

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 उपरान्त 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. : 00976428

अभ्यर्थी का नाम/Name of Student : RITIKA PANDEY

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

Aug 25, 2024

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

केंद्र
Centre

RANCHI

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	महत्वपूर्ण अनुदेश 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।	Important Instructions 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.
1	(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (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।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (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
2	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।	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.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5	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।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	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।	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.
7	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।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8	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।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) 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)

10

India is among top 5 countries in food processing sector (Economic Survey, 2024).

Evidences of rapid growth of FPIs (Food Processing Industries)

- ↳ Employs nearly 50 million people.
- ↳ India's contribution to global agri trade has seen manifold increase
- ↳ FDI in food processing is huge.

FPIs as cause of food safety challenges in India

- ① Poor infrastructure for storage (eg) cold storage is still seen as a luxury.
- ② Funding constraints $\Rightarrow$ huge wastage of raw materials.
- ③ Infrastructural/logistics challenges in transportation $\Rightarrow$ huge waste

of finished products.

- ④ Diversion of cereals for FPIs $\Rightarrow$ lack of grains in poor households.
- ⑤ Horticultural products mainly used for FPIs $\Rightarrow$ lack of nutritional fruits and vegetables for small farmers.
- ⑥ Costly finished goods (eg) cheese, milk powders, etc. $\Rightarrow$ unaffordability.

⑦ Way forward

- 1.) Minimising wastage of raw materials.
- 2.) Fortification with Fe (Iron), Zn (Zinc), etc. $\Rightarrow$ curbing malnutrition.

Nonetheless, in light of positive benefits of FPIs, government has launched various schemes (eg)

PM Kisan Sampada Yojna; PM FME;
One district, One product, etc. These need rigorous implementation.

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

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

Public distribution system in India is dependant on lots of factors like MSP (minimum support price), buffer stocks, etc.

FPS (Fair price shop) is one of such ~~transforma~~ factors in PDS.

Transformation of FPS is an evolving process

1.) Beneficiaries :- Under targetted PDS, it were some targetted sections. Then, under National Food Security Act, 2013 → focus shifted to

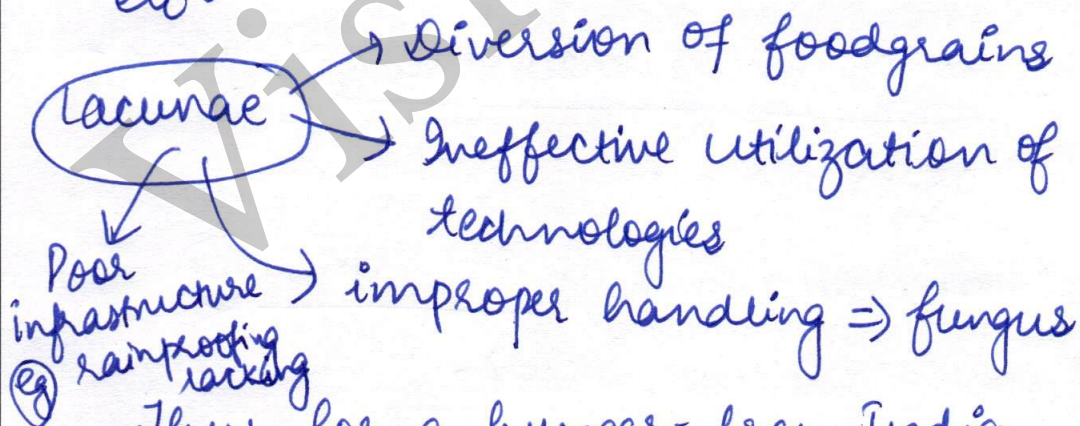
- ↳ Antyodaya households
- ↳ BPL households
- ↳ APL households.

2.) Commodities covered :- Earlier
it was mainly rice and wheat.
Today, it has been extended to
pulses, sugar, etc.

3.) Authority :- From heavy reliance
on central authorities ^{to} the role of
state government now $\Rightarrow$ FPS transformed

4.) Technology :- Erstwhile use of obsolete
technologies (eg) weight measurement.

Now, acceptance of digital
payments, use of latest technologies,
etc.



Thus, for a hunger-free India,
SDG 2, it's needed that fair price
shops function effectively and
contribute their best.

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

Agri-tech refers to technologies that are used in agriculture for production and access to market.

Role of agri-tech startups

① Farm productivity

- Equipments / chemicals that enhance production (eg) seed/harvester technologies.
- Eco-friendly measures (eg) neem-coated urea.
- Development of GM crops (eg) GM Mustard DHARA.

② Market access

- Technologies to measure qualities (eg) lactometers for milk quality.

- mobile phone applications → connectivity between suppliers and consumers.

Steps Taken

- 1.) PLI scheme in startups.
- 2.) Increasing private sector investment through Green Credit Program, Sovereign Green Bonds, etc.
- 3.) Permitting FDI in Agriculture.
- 4.) Research and Innovation (eg)
PUSA, Bihar (Agriculture Research University)

Agri-tech startups further need to focus on demand of farmers with respect to early warning system for disaster management for proper crop diversification in face of climate change.

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 हार्शिए में नहीं लिखना चाहिए
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Land reforms in post-independent India included measures like land redistribution, zamindari abolition, tenancy reforms, land ceiling, etc.

However, it hasn't been implemented fully. Role of digitization of land records in this direction :-

- 1.) Conclusive land titling instead of presumptive land titling.
- 2.) Easier land transactions $\Rightarrow$ benefit in tenancy reforms.
- 3.) Land ownership data $\Rightarrow$ ensure implementation of land ceiling clause (Kumarappa Committee.)

- 4.) Incentives to landowners (eg)
government's responsibility in
case to error.

Steps Taken

1.) SWAMITVA scheme

↳ under it

Unique
land ^{parcel} identification
number (ULPIN)

NGDRS

↓
to act as national
repository of all
data related to
land records

2.) Cartelization of maps ⇒ easy digitization process.

Land reforms hold the key to
alleviating poor farmers from the
clutches of poverty and frauds.

5.

भारत को अपने जनसांख्यिकीय लाभान्श 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

उम्मीदवारों को इस हशिप में नहीं लिखना चाहिए
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Manufacturing sector contributes merely 26% to GDP of India.

Need to increase manufacturing base

① To exploit its demographic dividend

↳ average age in country is 29 years, which need employment deeply.

↳ largest amount of job could come from manufacturing

(eg) MSMEs contribute to 11 crore people's employment.

② To accelerate economic growth

↳ Jobless growth curve needs to be reversed.

↳ Increased base for shift from agriculture (economic transition)

Steps Taken

- 1.) Make in India 2.0 , Special Economic Zones .
- 2.) PLI Schemes for nearly 20 industries.
- 3.) MSMEs ← vivad se vishwas
collateral free loans
- 4.) Youth Skilling (eg) skill centres
under PMKVY

By ensuring manufacturing-led growth, India will be able to empower its 4 castes - Annadata (Farmers), Mahila (women); Yuva (youth) and Garib (poor) , as envisioned in Budget 2024.

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

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

Climate-change related hazards have increased in recent years, as temperature has risen by 1.07°C since last century (IPCC data).

Growing natural hazards from climate change

- 1.) Increased incidences of cyclones
(eg) Arabian Sea.
- 2.) urban flooding due to more heating of areas $\Rightarrow$ evaporation.
- 3.) uneven distribution of monsoon rains $\Rightarrow$ droughts
 $\Rightarrow$ Floods.
- 4.) Risk of cloudbursts (eg) Chamoli.
disaster have increased.

Suggestions to improve resilience of Indian Coastal Communities

- 1.) District disaster management plans under the aegis of regional development plans.
- 2.) Improving early warning systems.
- 3.) Teaching DOs and Don'ts during crisis (eg) how to evacuate quickly.
- 4.) Involvement of NGOs in reaching out to every house.

Through community disaster resilience, Sendai framework ^{goal} _{of} reduced death can be improved.

7.

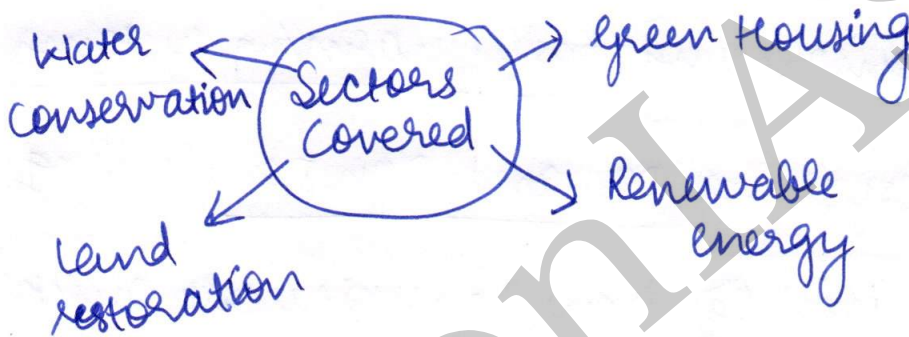
भारत में अधिक संधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)

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

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

Green credit program has been envisaged to provide credit facilities to renewable and environmental friendly sectors.



Role in promoting Sustainable environment in India

1) Energy sustainability (eg) Green energy
Sources - solar, wind, etc.

2) Land Resource management (eg)
re-forestation purpose $\Rightarrow$ meeting
Aichi Targets.

3.) Green agriculture (eg) green pesticides
⇒ Sustainable land, air and water usage.

4.) Water conservation (eg) wetlands'
restoration; lake development; etc.

Concerns in implementation

- 1.) Frauds like greenwashing, greenhushing
etc. by corporate sector.
- 2.) Low awareness among citizenry
about green credits.
- 3.) Unfeasibility over long run (eg)
increasing population ⇒ increased food
demand
⇒ water-stress.
- 4.) Funding constraints ⇒ very less
~~the~~ public participation (eg) lack of
knowledge with bank officials.

Thus, need of the hour is to include
all stakeholders and increase the
awareness.

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

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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Satellite navigation systems are used to get the exact location using Satellites located in geosynchronous orbits

eg) GPS, GLONASS, etc.

Need for NavIC

1.) Indigenous navigation system has

Several benefits:-

-) Preventing surveillance by other countries.
-) Shows self-reliance of the country.
-) Boosts consumer confidence
-) Creates more demand $\Rightarrow$ economic upturn.

2.) Internal security of countries (eg)

preventing data-theft.

3.) Military purpose → Especially for military exercises; watching suspicious activities in border areas.

4.) Increased employment opportunities for domestic manufacturers.

5.) NAVIC also gives location far more precise than its alternatives.

Thus, NAVIC's deployment would help India achieve twin goal of Internal Security as well as self-dependency i.e., Atmanirbhar Bharat.

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)
- 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 हाशिए में नहीं लिखना चाहिए
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Cyberspace has emerged as a bane as well as a boon for the globe (eg) moneylaundering, fifth dimension of warfare, trafficking, etc.

Cyberspace as a frontier of global money laundering

1.) Rise of cryptocurrencies

- ⇒ Anonymous transaction
- ⇒ Decentralised (away from eyes of government)
- ⇒ tool for Hawala transaction.

2.) Thus, money obtained through illegal means can be easily laundered.

3.) Other techniques & extortion

- pornography
- drug trafficking

These have increased collection of black money globally.

Way forward.

- 1.) launching CBDC (Central Bank Digital currency) on a country-wide level.
- 2.) Increasing awareness among citizenry against using cryptocurrencies (risk associated).
- 3.) global agreements eg utilizing G20, UN, etc. forum.
- 4.) Increased surveillance eg curbing proliferation of dark webs.

India, in order to become a Viksit Bharat by 2047 indeed needs to curb money laundering.

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 क्षेत्र 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 हार्शिए में नहीं लिखना चाहिए
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As per defence expenditure report, India is among top 5 defence expenditure countries and it's improving every year.

Need for technology absorption in defence

- 1.) Emergence of new domains of warfare
(eg) Cyberspace; Outer space; etc.
- 2.) Emergence of new challenges (eg) phishing, hacking.
- 3.) Emergence of new technologies (eg) China recently tested its Hyper-sonic guide vehicles.
- 4.) To improve indigenisation of technology
(eg) defence corridors in UP, Tamil Nadu, etc.
- 5.) Reducing reliance on account of
re-birth of a bipolar world - USA and China led $\Rightarrow$ preserve strategic autonomy.

Challenges in Technology Absorption

उम्मीदवारों को
इस हार्शिए में
नहीं लिखना
चाहिए
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- 1.) Abysmal spending on indigenisation of technology (eg) more reliance on foreign partners (France, Russia).
- 2.) Low participation of private sector (eg) heavy investment needs.
- 3.) Reluctance among western world to share technical know-how (eg) USA on nuclear technologies.
- 4.) Quick innovation all over the world, making yesterday's technology obsolete.

Way Forward

- ① Empowering MSME sector for defence manufacturing.
- ② utilizing privatisation of space (eg) NSDL, InSPACE, etc. to fullest potential.

Thus, in order to retain its strategic autonomy, India needs to act today!

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 हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

15

North East Region (NER) of India is virtually isolated from the rest of India geographically — Chicken neck corridor is the sole route.

Issues faced in development of trade and industries in NER

1) Geographic issues

- ↳ difficult terrain (eg) Hilly areas
- ↳ Difficulty in logistics

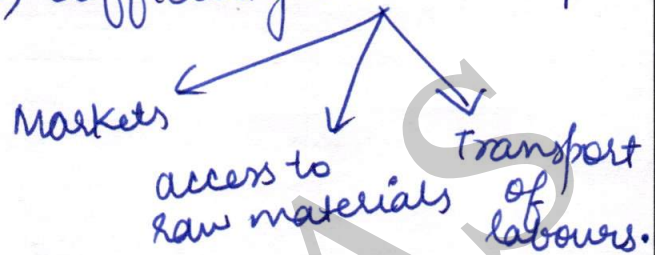
2) Political issues

- ↳ large amount of ethnic violence in the region (eg) Manipur violence, Nagaland insurgency
- ↳ Suspicion among locals, regarding Indian government
- ↳ Freedom of movement and residence is restricted (Article 19) (eg) Inner line permit.

↳ Naxalite issues (eg) narco-terrorism by nagaland insurgents.

3.) Economic issues

↳ Poor road network system in the areas ⇒ difficulty in terms of



4.) Social issues

↳ Tribal areas mostly (Article 371 covers special protection)

↳ 5th and 6th schedule areas ⇒

permission of Gram Sabha/Tribal Advisory Councils (eg land acquisition)

Measures taken to tackle issues

1.) Governor → power under 6th scheduled area for special administration.

2.) Tribals → Skilling and Education
(eg) Angami nagas

- 3.) PLI (Production Linked Incentive) scheme
for several sectors (eg) Textiles.
- 4.) MSMEs < Vivad se Vishwas
collateral free loans
- 5.) Infrastructural development (eg) North-
East Council to prepare plans.
- 6.) Women empowerment (eg) NGO Khej =>
Custard apple production.
- 7.) District Mineral Fund for benefit
sharing.
- 8.) Freight corridors and UDAN scheme
=> improved logistics.
- 9.) Bilateral agreements (eg) Sitthue Corridor.

Further, by implementing such measures sincerely, the trade and industries can be developed in NER to fulfill goal of Atmanirbhar Bharat.

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)

15

उम्मीदवारों को इस हशिफ में नही लिखना चाहिए
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India extracts 25% of groundwater every year, out of which more than 90% is spent on irrigation needs. (UN Water Development Report).

Role of micro-irrigation systems in sustainable agriculture

- 1.) Available for a small land parcel
i.e., less than 1000 hectares.
- 2.) Preventing water wastage $\Rightarrow$ conservation of water.
- 3.) Soil Salinization can be prevented
 $\Rightarrow$ preventing land degradation (Aichi Targets).
- 4.) Recharge of groundwater is possible, by planting trees/vegetation in nearby areas.

5.) Augment farmer's income ° Also,
Cost of installment is less °

6.) In line with ideas like minimum
wastage of natural resources (Sustainable
Development Goals.)

Constraints

1.) Farmer-related

↳ Funding issues (eg) lack of
collaterals ⇒ no loans.

↳ Incentive related to MSPs ⇒
wasteful behaviours (eg)
sugarcane in Maharashtra.

↳ Electricity fluctuations ⇒
pump-related issues.

2.) Other constraints

- ↳ Low availability in rural areas.
- ↳ Taking large amount of time than other practices (eg) canal irrigation.

Way Forward

- 1.) 3As → Accessibility, Affordability and Availability of equipments.
- 2.) Funding support → Research and development
↳ Loans to farmers.

By doing sustainable agriculture, India would be able to fulfill twin objectives of — Sustainable Development and Viksit Bharat by 2047. Also, among 4 castes, farmers (Kisan) would be empowered (Budget 2024.)

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

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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India's rank in Logistics Performance Index is 38 (2024). This points towards need for improvement in overall logistics sector.

Issues in freight transport in Indian railways

- ① Geographical issues (eg) in Himalayan regions, the construction faces lots of resistance.
- ② Land acquisition issues (eg) LAAR, 2013 provisions.
 - ↳ It's closely related to land rights of tribals.
- ③ Competitive sector (eg) National Monetisation Pipeline seeks to

monetise vacant railway lands.

④ Political issues

- ↳ resistance by state government
- ↳ Bureaucratic red-tapism
- ↳ Corruption in tender.

⑤ Institutional gaps eg lack of a 3rd party to commercialize railways and audit its performance.

⑥ Funding issues

- ↳ huge amount of subsidy to domestic travels eg Senior Citizens

⑦ Cases of rail accidents eg recent Jharkhand case.

Strategies to be adopted

- 1.) land utilization eg as per government sources, more than 50% of land owned by railway is vacant.

- 2.) Public-Private partnership (eg) Turnkey model; BOT model; EPF model; etc.
- 3.) Alleviating tribals' concerns (eg) Xaxa recommendation → land for land; employment to 1 family member for household.
- 4.) Logistics Park development for overall improvement in supply chains.
- 5.) Rail accidents
↳ 'Kavach' action program.
- 6.) Increased budgetary allocations for railways ⇒ Funding constraints overcome.

By taking right steps, it can be ensured that India is able to improve its logistics at par with USA, China, etc.

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)

15

India's renewable energy contributes to ~150GW in total installed capacity, while it was less than 70GW a few decades back.

Factors leading to the impressive strides in renewable sector

1.) Government policies

↳ Green Hydrogen mission (5 MMT by 2030 is the aim).

↳ Green Transport corridor to transport renewables easily.

↳ Sovereign Green Bonds to increase private investment.

↳ PLI scheme (eg) in solar PV modules

↳ Schemes — PM KUSUM
 UDAY scheme (discome)
 Har Ghar Bijli Yojna.
 Ethanol Blending Program
 FAME scheme

2.) International factors :- Paris agreement
goal of curbing climate change by
turn of the decade

⇒ Panchamrit goals by India
(eg increase renewables share to
500gw of installed capacity)

↳ Decarbonization Initiatives (eg)
EU's CBAM launched recently

3.) Incentives for citizens

↳ PM Surya Ghar Bijli Yojna (Budget,
2024) ⇒ free electricity upto 200 units
for solar connected households.

↳ PM KUSUM → incentivizes farmers.

↳ New found awareness with regard
to Sustainable Development

Constraints in this regard

① Abysmal private sector participation
in renewable sector (eg) manufacture
of PV modules.

- ② Funding constraints (eg) low budgetary allocations.
- ③ Social costs → (eg) land acquisition demands
(eg) installment of wind farms
- ④ Economic costs → electricity prices may shot up in short term.
→ unemployment threat to coal area workers.

Way Forward

- ① Increasing private sector participation
(eg) easier loans.
- ② Securing land rights to locals.
- ③ Implementing committee recommendations for sustainable agriculture.

Securing SDG of renewable energy thus requires a wholesome approach including all the stakeholders.

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)

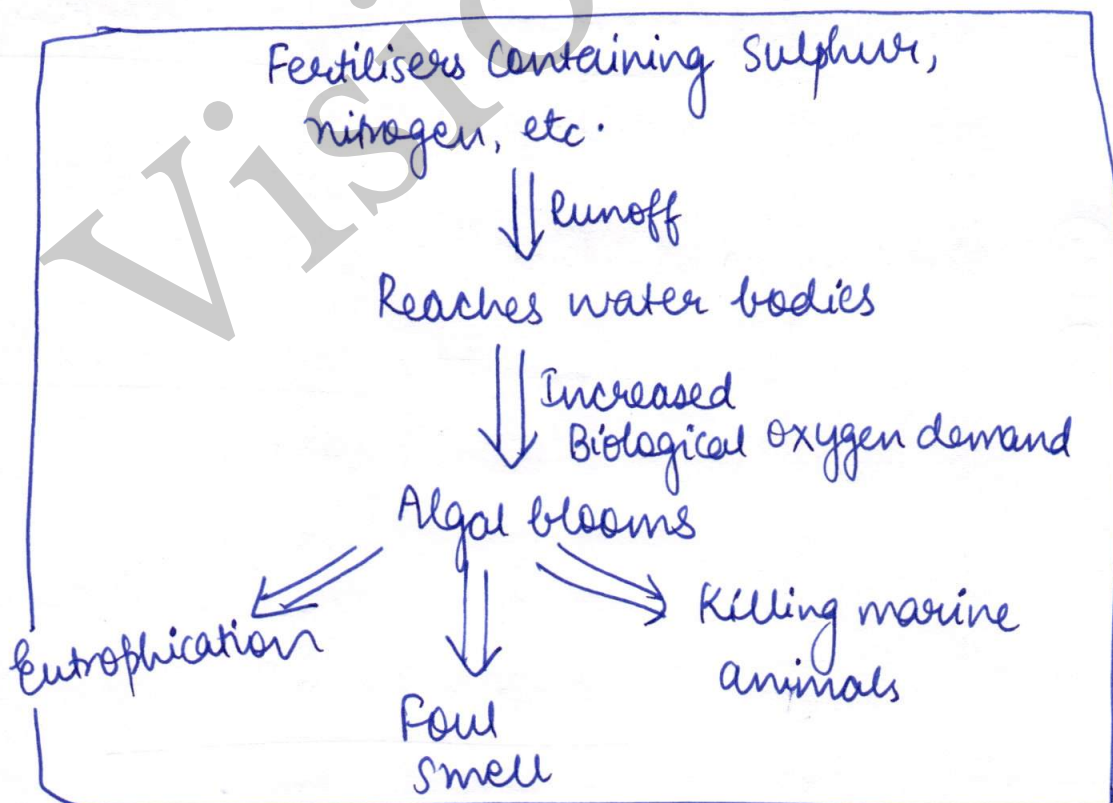
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India is the second-largest producer of fertilisers and most of it is used in unwise manner leading to severe consequences.

Role of agricultural runoff in Environmental pollution

1.) Water pollution:-



2.) Air pollution → (eg) nano particles in fertilizers/pesticides can lead to increased $PM_{2.5}$.

3.) land pollution due to accumulation of chemicals ⇒ land desertification ⇒ unfit for agriculture.

Measures that can be taken

1.) Improved usages (eg) drip irrigation technology.

2.) Innovative usage (eg) neem-coated urea that reduces the release rate of urea.

3.) Treatment of waste (eg) water treatment plants could be utilized.

4.) Preventing use of harmful chemicals (eg) Endosulfan pesticides.

5.) Awareness among farmers (eg) Zero Budget Natural Farming, PM PRANAM, Soil Health Card, etc.

↳ Also, shift to less chemical dependent crops.

By taking appropriate measures in this direction, several objectives could be achieved (eg) SDG of 'water for all', marine life, land Conservation, equality and justice.

उम्मीदवारों को
इस हाशिए में
नहीं लिखना
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Negative impacts of unsustainable tourism

- ① Littering of waste $\Rightarrow$ landfills in otherwise beautiful areas.
- ② Construction activities
- Air pollution
(eg) PM₁₀ in air
 - Tectonic activities
(eg) earthquakes
 - Noise Pollution
 - landslides
- ③ Water pollution $\rightarrow$ due to increased water footprint (eg) In hilly stations of Kullu, Manali.

- ④ Deforestation → to make motels/
roads ; etc.
- ⑤ Pavements using concrete ⇒ problem
of urban heat islands in these
areas.
- ⑥ Increasing temperature (eg) due to
use of heaters / electrical equipments.

Measures to be taken to promote
Sustainable tourism in Himalayas

- ① Awareness among tourists among
ecological fragility needs to be improved.
(eg) use of sign-boards / nudge
behaviour techniques.
- ② Minimising forest loss and growing
vegetation in surrounding areas.
- ③ Waste to Energy technology ⇒
overcoming problems of landfills.

- ④ Involvement of NGOs/ locals in management of areas eg on model of Joint Forest Management.
- ⑤ Punishment and Reward mechanism to nudge scientific behaviour.
- ⑥ making such areas as plastic-free zones.
- ⑦ Waste recycling → Reuse, Recycle and Refuse principles.

By doing so, it would be possible to ensure the principle -
'Paryavaran Rakshati Rakshitah'
i.e., Environment saves those who save her!

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 वॉशिंग में नहीं लिखना चाहिए
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Superconductors refer to materials whose ~~conduct~~ conductivity lies between conductors and insulators (eg) Germanium, Silicon, etc.

Role of Superconductors in Science and Technology

- ① Designing electrical equipments
(eg) logic gates for integrated chips; transistors; etc. ⇒ Mobile-phone technology.
- ② Battery designing (eg) Solid state batteries ⇒ better alternatives to lithium batteries.
- ③ Excellent conductivity (eg) led to development of LEDs, solar power sun batteries, LIDAR, etc.

- ④ Chemicals features enhancement (eg) addition to cosmetics, nano-fertilisers, etc.
- ⑤ New age technologies (eg) 3-D printing.
- ⑥ Computer equipments (eg) screens based on semiconductors.
- ⑦ Fuel usages → (eg) in rocketry, mining, etc.
- ⑧ Designing rust-free materials (eg) galvanization of iron made objects, etc.
- ⑨ Electricity production due to less resistivity and high conductivity.
- ⑩ Waste treatment (eg) Sewage plant equipments, etc.

Steps taken by government

- ① Production-linked Incentive scheme (eg) for semiconductor chip manufacturing in India.
- ② Research and Development (eg) establishment of National Research Foundation recently.
- ③ Incentives to women in STEM (science, Technology, Engineering and mathematics.)
- ④ Education front → Foreign colleges to open branch in India.
- ⑤ Favorable FDI policies ⇒ sharing of technological know-how.
- ⑥ Skilling of youth (eg) DAKSH portal; PMKVY.

By fuelling innovations in several sectors, semiconductors thus are ~~for~~ torch-bearers in Industrial Revolution 4.0 and government is taking steps to augment this.

Laws covering types of IPRs

- 1.) Copyright → Copyrights Act, 1955.
- 2.) Patents → Patents Act, 1999
- 3.) Farmer rights → Plant varieties Act
- 4.) Geographical Indication → GI Tag Act, 1999
- etc.

Challenges hampering commercialisation of IPRs in India

- 1.) ~~Part~~ Enforcement challenges :- Due to issues such as → difficult procedure in granting IPRs
↳ long period between filing and getting approval.

↳ violation of Traditional Knowledge of locals/tribals.

2.) Regulatory challenges

↳ violation of IPRs due to plagiarism, hacking; etc. (eg) more than 30%

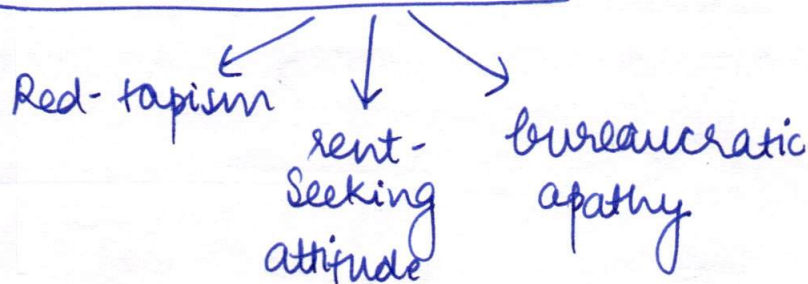
PhD in India annually are rejected on grounds of plagiarism

↳ compulsory use clause for emergency needs.

3.) Administrative challenges

↳ delay in granting certificates (less than 3 months in USA versus nearly 10 months in India)

↳ Bureaucratic hurdles



↳ Institutional Challenges (eg) Intellectual Property Appellate

Board has now been abolished!

Way Forward :-

- ① Single window clearance for 'Ease of Getting IPRs.'
- ② Bureaucratic → Mission Karmayogi; Award for excellence; punishment mechanism; etc.
- ③ Skilling of youth (currently less than 5%) to increase number of filing of cases.
- ④ Adopting global best practices (eg) USA and China.
- ⑤ Filling up institutional gaps (eg) Establishing appellate board.

By giving IPRs regularly and easily, India will be able to become a destination for investments — both foreign as well as domestic.

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)

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)

15

Integrated Theatre Commands^(ITCs) have been vouched after so that all the three services - navy, army and air force can work in integral and rational approach.

Challenges in creating theatre commands

- 1.) Logical challenges: → It's said that countries like USA have to fight global wars and thus they would need ITCs, but that's not true for India.
- 2.) Infrastructure and Funding support → This is abysmal in several areas.
- 3.) Ego-tussle between tri-services members
(eg) Air force versus navy during Kargil war, 1999.
- 4.) Could lead to too much power with military ⇒ Threat of military dominance.

- ⑤ Question as to who will be the head among three services $\Rightarrow$ boosts rivalry.
- ⑥ Different approaches of working eg silos-based approach of tri-services.
- ⑦ Increased import dependency for military equipments, as equipments would be diverted to several locations.

However, above challenges need to be overcome as benefits of theatre commands are manifold: -

- 1) Greater integration of military men, equipments and technologies.
 - $\hookrightarrow$ Benefit of working under same leader $\Rightarrow$ cohesion can be ensured.
- ② Rationalisation of manpower
 - $\hookrightarrow$ Prevents duplication of efforts eg in training / buying equipments.
 - $\hookrightarrow$ Easy accumulation of

human

resources during some crisis.

↳ Learning from each other → eg
navy men can pass on crucial learnings
to air force/army.

③ Rationalisation of resources

↳ Preventing diversion of resources for
different services.

↳ Keeping everything at one place ⇒
ensures quick mobilisation of
arms/ammunitions

Way Forward

- 1) Implementing Committee recommen-
dations eg Shaktikanta ; Kargil
Committee; etc.
- 2) Indigenisation of resources for better
availability and reduced import.
- 3) Culture of integral approach to working
of tri-services members.

"A Samridh Bharat needs greatest
support of its military men."

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)

Border villages are the first villages while traversing from one country to another country, in terms of geography.

But, these face several challenges :-

- 1) Fear of violence/attacks (eg) villages in Kashmir valley.
- 2) Less ^{civilian} infrastructural development due to focus on military infrastructure needs (eg) village roads.
- 3) Usually found in extreme geographical areas (eg) high temperatures in Rajasthan; very chilling temperatures in Jammu and Kashmir; etc.
- 4) Polarization among youth (eg) over-ground workers in North-East.

5.) Plagued by threat of demographic inversions (eg) Kuki-chin migrations in Arunachal Pradesh.

6.) Refugee crisis (eg) Myanmar-India border ; Assam-Bangladesh border.

7.) Poor socio-economic status (eg) less connectivity with mainland ; lack of good market linkages ; etc.

Facilities that can be provided :-

1.) Good infrastructural support (eg)

Internet connectivity ; schools ; hospitals ; etc.

2.) Proper implementation of laws (eg)

AFSPA in north-east that is alleged to be violating tribals' rights.

3.) Economic facilities

↳ Bank branches and initiatives like Bank Mitra.

↳ NGOs and SHGs for women empowerment.

4.) allaying locals fears (eg) mental support through NIMHANS for dealing with border crisis.

Measures taken by the government

1.) for development { Border village programs
Road development
(PM Gati Shakti's 9 engines)

2.) To curb illegal migration

↳ Fencing of borders (eg) electric fencings.

↳ Scrapping of Free movement Regime with Myanmar

3.) For security livelihoods { Tribal Haat Programs
Employment opportunities
Skilling under PMKVY.

By taking facility-provider approach, it can be ensured that border villages don't remain 1st village only for national interest but also becomes developed areas for Viksit Bharat Sankalp!

SPACE FOR ROUGH WORK

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VisionIAS