



**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. : 00721628

अभ्यर्थी का नाम/Name of Student : Sachin . B . G

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

English

तारीख  
Date

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

केंद्र  
Centre

Jhanderwala (Delhi)

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

Ar

	<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>

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
परीक्षक के हस्ताक्षर Signature of Examiner(s)	

**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)					



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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)

In India's transition from food deficit country post independence to 'surplus food' nation, food processing industries have played crucial role.

[ex] FPI is worth <sup>around</sup> \$ 300 bn (Economic survey)

Rapid growth of FPI: → Food safety Challenges

1) FPI: an unregulated sector → lack of registration & accreditation with safety agencies

2) Food Safety Authority of India Challenges

→ lack of personnel / overburdening of work load

→ lack of financial resources to reach remote parts of India

→ lack of collaboration with state level bodies

37

### Farm to fork - logistical challenges

- improper grading of raw materials
- use of poor quality goods for food processing
- ↳ Perishability of agricultural products

4/6

### Poor export control regime

- Not adhering to phyto-sanitary measures
- discrimination between developed & developing countries wrt F&I products quality set

5) lack of lab testing infrastructure & poor R&D investment

Increase number of food safety monitoring centres

way forward

→ Public private cooperation in infrastructure building

Thus, India needs 'safer F&I products' to reach its target of 5% of global agri export from current 2.3%.

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)

10

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

National Food Security Act, 2013 has provided for legal establishment of PDS — under which Fair Price Shops have taken up role of 'Annapurna' (food deity)

Fair Price shops — evolving transformation

A) Challenges

- 1) Ghost beneficiaries → diverting the subsidised food to unintended purposes under name of illegal person
- 2) Poor storage facilities → faster degradation of food crop  wheat
- 3) Politicisation of FPS → lack of inclusive distribution
- 4) Improper implementation of one nation one ration card — suffering of migrant

population

5) Lack of integration of smart technologies  
that could automate the process

6) Over saturation of food corporation  
of India storage → food wastage

Ex) 20% of food stored → going for waste

Reforms

1) Build cold storage facilities for better  
shelf life of food crops

2) Scientific storage mechanisms needs to be  
followed by FPS & FCI

3) Integration of technologies like food grading  
technologies based on AI, ML, IoT, etc

4) Direct benefit transfer - directly into beneficiary  
account instead of disrupting markets with  
subsidies

NITI Aayog has recommended  
for reducing the overall percentage of population  
of beneficiary from 66% to <50%.

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 startups are the <sup>w</sup>next generational reforms needed in agriculture sector for it to thrive in period of Industrial revolution 4.0

Agri tech startups Role in

1) Enhancing farm productivity

1) Agri startups can bring in technologies for precision agriculture

2) The integration of sensors, drones, & other surveillance systems can help reduce or optimize inputs for higher yield

3) Soil fertility is scientifically managed making use of kisan soil health card, etc

4) Bring in capital for modernisation of

agriculture 4x FDI investments

- 5) Mechanisation of agriculture can be undertaken that increases farm yield
- 40 40% of Indian agriculture land mechanised

B) Increasing market access

- 1) Bridge the asymmetric information challenges in understanding market dynamics
- 2) Use Artificial intelligence, simulation models, etc to predict real time pricing for agri products
- 3) Make use of e-commerce for higher market outreach

4) Use tools of globalisation to enhance agri exports reaching global market

5) Increase the bargaining power of farmers in form of FPOs

Thus, agri startups can both ensure food nutritional security & double the farmer's 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

Digitization of land records  
through schemes like SWAMITVA, GIS mapping, etc has ~~led to~~ <sup>led to</sup> better land record management recently.

### Role of digitization of land records

- 1) Land reforms necessitates the documentation & surveying of land - made effective by digitization projects
- 2) Digitisation has helped document the land titles in vernacular languages resulting in ~~easy~~ better accessibility to poor, small & marginal farmers.
- 3) Digitised land records → has helped increased access to formal credit institutions  
(x) Banking loans

4) Digitisation of land records provided farmers with better utilisation of government schemes ex kisan credit cards

5) Use of satellite imagery based data, geo tagging, etc enhanced quality of land management

6) Increased penetration of land and agricultural insurance due to digitised land records

ex PM Pradhan Bima Yojana

However, certain challenges exist

Incomplete land digitization surveys

Lack of access to internet in rural panchayats

Complexity of digital maintenance faced by illiterate farmers

Poor implementation in certain states  
ex Land is State Subject

But case study

Bhoo-kharija website of Karnataka

Thus, needs to hasten implementation of Bhoo adhar, land Unique land parcel number, DILKMP scheme, etc.

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 is the most populous country in world with median age of population around 28 years (UN World Population report)

Manufacturing led growth model - importance

A) Exploit demographic dividend

if India needs 2 million new jobs every year to cater to new labor force entrants

2) 48% of labour force involved in agriculture  
but contributing only 18% of GDP  
↳ immense disguised employment

3) - 'Jobless growth' model of India's economy might lead to youth led economic & political upheaval

4) Without employment opportunities & self  
reliant India, demographic dividend might  
become 'demographic disaster' (Economic  
Survey)

5) Service sector cannot cater to mass or  
large scale of employment generation  
↳ means manufacturing growth model  
alone can formalise ~~eco.~~ jobs

By Accelerate economic growth

- 1) Make in India for the world' vision can  
be realised with manufacturing sector
- 2) Indian capital goods manufacturing sector  
is crucial in increasing investment
- 3) Reduce import dependency & trade deficits  
with several nations [w] Russia, UAE, etc
- 4) Integration of India economy with  
global value chain → better economic returns

Then, as envisioned in Manufacturing  
Policy of India, manufacturing sector needs to  
contribute 25% of GDP (from current  
around 20%).<sup>15</sup>

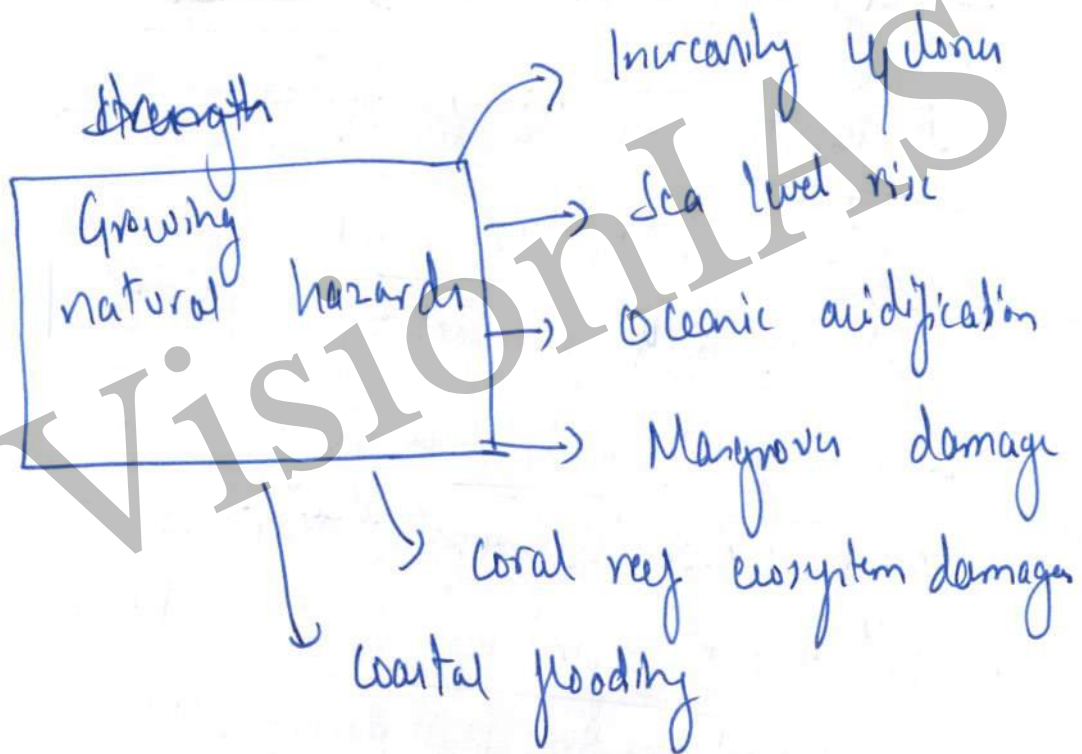
6.

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 कक्ष में नही लिखना चाहिए  
Candidates must not write on this margin

Indian coastal region  
is increasingly witnessing the input  
of climate change & associated  
natural disasters.



Strengthening coastal communities resilience

→ Mapping of coastal regions on  
the basis of severity of vulnerability  
to disasters.

- 2) State level plan & district level plan to be prepared with guidelines of NDMA
- 3) Citizen led disaster management response by their inclusion in policy making & assessment of challenges
- 4) Use of technologies like GPS system, Navic satellite, etc for early warning against disasters.
- 5) Relief & Rehabilitation measures in case of disasters.
- 6) larger adaptation & mitigation measures to tackle the root cause of climate change
- 7) International collaboration in form of climate resilient infrastructure, transfer of modern technologies, etc.  
Then India should take leadership role as voice of global south.

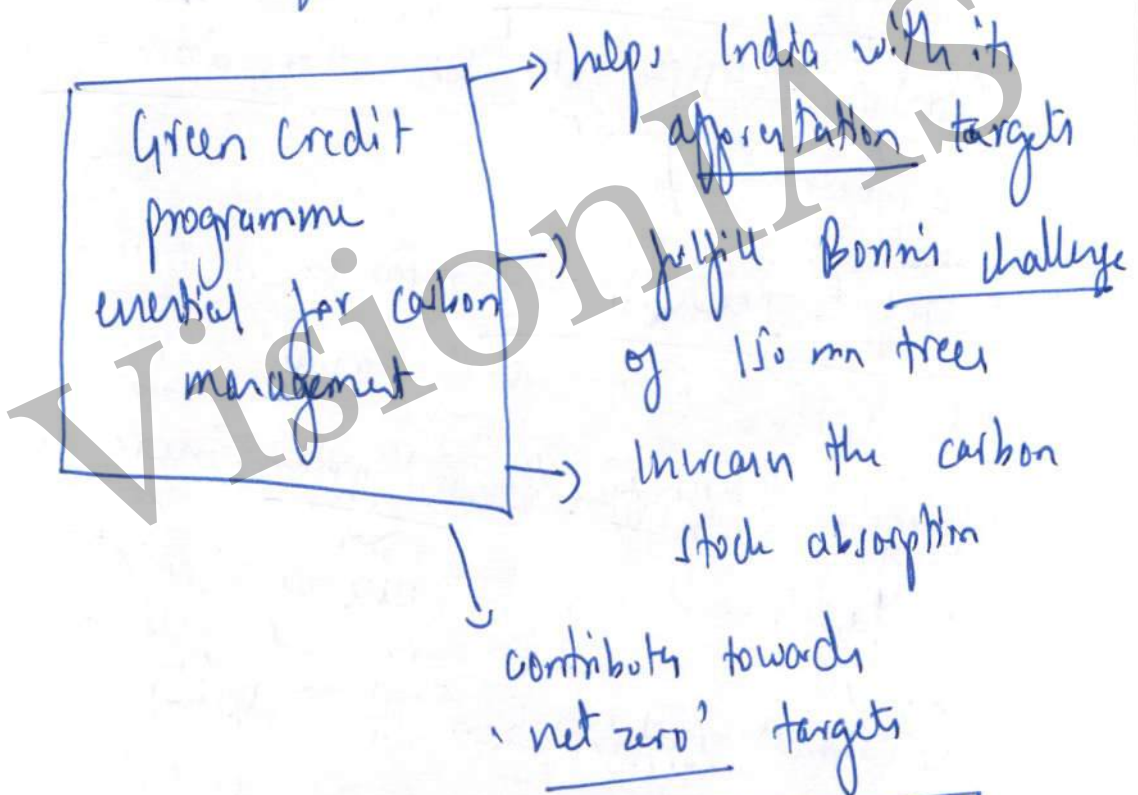
7.

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)

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

10

Recently, India's government came up with Green credit programme that incentivises the individual & community level conservation efforts.



Green credit → promote sustainable environment

→ helps in ecosystem restoration with reversing the damages done

to environment

2) financial incentives & live livelihood  
creation opportunities for common people

3) Increase the share of trees & forests  
as envisioned in Indian forest policy  
of 33% of geographical area

4) Act as major adaptation & mitigation  
measure against climate change

5) helps in tackling land desertification

Various concerns about implementation

1) mechanism planting but lacks a system  
to enforce care over years

2) May be unscientific as planting trees  
are not suitable for all kinds of ecosystems

↳ Grassland

3) Needs broader & better long term plan  
beyond just planting trees

Thus, Green credit program  
needs to be complemented with broader  
ecosystem restoration plan (2020-2030  
UN Decade)

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)

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

NavIC is India's own  
~~def~~ navigation system that would  
replace GPS system of USA, etc

VisionIAS

उम्मीदवारों को  
इस कक्ष में  
नहीं लिखना  
चाहिए  
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VisionIAS

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 दृष्टि में नहीं लिखना चाहिए  
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Recently, India is witnessing higher number of financial frauds through cyber channels worth more than \$ 100bn (according to various reports)

Cyber enabled — new frontier of money laundering

1) Cyber channels has opened newer ways of facilitating global money laundering

2) Crypto currencies — adds to the money laundering with its feature of anonymity

3) Block chain technology has provided for decentralised financial systems away from centralised regulation

- 4) NFTs - have been used as tools to divert money laundry money
- 5) Cyber security attacks in form of ransom ware, malware attacks & cyber espionage has assisted money laundering

### Measures to tackle

- 1) Cyber swachhta Andras & cyber security personnels to be created across departments
- 2) INC must collaborate with state governments in decentralizing cyber security measures
- 3) Critical infrastructure needs constant attention & surveillance
- 4) Collaboration between various security agencies like economic intelligence unit, etc
- 5) International collaboration for global governance of cyber security challenges

Thus, India's needs to be

'dynamic' & 'ruthless' in its approach

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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Indian defense is foundry  
on indigenisation of defense technologies  
in a increasingly polarised & conflict  
ridden world

Need for technology absorption

- 1) Changing nature of warfare - modern warfare is technology driven
- 2) Emergence of cyber warfare as new frontier of defence
- 3) 'Psychological warfare' by manipulation of social media & technologies has become norm [ex] lone wolf attacks
- 4) Needs for 'technological independence'

- against weaponisation of supply chain
- 5) Needed for India's role as 'Net security provider' in IOR region

### Challenges India face

- 1) Lack of R&D in defence sector  
- less than 0.6% of GDP as investment in R&D
- 2) Poor integration of Industry - government interface
- 3) Indian defence sector is face immense competition from developed countries
- 4) Lack of incentives, subsidies & easy credit facility for private sector
- 5) Lack of integration with global supply chain
- 6) Lack of resource availability \*  
(\*) critical minerals

Thus, India's collaboration with other nations like supply chain ~~is~~ partnership with USA, etc. is of importance

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 दृष्टि में नहीं लिखना चाहिए  
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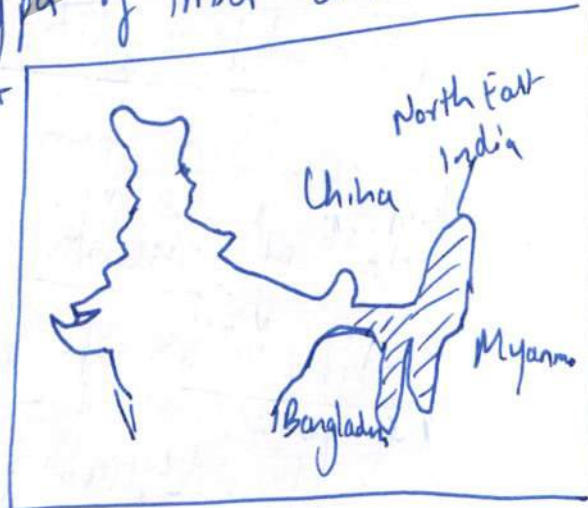
North East Region is  
'untapped & development deficit region  
in urgent need for better economic  
integration & human development.

Issues faced in the North East India

A) Ethnicity challenges

1) Over 200 different types of tribes with different cultures present

2) Ethnic conflicts & confrontation inhibit economic growth



B) Security related

1) North east region is hotpot of armed insurgencies, militancy & naxalism

2) Deter the businesses & capital investment by private bodies

### c) Connectivity Issue

- 1) North east region is connected to India only via narrow 'chicken neck' corridor
- 2) Lack of port facilities → non integration with maritime trade

### d) Logistics costs

- 1) Higher rate of logistic costs due to poor road & transportation facilities

### Measures taken to tackle

- 1) Distt ministry of development of North Eastern region it created in 2001
- 2) Mission pravadaya - envision the development of mining industry & manufacturing sector that can create employment opportunities for north east
- 3) Digitisation & National digital mission  
→ provides plenty opportunity to us

digitally connect North eastern markets

4) Organic farming & natural farming measures are adopted in N.E states ex) Jharkhand

5) Increasing number of educational & health institutions in N.E for human resource development

### Way forward

1) Need for sensitisation of mainstream India about needs & uniqueness of N.E culture

2) Incentivising capital investment in North East

3) Increased budgetary allocation & special funds can be given for NE development

4) Social infrastructure needs to be built

5) Using foreign policy measures like 'Act east' policy, etc to increase trade & business in N-East

6) Self Thus, N-East India can act as gateway to ASEAN market & greater India prosperity

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 हशिप में नहीं लिखना चाहिए  
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India is water stressed nation with water crisis affecting both metropolitan cities & rural India alike  
Ex) Recent Bengaluru water crisis

Role of micro irrigation system

1) Micro irrigation systems like sprinkler system, drip irrigation, etc can reduce immensely the total water demand of food crops

2)

Climate change →

Deficit rainfall or concentrated

↓

Shift from rain fed region of agriculture  
(55% of total)

← Implementation of micro irrigation

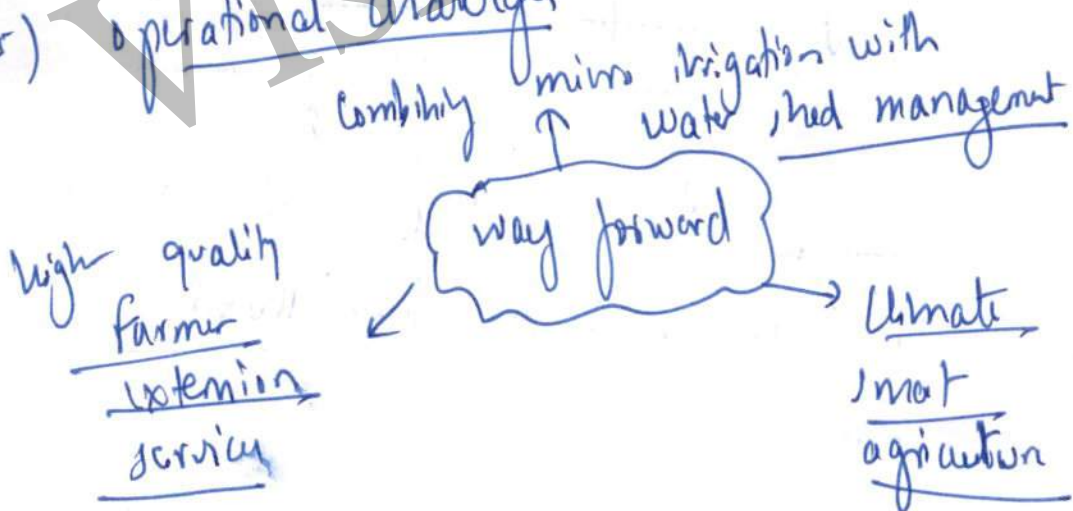
← Better adaptation & mitigation

- 3) Micro irrigation facilities can help tackle the challenge of increased transpiration & evaporation
- 4) Keep soil moisture content optimal in face of higher insolation
- 5) Micro irrigation can reduce the electricity output needed to power irrigation facilities
- 6) Micro irrigation in itself can act as climate solution to decrease overall carbon emission (lower input)
- 7) Fertigation with microirrigation can reduce input cost with better agriculture productivity.
- 8) Operational challenges Irrigation constitute over 80% of the ground water utilization  
↳ tackled with microirrigation

- However, challenges exist
- 1) Higher initial capital investment cost
  - 2) poor saturation of government programs & schemes like PM Kisshikhi shiksha yojana, Per drop more crop, etc

- 3) lack of technical training in operation of micro irrigation facilities
- 4) lack of credits, subsidies or incentives for farmers

5) operational challenges



Thus, India needs to move away from being 'artificial exporter of water through irrigation

13. भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल दुलाई 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 हार्शिए में नहीं लिखना चाहिए  
Candidates must not write on this margin

Indian Railways has lower than optimal share in domestic freight transport with >60% of goods being transported through road networks (Economic survey)

Issues pertaining to freight transportation

- 1) lack of railway networks covering entire width & breadth of country
- 2) lower speed of transport → improper transport mode for agricultural commodities
- 3) higher time for loading & unloading of goods

- 4) Unavailability of 'trains on demand'  
model of transportation
- 5) cross subsidisation of passenger trains  
with goods train transport
- 6) lower return on investment i.e. ₹98 / ₹100  
inserted although increased fractionally  
in next time
- 7) Railway accidents - leading to loss of  
properties & livelihood

### Strategies to increase share

- 1) to Overhaul railway safety measures
- 2) Inclusion of Kavach railway safety  
mechanism
- 3) Increase the number of Kisan rails  
- dedicated for transport of agricultural  
commodities

- 4) Development of railway networks alongside industrial corridors
- 5) ~~has~~ optimize the cost of operation without improper subsidies
- 6) Outcome based budgeting for railways with equal focus on sub departments
- 7) Increase the training, upskilling of railway personnel for faster adoption of new age technologies

Thus, railways has to play critical role in reducing logistics cost to 6-8% of GDP from current

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 नही लिखना चाहिए  
Candidates must not write on this margin

15

India is global leader in renewable energy transition undertaking various initiatives like International solar alliance, One planet - one grid initiative, etc

### Factor aiding India

1) Impressive potential for solar & wind energy  India is a tropical nation

2) Enabling policy measures from both central & state governments

National Mission on Renewable energy

### 3) Solar energy

→ India has ~~one~~ one of the largest solar parks in the world

Rajasthan

- Solar panel domestic manufacturing is encouraged
- Reduced tariff on solar panels & components imported
- Various government initiatives like PM Surya ghar mukti yojana, etc

#### 4) Wind energy

- Reduced price of wind energy per unit over years
- Installation of wind turbines across especially South Indian states

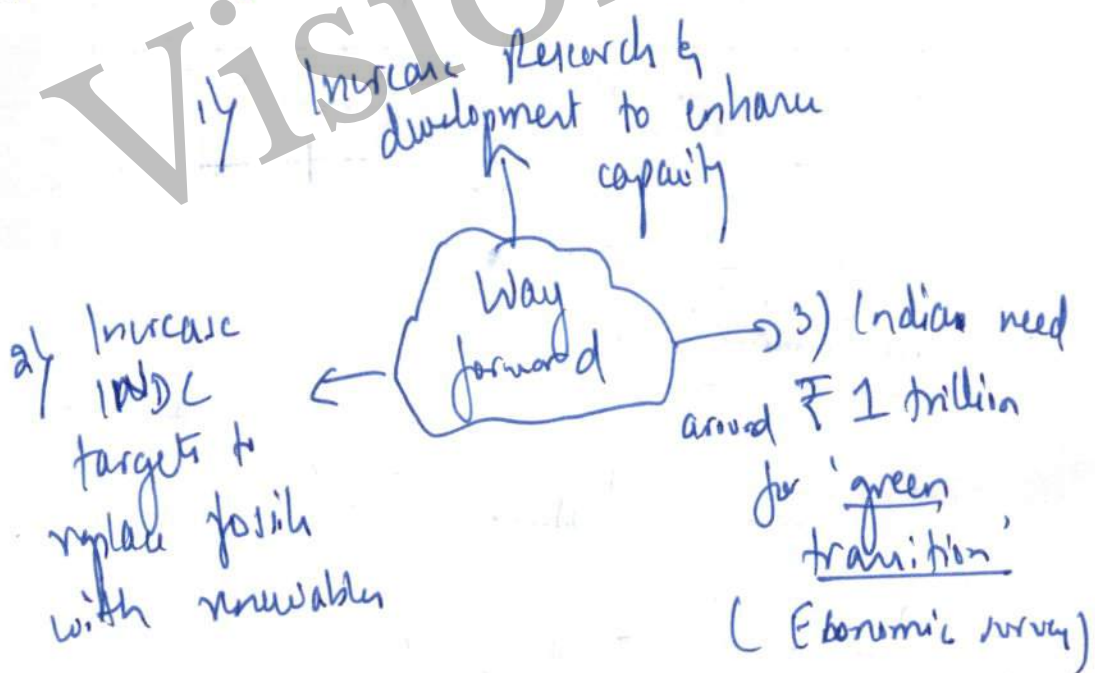
#### 5) Hydro energy

- Fast implementation of small scale hydro electricity projects
- Transnational collaboration

↳ India imports 200 GW of hydro power from Bhutan

## However challenges exist

- 1) lower rate of adoption across different segments & classes of population
- 2) Import dependency (Ex) China for solar products
- 3) GST & indirect taxation disincentivising adoption
- 4) Higher installation cost of renewable energy
- 5) Lack of awareness & public participation



In spite of its achievement, India has long way to go to reach 'Net zero' targets by 2070.

15.

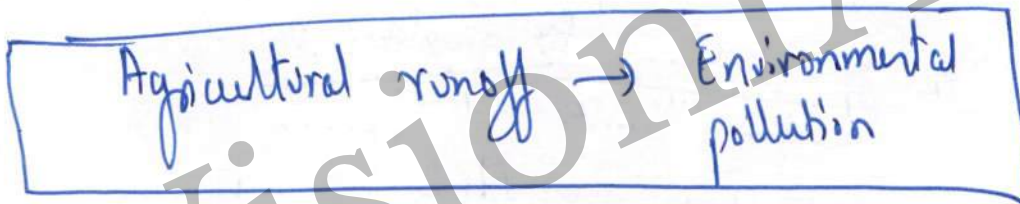
उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

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 हार्शिए में नहीं लिखना चाहिए  
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Punjab - Haryana region  
called a 'Wheat basket of India' is also referred to as 'cancer capital' because of environmental pollution by fertilizers & pesticides



1) Fertilizers contain organophosphates & nitrogenous compounds which are 'carcinogenic' in nature

2) Fertilizers runoff also contributes to Eutrophication of nearby water bodies like lakes, wetlands

3) 'Dead zones' & biological oxygen demand  
are increased in such water bodies

4) Pesticides are poisonous in nature  
that affects nearby biodiversity &  
ecosystems

5) Over usage due to fertilizer & pesticide  
subsidy → abuse & mindless  
application

6) Land degradation & salinization due  
to over fertiliser usage [ex] Uttar Pradesh  
terai region

7) Nutrition imbalance in soil due to  
an improper ratio of application from  
advocated N:P:K of 4:2:1

8) Human health also takes beating with  
increased lifestyle disorder, metabolic  
syndromes & cancers.

## Measures to mitigate

1) Precision agriculture techniques with sensors, etc can be adopted

2) Natural farming & organic farming methods needs to be encouraged

3) Rationalise fertiliser & pesticide subsidies

4) Better market facilities & outreach given to organic food products

5) Fertigation technology to optimize fertilizer application

6) Periodic desilting & phyto remediation measures for nearby water bodies

7) Increased facilities for research labs for constant surveillance of soil quality

8) Thus central government & state governments collaborate together for 'Ever green revolution' as a sustainable agricultural model

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

Natural disasters have become more frequent & intense in Himalayan states due to anthropogenic factors breaching the fragility of Himalayan ecosystem.  
[ex] Uttar dharm yatra - high footfalls

Growing influx of tourists in Himalayan states → unscientific & rushed developmental projects  
Roads, hydroelectricity projects, etc to cater to tourists

Case Study

Himalayan landslides & forest fires in Uttarakhand recently

Lesser significance given to EIA & environmental reports

## Measures to be implemented

A) To prevent such disasters

- 1) National disaster Management authority guidelines needs to be implemented in letter & spirit
- 2) Environmental impact assessment made mandatory for all kinds of projects
- 3) Early warning systems for better climatic & atmospheric changes monitoring  
(ex) Glacial lake outburst floods
- 4) Protection & Policy & Rehabilitation measures with ~~the~~ localised disaster plan kept ready
- 5) Himalayan survey & Zoning of region based on satellite information
- 6) Integration of primary institutions scientific advisory into developmental plan

- By For sustainable tourism

- 1) Bhutan model of ecotourism must be adopted & learnt from
- 2) Ecological carrying capacity <sup>assessment</sup> made a priority before starting any developmental projects
- 3) Restrict the number of footfalls & regulate it based on sustainable tourism model
- 4) Environmental clearance must be given only after strict & critical analysis
- 5) Use nature based solutions & traditional cultural practices for resilient infrastructure
- 6) National Mission on sustainable Himalayan ecosystem

As Jaymya Swaminathan recommends science must take lead over political interests and citizens participation in administration is crucial

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 हिसाब में नहीं लिखना चाहिए  
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Superconductors are the 'new oil' of modern economy forming the basis of for all modern technologies like super computers, perpetual energy systems, etc

Superconductors - Fuel innovation

Ans) Computers & information technologies

1) Super<sup>conductor</sup> ~~computers~~ are critical for 'chip manufacturing'

2) Super conductors essential for ~~learning~~ construction of supercomputers, machine learning, AI, etc

3) Super<sup>conductor</sup> ~~computers~~ can reduce energy input required to run computers

4) Super conductor, quite essential for  
Quantum computing technologies

By Energy systems

1) Super conductor can help reduce the  
cost of energy transmission

2) It also decrease the energy lost  
during transmission

3) Scientists & researchers have envisioned  
perpetual energy system that would  
require lower supply of energy to function

By Robotics

1) Super conductor, form the basic building  
materials for building central processing  
units of any robot

2) They are imported for automated  
machines with IoT technology

## 4) Space technologies

1) Superconductors - crucial for powering various missions & rockets

2) Crucial for interplanetary missions

## Measures taken

1) National mission on superconductors, provide guidelines for their effective development

2) Scientific institutions like CSIR & private bodies collaboration

3) International cooperation in transferring of technology & creation of manufacturing units

Thus, India needs higher investment in R&D (currently 0.6% of GDP) & private investment to enhance its stature

18.

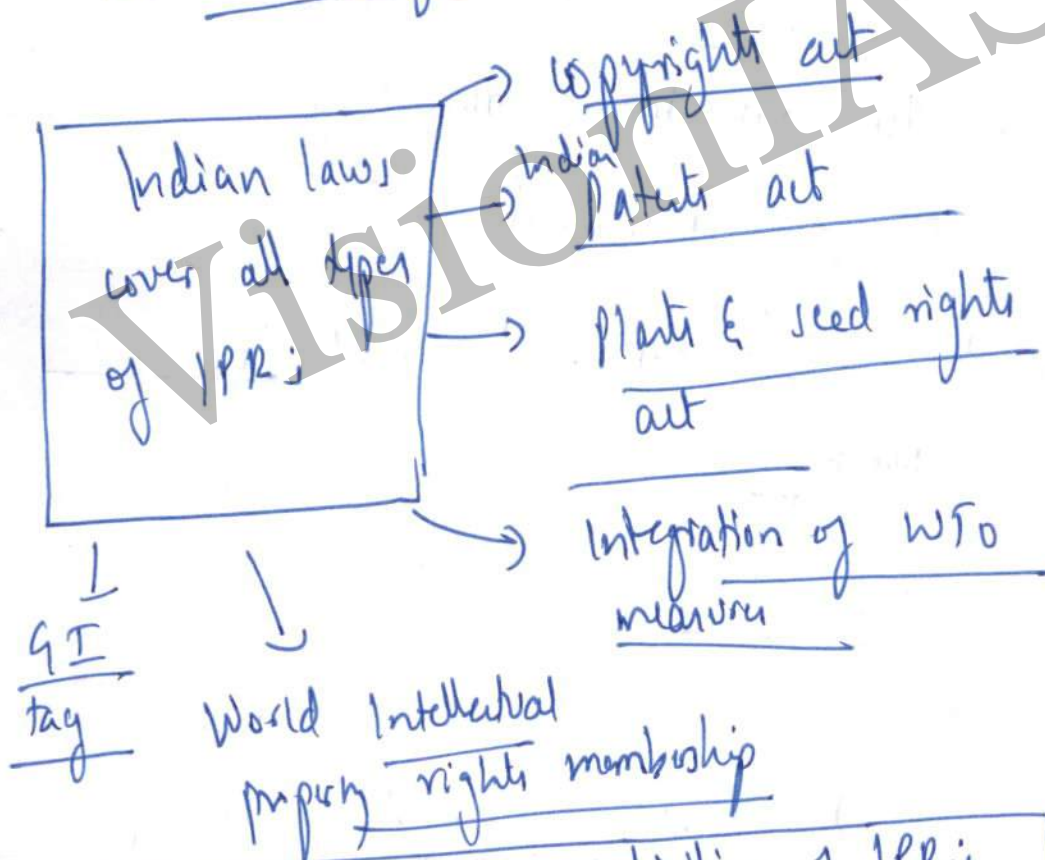
यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

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

15

Intellectual Property rights  
are 'sine qua non' for the Quinary  
sector of economy or New knowledge  
based economy.



Hampering commercialisation of IPRs

A) Enforcement challenges

1) 'Black market' for IPR  
↳ numerous 'copy cat' products entering market

2) Enforcement agencies - lack of explicit institute for implementation of IPR exclusively

3) Overburdening of existing enforcement agencies in criminal justice system

4) Lack of awareness by citizenry about the legal framework

B) Regulatory challenges

1) Poor implementation of access & benefit sharing

2) Bio piracy - of Indian endemic flora & fauna

3) Improper implementation of Indian Traditional knowledge network system

4) Lack of parity or paradeic judicial

## Intervention

### Administrative Challenges

- 1) lot of discretionary powers at hands of officials
- 2) corruption & collusive crony capitalism
- 3) Geographic Indication Act is not implemented in letter & spirit
- 4) Poor bargaining power of small & marginal farmers

### Way forward

- 1) Increase the awareness by public campaigns about patent IPR rights
- 2) Eradicate the problem of filthy of IPR patents, etc
- 3) International collaboration to prevent illicit smuggling, piracy, etc

Common patent pool to commercialise IPR by central government

Thus, IPR without adequate IPR regulation, India's \$30 trillion by 2047 is distant dream

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

Recently, Chief of  
defence staff (CDS) gave a call for  
the need to have integrated theatre  
commands in increasingly volatile  
global order.

Challenges in creating integrated theatre

- 1) Inter departmental conflicts between  
army, navy & air defence
- 2) Lack of recognised hierarchy affecting  
the single chain of command
- 3) Not all departments of defence required  
in all border regions  
 No / low role of Navy in  
Himalayan border.

4) Dilute the specialisation of required for handling <sup>a situation</sup> by overlapping functions

5) Increase the time taken & affect the care of operations

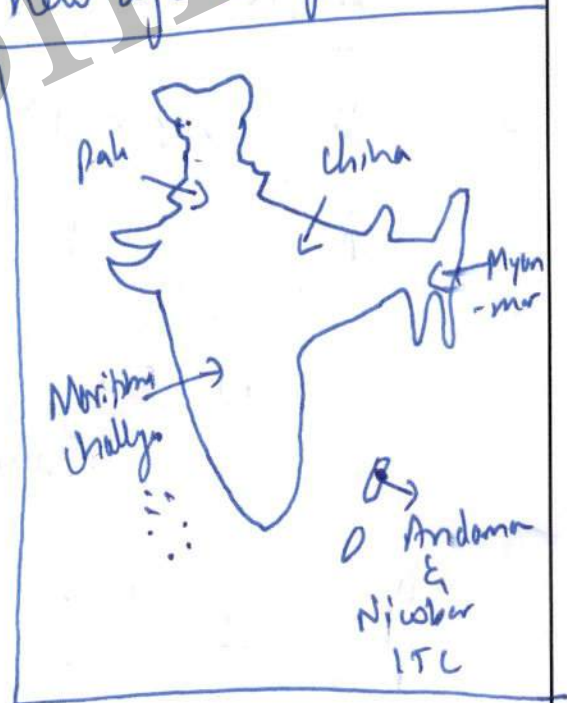
### Positives of ITC

1) Optimisation of resources - coordinated & unified actions

2) Changing nature of new age warfare necessitates integrated tackling of challenges

3) Better & optimised defence acquisition

4) Decreases the defence budget required with optimisation of resources



- 5) End of training of army defense personnel - better upskilling & reskilling
- 6) Faster & efficient attacks in case of external challenges
- 7) Sharing of intelligence between trinity of defense → better information management
- 8) Multipacted approach increasing the efficiency of operations
- 9) Better handling of 'China factor' in greater Indo pacific region
- 10) India's role as Net security provider is enhanced.

Then, in spite of challenges, as Rajiv Shukla, former chief of army recommends ITC is the need of the hour.

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)

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

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

India's geography has placed it in hostile neighbourhood with multitudes of challenges in border management across its 15,000 km of border area.

Border village development - key strategy for border security

1) Border village form 1st line of defence against any kind of cross border challenges

2) Border village habitation is crucial for Indian claim against irregular intrusion by external actors like China

3) Border village development - can enhance its role as 'dual use villages'  
- in model of Chinese 'xiaokong' villages

4) Border village facilities can bridge the infrastructural & development gaps deficit

5) It is one of the strategy in winning hearts & minds of the border villagers

6) Help prevent anti national sentiments being developed

7) Enhance the ease of defense operation by better connectivity

Measures being taken

1) 'Vibrant villages' scheme to develop villages as crucial component in border management

- 2) Supply of arms and defense equipments for villagers
- 3) Indian defense infrastructure has increased immensely in border areas recently
- 4) Higher rate of construction of roads, tunnels, bridges, etc
- 5) Comprehensive border management system integrates technology in border management
- 6) Revocation of free movement regime in eastern border with Myanmar due to increasing conflicts [x] 'Junta' operation
- 7) Diplomatic arrangements in neighboring similar minded countries [y] operation subsist with Myanmar

Thus, border villages are crucial for national Indian sovereignty & integrity of a nation

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