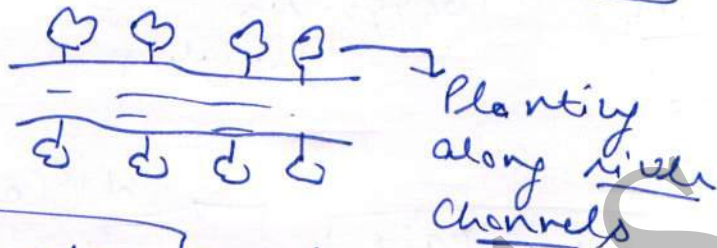
Steps can be taken

✍

## 1) Micro irrigation measures

- Prevents runoffs
- High water use efficiency

## 2) Construction of Tripartite buffers



• Agroforestry can be utilized

## 3) Change in cropping pattern

- moving towards millets in Punjab for less water usage

4) Use of phytoremediation methods to soak chemicals and heavy metals (eg): Water hyacinths.

Further, one must follow the ideology of LIFE (lifestyle for environment) to act as a guiding light

16.

हिमालयी राज्यों में पर्यटकों की बढ़ती संख्या ने उनके पारिस्थितिकीय समावेशन क्षमता को पार कर लिया है, जिसके कारण बड़े पैमाने पर मानव-जनित आपदाएं उत्पन्न हुई हैं। संधारणीय पर्यटन को बढ़ावा देते हुए ऐसी आपदाओं को रोकने के लिए क्या उपाय किए जा सकते हैं? प्रासंगिक उदाहरणों के साथ चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए)

The growing influx of tourists in Himalayan states has breached their ecological carrying capacity, leading to significant man-made disasters. What measures can be implemented to prevent such disasters while promoting sustainable tourism? Discuss with relevant examples. (Answer in 250 words)

उम्मीदवारों को इस शीट में नहीं लिखना चाहिए  
Candidates must not write on this margin

Recent Monal floods were the direct result of overexploitation of an environment arising due to tourism activities.

Breaching of ecological carrying capacity

- Excess waste generation
- Very high volumes of pollution
- Excessive infrastructure development
- Encroachments on the river channels
- Over population.

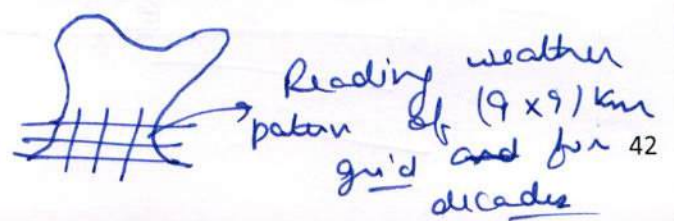
Leading to man made disasters

- Landslide → Road construction
- Tunnels
- ② Silky one tunnel collapse

- Cloud bursts  $\Rightarrow$  due to change in heat balances
- land subsidence due to over weight of infrastructure  
(eg): Joshimath case
- Floodings - due to encroachments of channels and dams construction  
(eg): Hanani floods

Measures that can be implemented

- 1) Discovering and developing alternate tourism destinations
- 2) Extensive EIA before any infrastructure development.
- 3) Application of Green Cells and measures of environmental audits
- 4) Ensemble models of weather Prediction



- 5) Zero waste policy  
- heavy fines on violations.
- 6) Development of greener transportation  
and sustainable pathways  
(eg):- Ropeways instead of roads  
- "2-wheeler only" zones
- 7) Making locals the conservation  
partners  
- Policy formulation and  
implementation
- 8) Extensive preparation of risk -  
- vulnerability maps and decentralized  
policy formulations.
- 9) Early warning systems with extensive  
use of weather dropper weather  
radars

These measures needs  
to be implemented before the  
tripping point of climate change  
destruction arises.

17.

सुपरकंडक्टर्स विज्ञान एवं प्रौद्योगिकी के विभिन्न क्षेत्रों में नवाचार को किस प्रकार बढ़ावा देते हैं? उदाहरण सहित स्पष्ट कीजिए। (उत्तर 250 शब्दों में दीजिए)  
 How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words) 15

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
 Candidates must not write on this margin

Superconductors are the materials whose conductivity ~~changes with change in temperature~~ is very high.

They find uses in number of fields

- electronics
- sensors
- transistors (etc)
- Magnets

Fueling innovation in diverse fields of S&T

1) Better and faster electronics

- employed transistors and circuits
- Mobile phones improvements

2) Computing

- Boosts the development of modern robotics
- Super computers and quantum computers <sup>can be</sup> ~~are~~ developed using ~~semiconductors~~ superconductors

### 3) Automations

- modern day robotic arms in industries
- Autonomous driving vehicles (ADAS)
- Boosting 4<sup>th</sup> industrial revolution

### 4) Innovation in green energies

- solar cells comprises of semiconductors (silicon)
- for smart metering to prevent AN losses (currently ~22% in India)

### 5) The field of medical sciences

- Vitals monitoring devices  
F<sub>SPO<sub>2</sub></sub>, ECG.
- Surgeries via robotics

### Current issues

#### 1) Monopoly of few nations

- China
- Taiwan
- USA

2) ~~Red~~ Cost of semi

3) Developing faster modes of transportations

└ Maglevs  
└ Bullet trains

4) Field of medicines

└ Better MRIs etc

5) Unfolding the secrets of universe

└ Higgs Boson particle collider  
will improve

6) Better power transmission

└ Bringing down of ATnC  
losses (currently 22%)

Superconductors

Could act as one of the wonder materials of 21<sup>st</sup> century

18.

यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

While India has laws covering almost all types of intellectual property rights, numerous enforcement, regulatory and administrative challenges hamper the commercialisation of IPRs in India. Elaborate. (Answer in 250 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
Candidates must not write on this margin

IPRs are the right provided to innovator to remain protected from misuse and bear the fruits of his/her innovation

Various laws

- 1) Patent Act ⇒ protection <sup>of innovation</sup> for 20 years
- 2) Copyright Act ⇒ To safeguard artistic work
- 3) Trademark protection Act ⇒ To safeguard trademark of company
- 4) Active member in TRIPS and following WIPO related laws

Excessive regulation hampering effective commercialization

- 1) Issues regarding evergreening of patents exist
- 2) Multiple window clearance required for utilization
- 3) Foreign Participation gets affected due to stringent and confusing laws
- 4) Corruption ~~is~~ and red-tapism in innovation administration
- 5) Multiple laws with overlapping domains and Juris dictions

## Way forward

- 1) ~~It~~ Provide for single window clearance
- 2) e-governance

. Better IPR policies are important for undertaking technological development and fostering innovations

VisionIAS

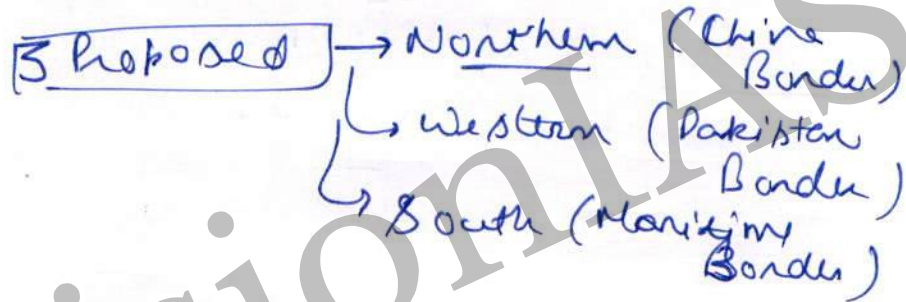
19.

एकीकृत थियेटर कमान का निर्माण करने में सामना की जाने वाली चुनौतियों को ध्यान में रखते हुए, परीक्षण कीजिए कि कमानों का थिएटराइजेशन किस प्रकार तीनों सेनाओं के बीच जनशक्ति और संसाधनों के बेहतर एकीकरण और युक्तिकरण को बढ़ावा दे सकता है। (उत्तर 250 शब्दों में दीजिए) ①

Keeping in view the challenges in creating integrated theatre commands, examine how the theaterisation of commands can lead to greater integration and rationalisation of manpower and resources among the three services. (Answer in 250 words) ②

15

Sepakas committee provided for theaterization of four commands involving clubbing the personnel of different services under a common commander



### Challenges of Theaterization

1) Already skewed resources ⇒ Sharing not a viable option

eg: IAF has just 34/45 squadrons active

2) Suppression of other services by a larger service (Army)

2) Different kind of training for  
3 services ⇒ compatibility issue  
might arise

4) It is being said ⇒ "India is  
not geographically large enough  
to undertake the sterilization"  
(Unlike China, USA)

5) Inner conflicts between services  
might arise during operation  
(Blame games during war)

### Importance of sterilization

- 1) Resource sharing efficiency  
improves  
└ Avoiding duplications
- 2) Better synergies during war.
- 3) ~~It~~ could help in quick assembly  
of the forces in any crisis arises.

4) Working in silos might make  
the operation less effective.

Essence  
5) Sharing leads to augmentation  
of capabilities.

(Eg): Army being provided with  
real data by Airforce  
through surveillance.

### Way forward

1) Dedicated training module.

2) Indigenize the resources as  
per the need to facilitate  
the aterrization.

3) A neutral commander to be  
appointed not following any  
prejudice.

4) Greater role of integration to  
be provided to CDS.

The aterrization has been  
a very successful in USA and  
China. Similar approach should also  
be taken by India.

20.

सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)

Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words) 15

(1)

Borders are vital for facilitating trade, security, international relations and demonstration of ones <sup>geopolitical</sup> power. They ~~need~~ border villages need special treatments.

Border villages for  
Key strategy for  
enhancing border security

1) Can work as security partners  
⇒ helping security forces in  
times of crises

{(E): Armed people helped  
armed forces during 1962  
Indo-China War}

2) Can play a vital role in curbing  
inter border crimes

↓  
Trafficking  
Drug smuggling  
Illegal migrations

उम्मीदवारों को  
इस क्षति में  
नहीं लिखना  
चाहिए  
Candidates  
must not  
write on  
this margin

3) Could collaborate with Security forces → "acting as a local spies" and giving information about illegal cross border activity.

4) Could play a vital role in resolving interborder / disputes and peaceful coexistence

(Eg): Inter district coordination committee in Bhutan / India

Measures taken by the government

1) Villa

Vibrant Border Village Programme → Socio

economic development of people settled at Chi-Indo-China border

- Infrastructure development
- Tourism promotion
- Reversing migrations

2) UDFs (Village defence force)

- Providing weapons and training to border villages of J&K to counter insurgencies

{Recently 30,000 weapons distributed}

3) BADP (Border area development plan)

{ For infrastructural development in border regions

Effective participation of border villages and their capacity augmentations is vital for ensuring not just the external security but the internal as well

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