



# 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. : 01138476

अभ्यर्थी का नाम/Name of Student : Dishant A. Nisar

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

English

तारीख  
Date

25/8/24

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

केंद्र  
Centre

Kaol Bagh

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

Komal

	महत्वपूर्ण अनुदेश	Important Instructions
	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।	<b>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.</b>
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 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.

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
<p>परीक्षक के हस्ताक्षर Signature of Examiner(s)</p>	

**प्रासांक 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)		
<b>सकल योग (A+B) / GRAND TOTAL (A+B)</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?

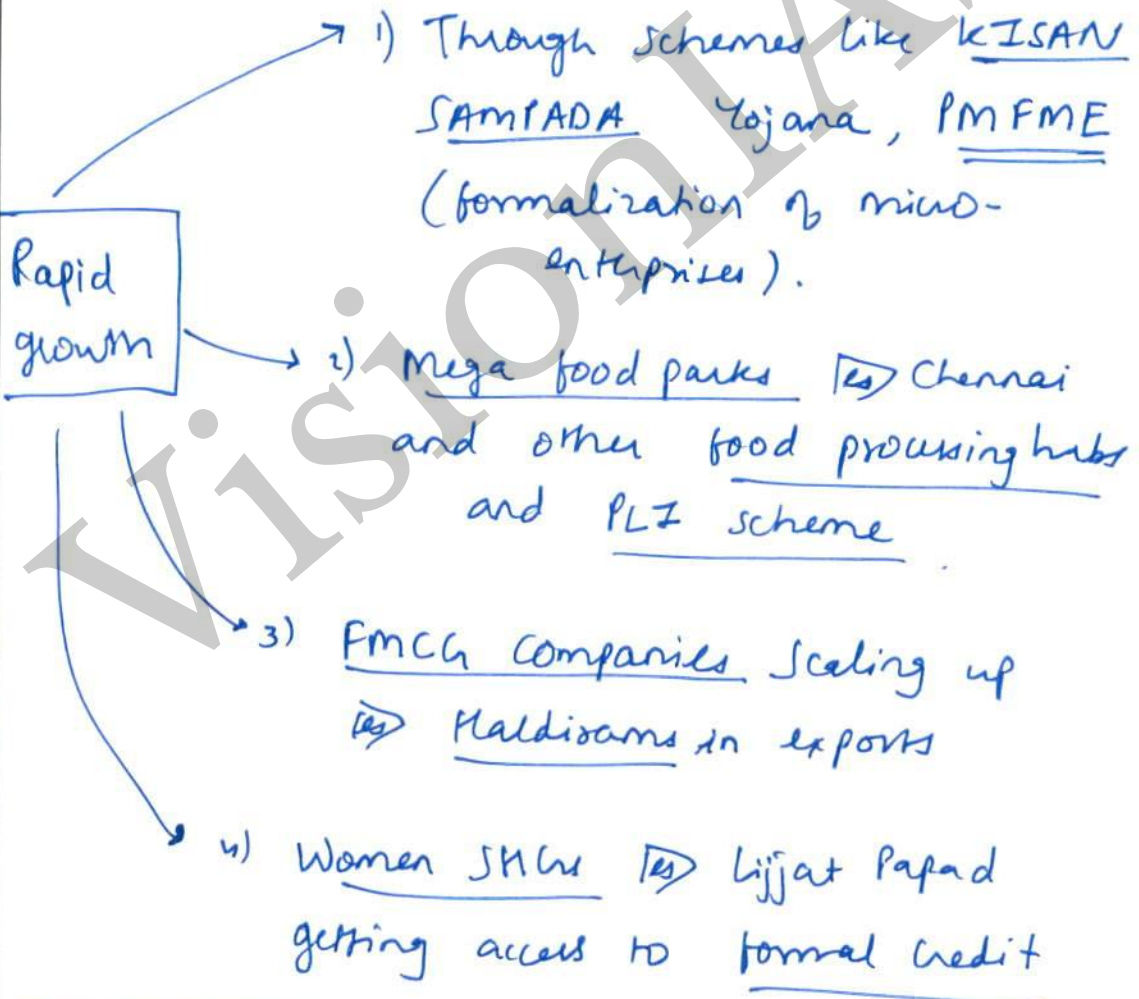
(उत्तर 150 शब्दों में दीजिए)

How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words)

10

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

Food processing is a 'sunrise sector' with an annual CAGR of around 6-7% and is largely in the MSME sector, SHG domain



Leading to food safety challenges →

1) Adulteration of food

and contamination due to poor  
manufacturing capacity, lack of  
industrial standards  $\Rightarrow$  Lead found in  
Nestle's maggi, Patanjali lihee.

- 2) India's food processing in the informal  
sector so no ~~proper~~ SPS measures taken  
(Sanitary and phytosanitary standards)
- 3) India's accreditation bodies lack  
capacity  $\Rightarrow$  ISI mark, Agmark  
have poor labour inspection and  
corruption.
- 4) Indian standards already below  
European standards, Codex limits of  
FAO not followed.
- 5) Exports of food processing rejected and  
dumped back in Indian markets  
 $\Rightarrow$  Haldipani in USA.
- 6) Certification, Nutritional standards not  
accurate due to poor lab testing infra.

Need is for creating food processing  
infra to balance growth and  
health achieved SDG of 2 and 3

2.

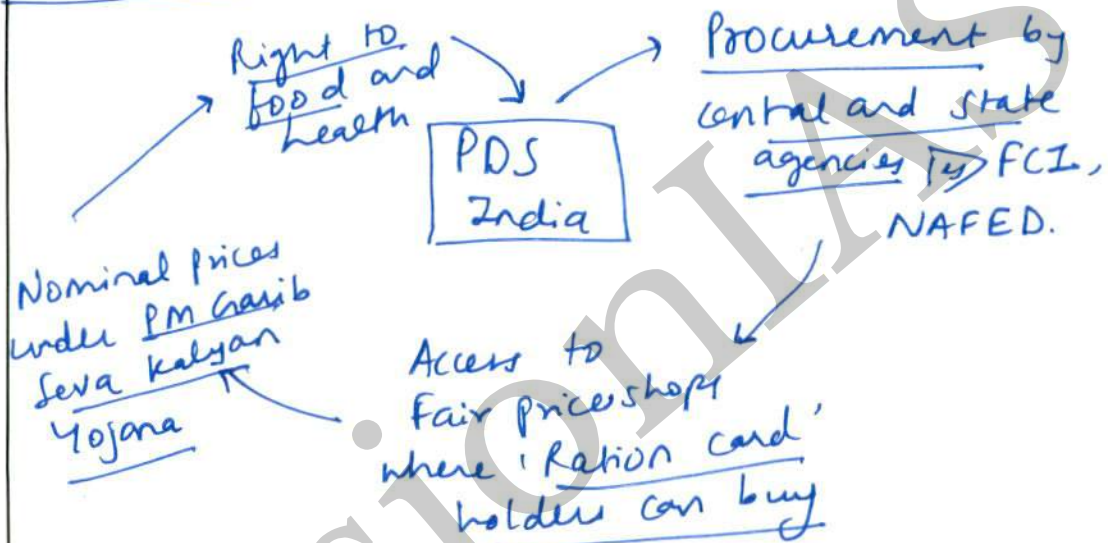
भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)  
Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words)

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

10

## The National Food Security Act 2013

Made it a statutory right to get access to food and 'fair price shops' became important.



FPS transformation is evolving. →

1) FPS first came under the Central sector scheme of food security in 1980s.

2) Ration cards were created for access.   
 White } Based on poverty / income levels  
 Blue }  
 Orange }

3) Consumers can access food grains at nominal prices like ₹ 2 for rice  
₹ 3 for wheat.

b) Various states were allowed to tweak their distribution mechanisms and products they offered

↳ kerosene in Tamil Nadu

5) NFSA Act 2013 gave it statutory status.

4) Due to corruption, diversion of ration and substandard grains being offered several reforms were initiated.

1) The FPS transformed and were modernized by 'Biometric' access and linking of Ration card with Aadhar.

2) For migrant workers 'ONORC' scheme was initiated and successfully implemented (One Nation One Ration Card scheme)

Yet challenges remain,

1) MSP issues and FCI's incidental costs like storage, food wastage.

2) Hunger still persists → Beneficiary mapping not accurate.

Shantakumar Committee recommendations are way forward.

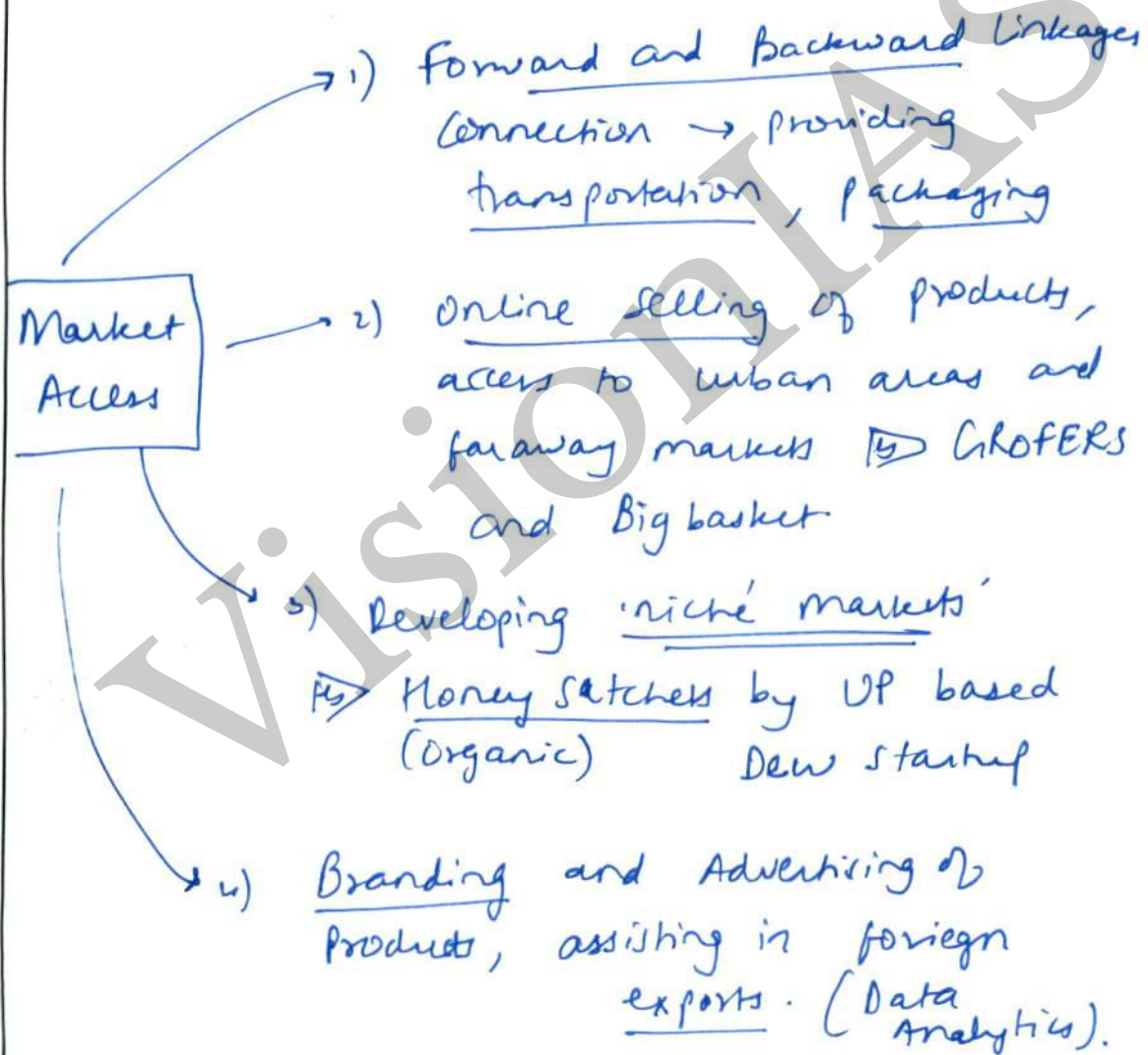
3. भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)  
How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

India has around 70,000 DPZIT registered startups and Agri-startups are now taking pace due to the huge potential in various upstream and downstream linkages.

- Enhancing farm productivity
- 1) Giving farmers basic information like soil health, soil fertilizer requirements  
↳ ALMANAC startup has Agro Almanac app in Anakapalle valley (Andhra)
  - 2) Assisting farmers in procuring best seeds and necessary inputs → Also under 'Contract' ↳ Schryodri Tech in Nashik for horticulture.
  - 3) Extension services, digital 24x7 monitoring of crops
  - 4) Adopting modern practices like Hydroponics, Growing bags, Mulching  
↳ Jaipur Strawberries

5) Bringing foreign best practices on  
Indian farms  $\Rightarrow$  Israeli Hass variety  
of Avocado by MP based startups

6) Providing farm management services  
like soil sensors, drip irrigation,  
drone pesticide spray etc.



Thus, Agro startups using technology  
have potential for credit and consumption  
growth in Agriculture. Policy must  
be created to leverage this.

4.

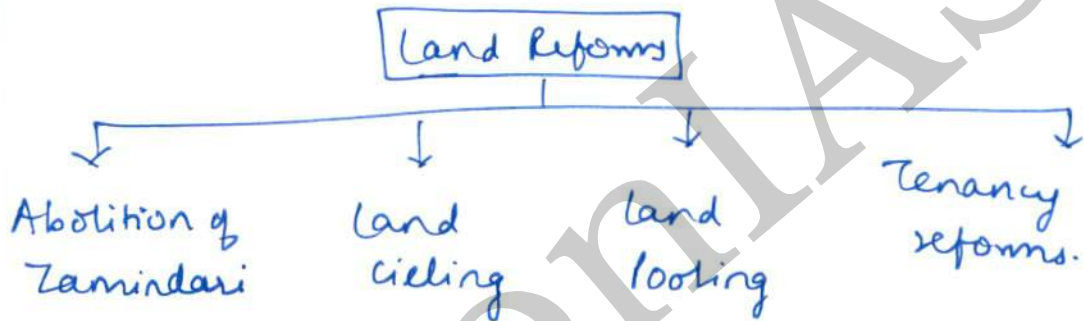
भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

10

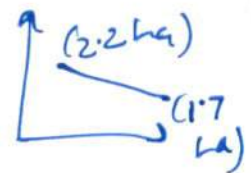
उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए • Candidates must not write on this margin

With 17% of global population and just 4% approx land area as India is 7<sup>th</sup> largest country, there is dire need of land reforms to cater to the population's needs and fragmentation of land.



Failure of land reforms and challenge

1) India's land holding declining  
(from 2.2 ha in 1970s to 1.7 ha in 2010s)



2) Lack of proper 'patta' i.e. land record right especially of small and medium farmers.

3) Government record-keeping in Panchayats poor

## Role of digitization →

- 1) Create proper 'ROK' (Record of rights) of the land holders
- 2) Identification of actual landholder and delineation of borders
- 3) Avoid land encroachment and thereby judicial interventions, law and order issues (↳ most land encroachment cases due to poor record keeping)
- 4) Digital 'patta' will allow farmers to get 'credit facilities from bank' by putting land on stake.
- 5) Inclusion in various government schemes like PMKISAN, Krishi Sinchai Yojana
- 6) Allow land pooling, formation of FPO's (farmer producer organisation) without loss of property giving safety to farmers ↳ Sahyadri group Maharashtra.

Challenges → Digital Infrastructure  
→ corruption in Panchayats

Government's SVAMITVA scheme is step in right direction utilizing drones for creating digital land records.

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

India will enjoy a 35 year demographic dividend till 2055 with median age of population around 28 years

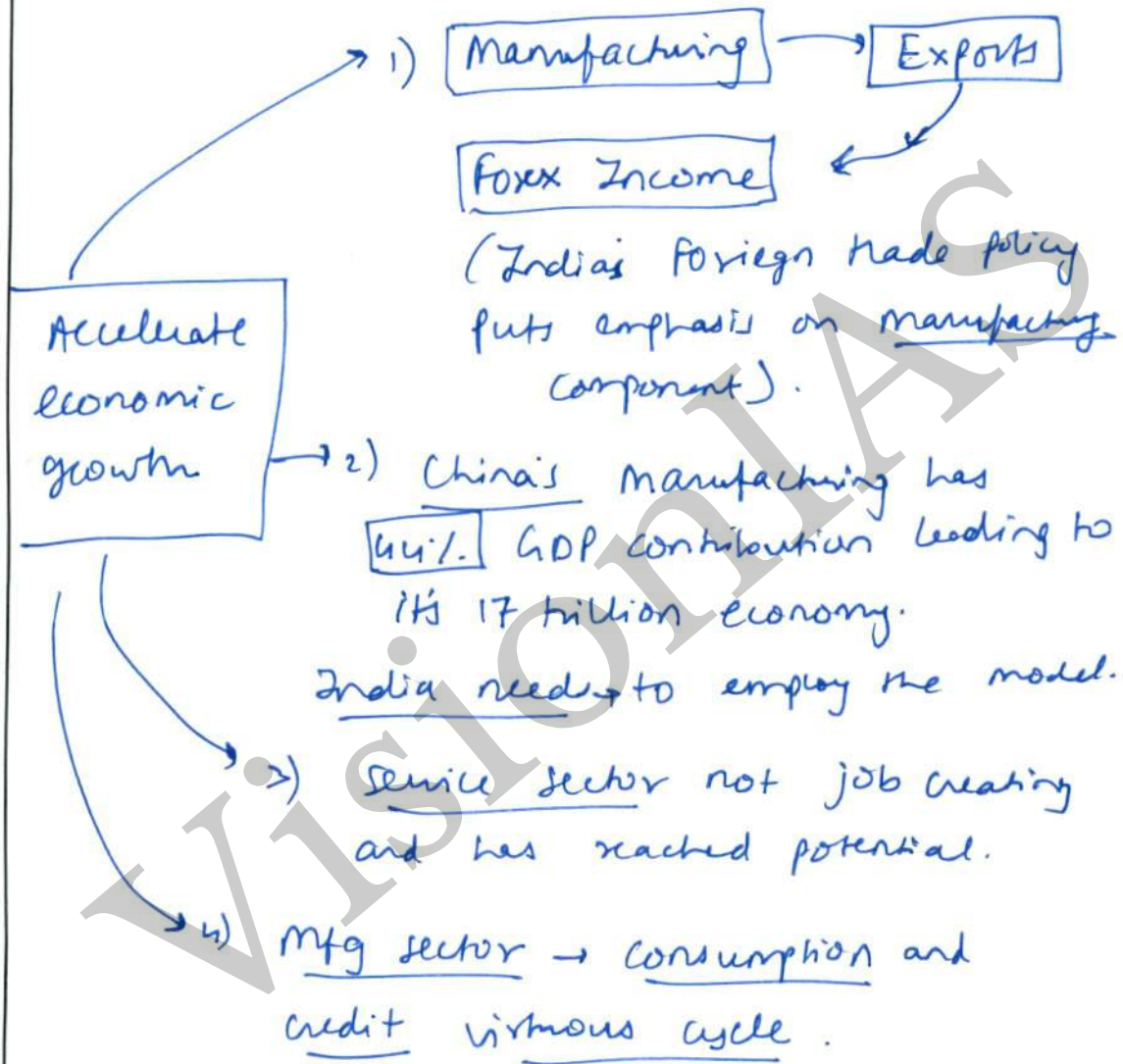
But to leverage, India needs to build strong manufacturing led growth model which is stagnant at just 17% industry contribution to GDP.

Benefits of adopting manufacturing led growth model →

- 1) Job creation for population (Manufacturing can take up those jobs from Agriculture) as 70% involved want to quit.
- 2) Semi-skilled workers can be employed in factories so education - vocation leveraged
- 3) Include women in the labour force leading to advantage (current FLFPR → 33%)

Exploit demographic dividend

4) Enhance manufacturing sector by employing people leading to 'comparative cost advantage' of Ricardo's theory.



Thus recommendations of Uk Sinha Committee on MSME sector are needed to be employed to ensure India reaches the goal of 5 trillion economy and a significant demographic advantage.

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

## Growing Natural Hazards →

1) Cyclones increasing

↳ Bay of Bengal and Arabian Sea both experiences 25% ↑

2) Coastal erosion

↳ Rising sea level → Submergence.

---

## Strengthening resilience of Coastal Community →

1) Local indigenous solutions

↳ Odisha Flood hazard success

2) Include them in developmental plans and local bodies made stronger.

3) Technology access

↳ Navic

4) Skilling, Blue economy  
resources ↳ fishing

5) Credit for taking up Local  
jobs and economy.

6) Maritime coordination, Coastal  
Security to have local  
intelligence.

Resilience of coastal communities  
important to mitigate challenges  
of climate change.

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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

Introduced recently

Green Credit Programme beyond Carbon

- ↳ 1) Allows users / local people taking positive environmental steps to earn credits.
- 2) Afforestation activities, local ecological protection etc are in its ambit.
- 3) Different from Carbon as includes multiple green programmes and not just reducing Carbon emissions.
- 4) Participation of all stakeholders and not just industries.

## Concerns →

- 1) Proper credit management committees and infrastructure.
  - 2) Use and collection of green credits
  - 3) Role of financial institutions like Banks etc.
  - 4) Awareness of the scheme limited.
  - 5) Regulatory enforcement by BEE (Bureau of energy efficiency)
- Scheme in right direction but requires capability building to create 'mission like' goals of participation of all for sustainable development and green growth..

8.

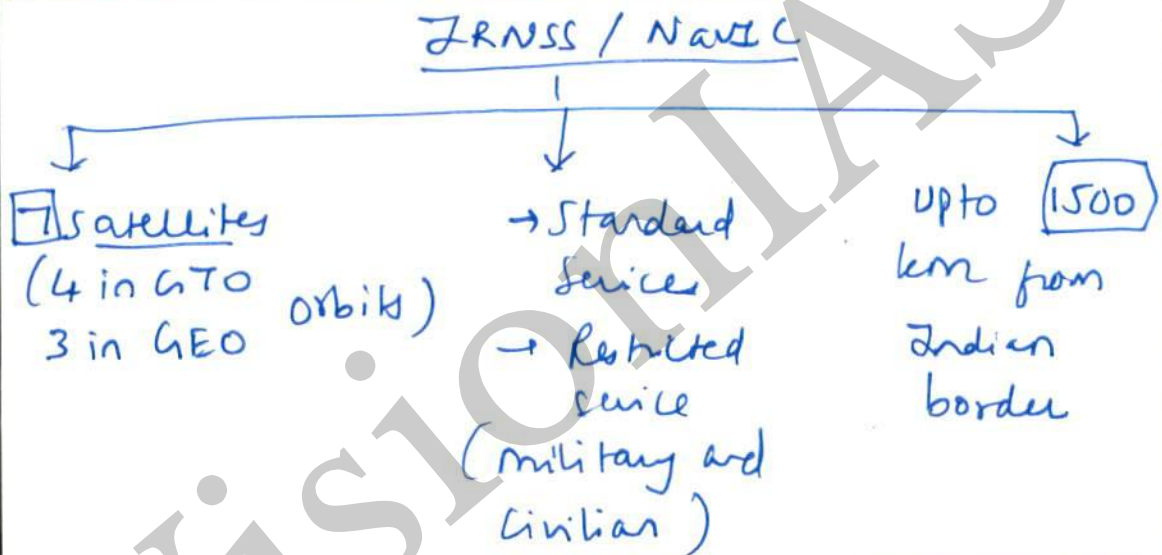
जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

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 • Candidates must not write on this margin

NavIC (Navigation in Indian constellation) is India's own geographical positioning system → IRNSS (Indian regional navigation system).



Need for Navic when other SatNav available →

- 1) India's own so can be used in times of emergency and not be dependent → USA denied use of GPS to India during wars of '62, '75 prompting need of Navic.

- 2) Military application → sensitive information requires own navigation.
- 2) Can promote further innovation in this area and enhance use cases.
  - ↳ Fisherman, GAGAN for Airlines
- 4) Helps in faster logistics, traffic management for civilian applications.
- 5) Can be 'retrofitted' in Indian vehicles and equipments to enhance our logistical ability.
- c) India's position as 'global science and defence hub'.
  - ↳ India among 5 countries → Russia (GLONASS), China (Beidou)

Thus, Navic is important for India's internal security and development and its capacity must be enhanced further by improving accuracy and range.

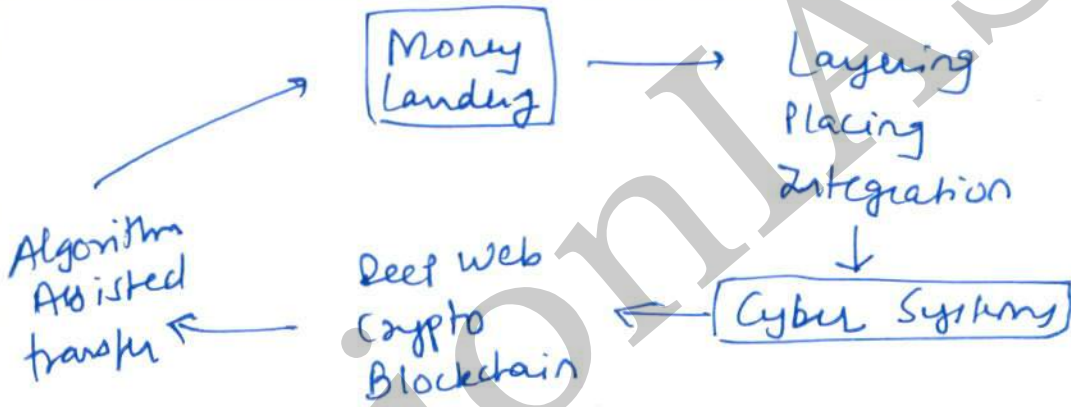
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साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)  
 Cyber-enabled financial crime has emerged as the new frontier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

10

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए।  
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According to NCRB → Cybercrimes are increasing (120% increase in cases) and money laundering via cyber route is becoming popular.



Government address the issue by →

1) Global coordination via FATF (G7)  
 (Financial Intelligence unit) OECD  
 (FIU) Collab.

2) Creating 'watchdog mechanisms' to

target global cyber money

laundering safe havens

→ Mauritius  
 Bermuda

- 3) Tallin Manual on cyber crime infrastructure. (Best practices)
- 4) Gulshan Rai and Zinderjeet Rao Committee
  - District cyber crime Coordination unit
  - Skilled manpower in cyber forensics
- 5) Making laws on crypto and blockchain technology use
- 6) Strengthening financial laws like PMMLA Act to deal with new age cyber crime challenges.
- Capacity building of cyber swachhta kendras (CSK).

Thus, only by global coordination, money laundering can be tackled in era of cyber intelligence.

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)

10

उम्मीदवारों को इस हफ्ते में नहीं लिखना चाहिए  
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Need for Tech absorption in defence →

- 1) Era of Modernization of defence threats as 'new frontiers of war emerging'
  - ↳ China - Space defence and Satellite - rocket linked.
- 2) Engage defence tech startups and promote skilled manpower, creation of tech-ready defence.
- 3) Increase 'war time defence capability' by using new weapons like Robot warriors, drones, AI enabled guidance systems etc.

- 4) Leverage capabilities of skilled manpower, Engineering, R&D's capacity.
- 5) Create Robust internal security paradigm.

### Challenges

- 1) R&D budget (only 0.7%)  
as compared to USA - 7%
- 2) Defence budget less (40% less  
compared to China)
- 3) Regulatory hurdles for defence  
startups.
- 4) Promote Arms race, raise  
threat level with Pakistan,  
China etc.

Thus, tech absorption in defence is necessary and government plans of index (with USA, promoting defence startups are steps in right direction.

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 हाथिए में नहीं लिखना चाहिए  
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The 'Seven Sisters' of North Eastern region continue to remain shielded from India's growth of trade and industries

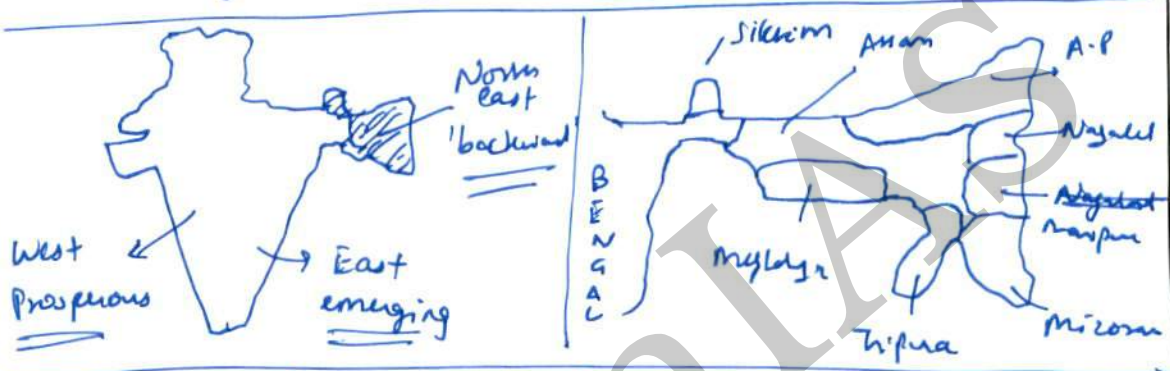


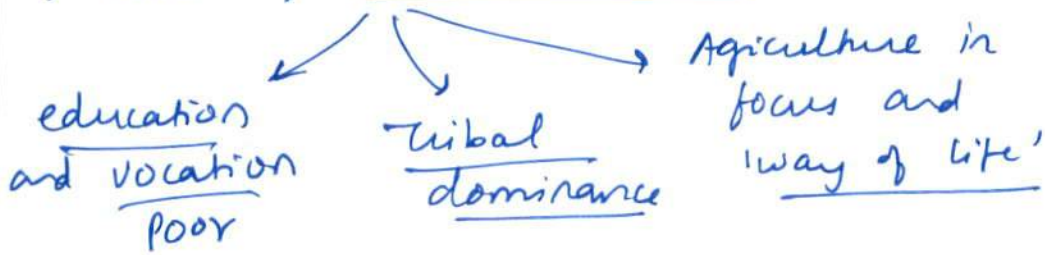
Fig ① North East Region

Issues faced →

- 1) Terrain related challenges hampering Industries growth (↳ Mountains, forests, heavy rainfall, shifting rivers (Meghalaya) (Brahmaputra))
- 2) Poor infrastructure → due to historic neglect and 'developmental deficit'
- 3) Lack of 'integrated development approach'  
 (↳ North Eastern Zonal Council not functional, State governments

not forming policy to attract industry

4) Lack of Skilled workers



5) Insurgency Issues (Internal Security threats) → Causing fear to establish companies.

6) Market development poor → Demand less so trade not developed.

7) Corruption in administration → Ease of doing business poor, Red tapism deters companies.

8) 'Resource curse' → Huge resources but not able to leverage as 'strategic thinking not there'

9) Border area → so important companies cannot be established.

Steps taken → Effectiveness

1) Creation of MODNER (Ministry of development of North East region)

- 2) UDAN Yojana (Ude Desh ke Aam  
2.0 for Nagrik → for Cheap  
North East access flights) and Krishki  
for movement of goods UDAN
- 3) Infrastructure creation → Bhupen Hazarika  
Setu Connection  
Dhubri - Sadiya Assam - Arunachal.  
(National Waterways 2)
- 4) Border Village development programme
- 5) Education and Vocational Skilling through  
Schemes like 'Eklavya, Nai Udaan etc.

Largely effective schemes and have  
led to attraction of industries and  
creating growth in North East → But  
more steps needed like →

- 1) Joining North East with ASEAN  
by BZMSTEC, ZMT highway  
Kaladan project
- 2) Incentivize companies for setting  
inputs by 'tax holidays', SEZ  
(Baba Kalyani Committee).
- 3) Address Developmental deficit

12.

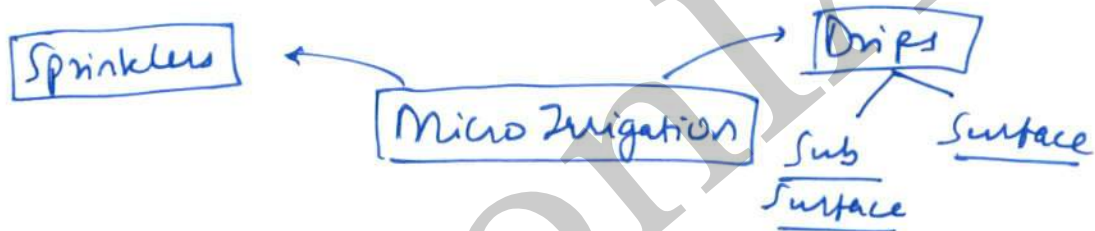
जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

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

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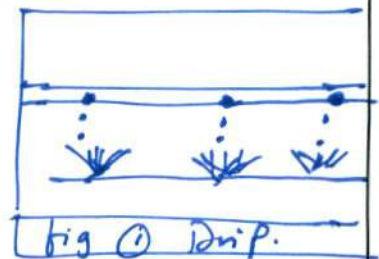
With 17% population and just 2-3% of water resources with India, there is 'water scarcity'. Also agriculture irrigation needs water and 70% districts in over-exploited zone of groundwater (CGWA)



Micro irrigation contributing to Sustainable agriculture practices. →

1) 'Per Drop more crop' → as micro irrigation employs efficient water usage for 'targeted delivery'

2) Saves upto 80% of water as compared to flood irrigation.



3) Fertigation Technology → where application of nutrients/fertilizers become efficient

↳ Requires only 20% of Urea, NPK  
→ can also use 'Nano UREA, Nano DAP liquid by 'Ventury system'  
(Sucking of fertilizers)

4) Helps in preventing Soil erosion as flood irrigation, rainfall causes sheet erosion and top soil layer is removed.

5) Prevents soil salination as optimum fertilizers used.

6) Control of weeds becomes simple and does not require weedicides → saves cost and plant health.

7) Combined with mulching → microirrigation delivers enhanced productivity of crops

8) Useful in horticulture which does not require frequent irrigations ↳ Mango orchards.

## Challenges

- 1) Awareness, Accessibility, Affordability (3As)  
(not suited for small land holders in India) as initial cost high despite subsidy
- 2) Maintenance costs and Labour → As frequent cleaning of nozzles and filters required.
- 3) Adaptability is less as farmers hesitant and prefer flood irrigation.

Government schemes of 'Micro Irrigation Centre of excellence, private company tie-ups, National Horticulture Mission etc promote micro irrigation and is needed for 'sustainable agriculture' (SDG goals 1, 2, 13).



(USA Railway stations → private companies have separate freight chambers for connectivity and logistics.)

- 3) Poor infrastructure of 'railway stations' and do not cater to efficient movement of goods.
- 4) Poor service delivery → Goods can be broken; spoilt etc.
- 5) Huge delays → As railways slower, signalling issues etc.
- 6) Service of railways for freight booking via online medium → poor technology backend integration.

Strategies to overcome issues: →

- 1) China Model of private sector led outsourcing of railway freight.
- 2) Modernisation of Railway stations  
↳ Separate passenger and freight stations in major hubs.

- 3) Last - end to end delivery by private sector collaboration.
- 4) High speed Courier services by employing faster trains → more pricing.
- 5) Dedicated freight corridors (DFCs) can be finished on time and enhanced capacity (e.g.) Mumbai - Delhi NCR  
Bangalore - Kolkata etc.
- 6) Operating Ratio to be improved by rationalizing cross subsidization.
- 7) Corporatize like ZRCTC, Allow private service providers on government tracks (Rakesh Mohan Committee)
- 8) Modernize Technology and freight loading.

Thus, higher share in Railway freight will improve India's global logistics ranking and promote 'ease of doing business' helping achieve 'ease of life'.

14.

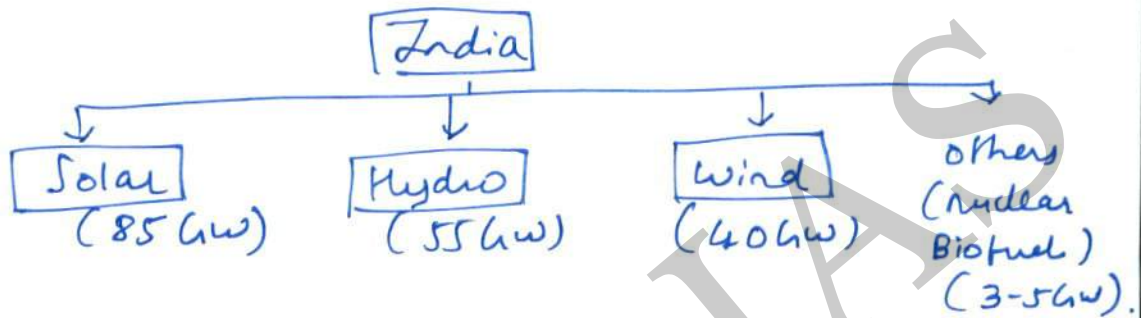
उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

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 भाग में नहीं लिखना चाहिए  
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India is the 4<sup>th</sup> largest when it comes to renewable energy capacity.



Factors aiding India →

1) Domestic National Policy making by setting ambitious targets

↳ Panchamrit goal of 500 GW and 50% non fossil by 2050.

2) Policies

→ Jawaharlal Nehru Solar Mission

→ Pm Surya Ghar Yojana

→ PLI scheme for Solar photo voltaics

### 3) Creating Capable institutions

↳ BEE - Bureau of energy efficiency

MNRE → Ministry of New and Renewable energy.

### 4) Innovation in New energy with monetary budgeting and policy delineation

↳ Green Hydrogen Mission (5000 crore budget).  
→ SIGHT  
→ SHIP.

### 5) International Initiatives

→ 1) IJA → International Solar Alliance  
OSOWO → One Sun, one world one grid.

→ 2) G20 and SCO, Quad focus on renewables ↳ Global biofuels, Wind energy programme.

### 6) Administrative Mechanisms

↳ faster land processing, pooling of land

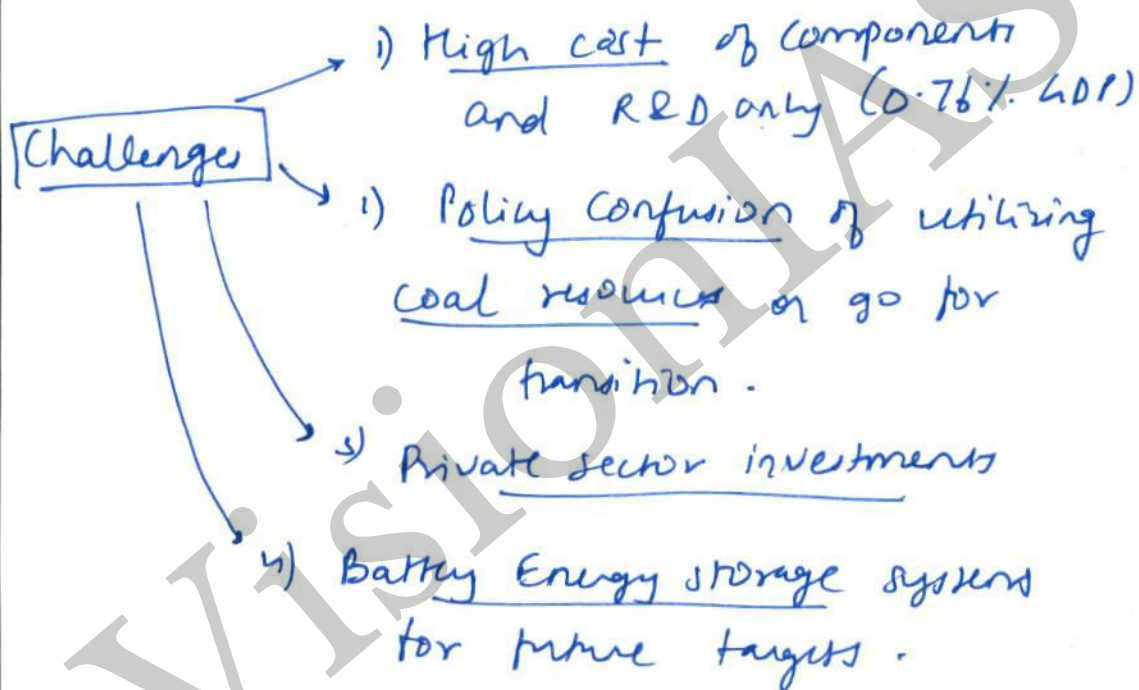
↳ Gujarat - Single window processing

### 7) Economics of Scale and private sector

collaboration ↳ Bhadla Solar Park,  
Khadwa Solar Park (Adani)

8) For Hydropower → huge investments in 'run of the river' and large dams.

9) Research in 'small modular reactors' in nuclear, creating collaborative infrastructure like kudankulam and kalpakkam.



India is emerging as 'URJASTROT' (Source of energy) for the world. It should increase capabilities of transition but also balance 'developmental energy needs' by utilizing coal resources.

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

उम्मीदवारों को इस कक्षा में नहीं लिखना चाहिए  
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Agricultural runoff by rainfall, irrigation contains harmful components of fertilizers and pesticides, causing huge impact on environment.

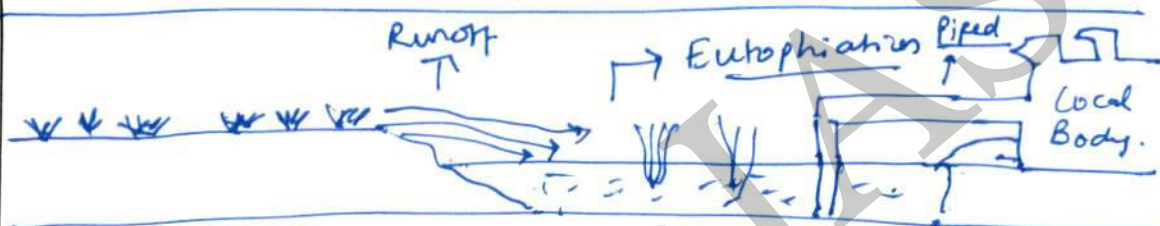


Fig ① Runoff

Agricultural runoff : Environmental Pollution. →

- 1) Eutrophication of lakes, rivers, streams  
(algae growth, water BOD, COD disrupted  
i.e Biological oxygen demand)
- 2) Invasive Alien species can also grow
- 3) Marine life that breathes, consumes food and water also affected due to chemical components

- 4) Microplastics in the water bodies and environmental sources.
- 5) Runoff when evaporated → leads to sedimentation of saline deposits causing soil salinity, affected by 'calcification'
- 6) Leaching of runoff in ground can contaminate groundwater →
- 7) Destruction of ecological characteristic of land, waterbodies.
- 8) Finds itself in 'food chain' and thus residues can be 'Bioaccumulated' causing further environmental damage.

### Measures to mitigate the impact →

1) Creation of 'embankments' so that runoff can be collected / stopped

1.5) Step cultivation

2) Channelizing of Agriculture

Land so that water collected in drainage basins and not fresh sources -

3) Collection of runoff and treatment of water

4) Using microirrigation to reduce the quantity of runoff (almost negligible)

5) Promoting Organic farming, Natural Farming (Subhash Palekar zero budget)

↓  
Ensure no chemical fertilizers or pesticides

↓  
Runoff will have beneficial soil bacteria.

1) Awareness among farmers to use only optimum amount and not overuse

↳ Ideal NPK ratio is inverted with overuse of urea.

Thus, above steps can be taken to preserve ecological sanity of ecosystems and mitigate harmful effects of runoff.

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)

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Tourists in Himalayan states have increased drastically due to disposable income, infrastructure creation and post covid 'revenge tourism' (to go out, explore).

But it has added huge stress on ecological carrying capacity

Issue and Man made disasters. →

- 1) Hotels, roads and infrastructure on ghats created → but problem of landslides (e.g.) Shivola landslide 2021
- 2) Heavy rainfall → Combined with cloud bursts, land subsidence (e.g.) Kedarnath floods, Jashimath incidence
- 3) Pollution, collection of waste → outbreak of disease etc.

Measures to prevent such disasters. →  
and promote sustainable tourism.

- 1) NMSHE → National Mission on Sustaining Himalayan ecosystem to be adapted and followed  
→ a) Balancing growth and ecology  
→ b) Mapping of resources and capacity.
- 2) Hazard zonation and using GIS technology (Geospatial and geographical information) to create area-wise plan
- 3) Construction and zoning requirements to be followed
- 4) Promoting Homestays, farmstays, tenthouses → Local indigenous home/shelters → Dhajji Diwari in Jammu-Kashmir
- 5) Charging Sustainable Tourism Maintenance fees to limit influx → Bhutan charges 70 dollars per day.
- 6) Strict enforcement of plans and breaking

down illegal structures.

- 7) Sensitive zones near rivers, ghats etc must be regulated.
- 8) Digital technology to give tourists information on 'EWS' early warning system
- 9) Local communities to be employed and strengthen Panchayati Raj so that proper decisions can be taken.
- 10) Develop alternative tourist destinations by 'Mission mode' and creating strategies to divert from popular destinations.
- 11) Create infrastructure based on EIA (environment impact assessment).

Thus, necessary to balance tourism led growth and economic gains along with ecology and sustainability as without preserving, there will be nothing left to visit in future.

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 हार्शिय में नहीं लिखना चाहिए  
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Superconductors are those that can conduct large amounts of electricity, energy, heat without any resistance at particular conditions like high/ below freezing points of temperature.

Fuelling innovation in diverse fields.

1) Computer Hardware Technology

↳ Super computers like PARAM PRAVEGA have superconductors for large transfers and faster processing speeds.

2) Energy Generation and Transmission

in projects of high capacity used

↳ Tokamak

3) Space Applications → for creation of

Satellites, micro components of space launch vehicles → Gaganyaan.

4) Data processing centres and connectivity.

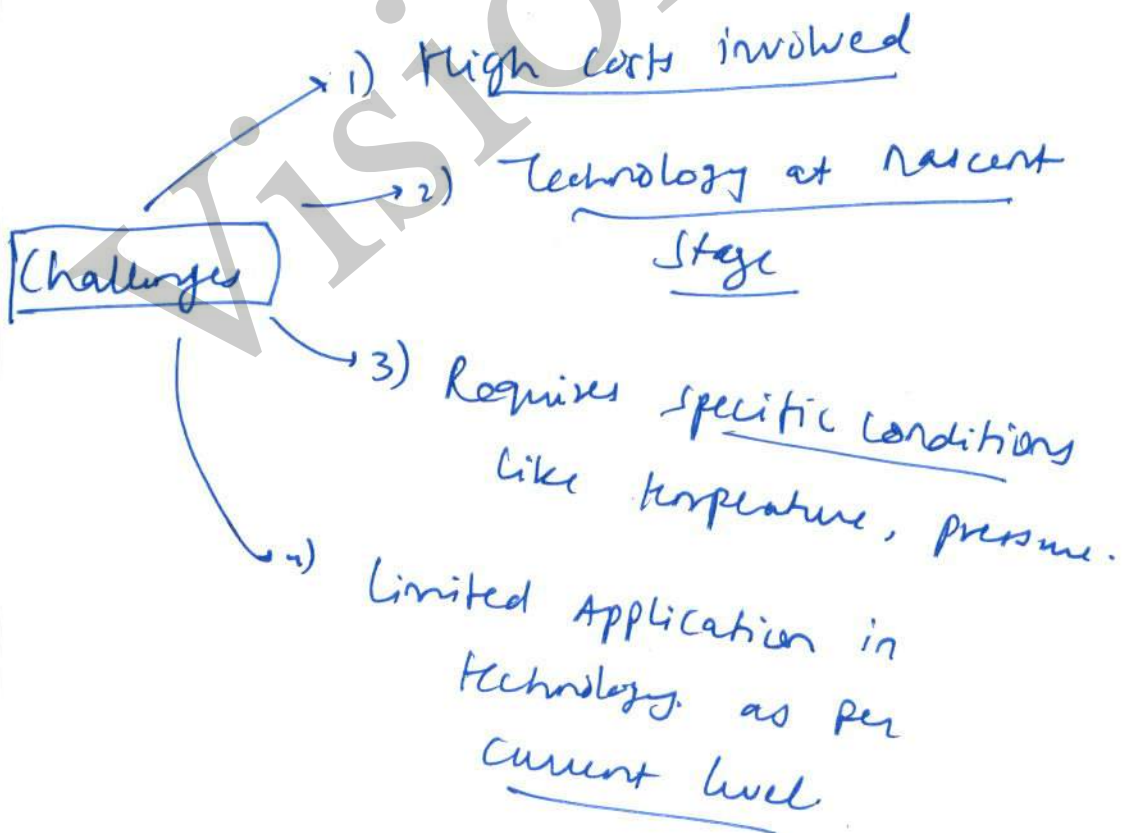
require superconductors for faster processing and exchange of data

→ Use in Neural Networks, AI.

5) Robotics, Nano

Chips require micro-superconductors

→ Neuralink - Telepathy of Musk.



India's National Research foundation  
can be used to leverage the potential  
of semiconductors, superconductors  
and make India - Industry leader.

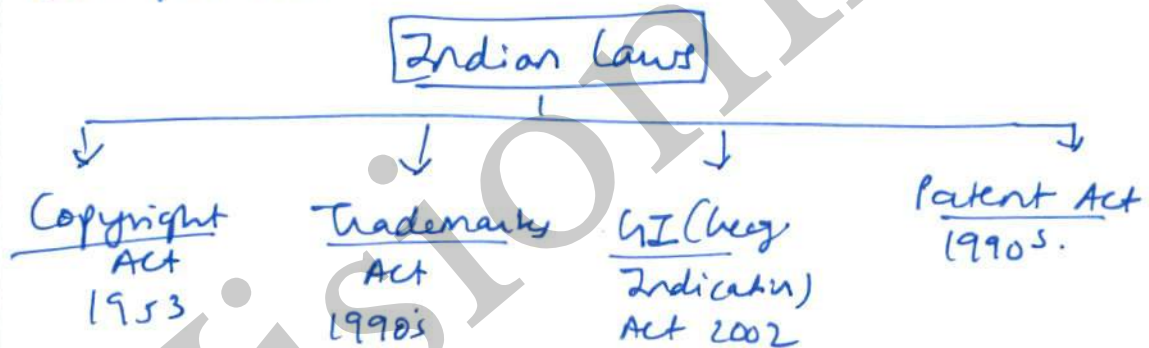
18. a

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)

15

उम्मीदवारों को इस हफ्ते में नहीं लिखना चाहिए  
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IPR rights protect the owner of these rights from misuse, piracy and help them leverage the Commercial benefits of their creation. WIPO's IPR report puts India in the 'medium' range of IPR protection.



Challenges →

A) Enforcement

1) IPR protection laws not acting as strong deterrent due to poor designing of laws.

2) Lack of fast track courts

Creating delays in enforcement and  
huge pendency

- 3) Enforcing authority missing → Lack of  
coercive punitive action → Courts  
Overburdened  $\Rightarrow$  USA violating ZPR, GI  
tag
- 4) Contract enforcing ZPR requiring  
Alternate Dispute Resolutions (ADR) not  
developed in India.

## B) Regulatory:

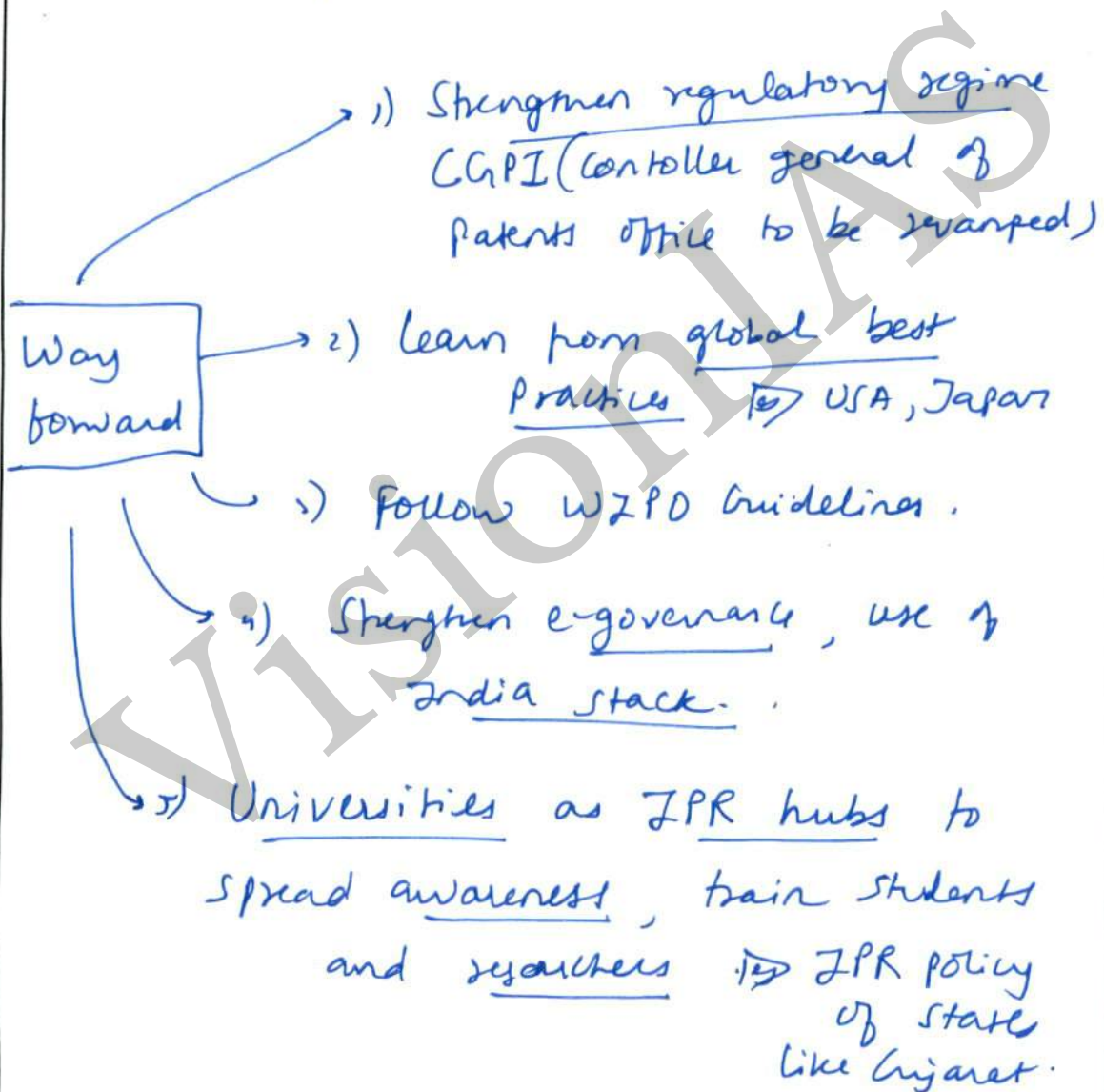
- 1) Mismatch in laws → Lack of awareness
- 2) ZPR acceptance, filing and approval  
timing slow as compared to world  
average. (Avg 6 months)
- 3) Filing via digital, single window access,  
end-to-end guidance is lacking.

## C) Administrative

- 1) Huge piracy issue  $\Rightarrow$  Telegram has  
pirated movies,  
books etc.  
So capacity lacks

2) Lack of dedicated cadre and  
trained workforce to address these  
mismatches.

3) State level - Centre level mismatch and  
Lack of coordination.



Anusandhan i.e. Innovation will make  
India a 'developed nation', Vishwaguru  
and requires strong IPR protection.

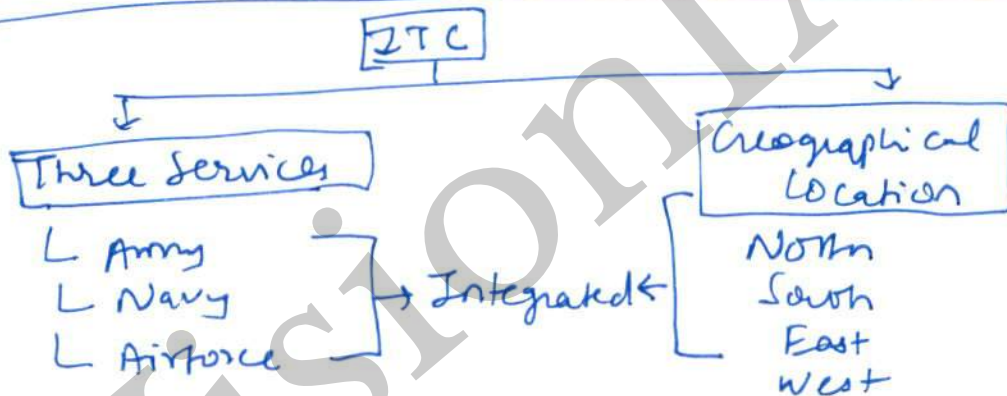
19.

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)

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

Bipin Rawat's (First CDS) dream of ITC, also recommended by DB Shekhatkar and Kargil Review Committee are a needed reform for strengthening defence and rationalizing resources.



Challenges →

- 1) Hesitancy among tri-services due to competition, interservice rivalry
- 2) Will require complete overhaul and can be time-consuming
- 3) Defence in transitional phase

can be affected → leading to issues.

4) Appointment of Head of ZTC will be an issue due to tri-services having different models and needs.

5) Creating of 'Chain of Command,' integration of resources can be challenging.

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How ZTC can lead to integration and rationalization of manpower and resources.

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1) Saves multiplicity of command and hierarchy

2) Makes defence structure leaner and faster and efficient

3) Pooling of resources will allow in rationalizing extra costs

4) Enhanced coordination during emergency scenarios → faster decisions

making and actions taken.

i) Area wise successful action possible as per specific requirements of the needs

↳ Western Sector → Desert  
↳ Ladakh cold.

↳ Island Command

↳ Andaman → Naval Component dominant.

Thus, ZTCs are an important reform and proper consultations of all stakeholders must be taken to implement it.

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)

Compared to China that has huge border infrastructure as seen in both Macarohan line and Johnson line, India lags behind in border infrastructure.

Treating border villages as first villages. → Importance

- 1) Increased access due to infrastructure creation linking villagers with hinterland. (es) wartime
- 2) Engage people of border in productive employment → can act as 'eyes and ear' of army / defence.
- 3) Create border intelligence network

- 4) Balance developmental needs of local border populations
- 5) Act as hubs of defence storage of ammunitions, Components and maintenance leading to faster deployment during wars.

Thus, border villages act as 'first line of defence' and enhance border security.

Measures →

- 1) Vibrant Villages Programme

↳ to create basic infrastructure in

border areas → Roads  
→ Housing  
→ Water supply.

- 2) Coti Shakti master plan for infrastructure creation
- 3) Specific border management plans  
① Atal Tunnel, Sela tunnel,  
Bhupen Harauka Setu etc  
for border infrastructure.
- 4) Engaging local population in jobs  
through skilling, mapping etc.
- 5) 200 km of border will be under  
central border police as per  
govt's new rules. to counter  
threat.

Thus, following steps are in right  
direction but needs to be complemented  
by more funds and planning to  
enhance border villages.

SPACE FOR ROUGH WORK

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