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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. : 1004873

अभ्यर्थी का नाम/Name of Student : HARSITA AGRAWAL

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

25/08/2024

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

केंद्र

Centre BJS Public school
Karol Bagh

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	<p style="text-align: center;">महत्वपूर्ण अनुदेश</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;">Important Instructions</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)					



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

(FPI)
Food processing Industry is called as 'Surprise Sector' in India, due to its potential in increasing export and incomes. However, it comes with certain challenges.

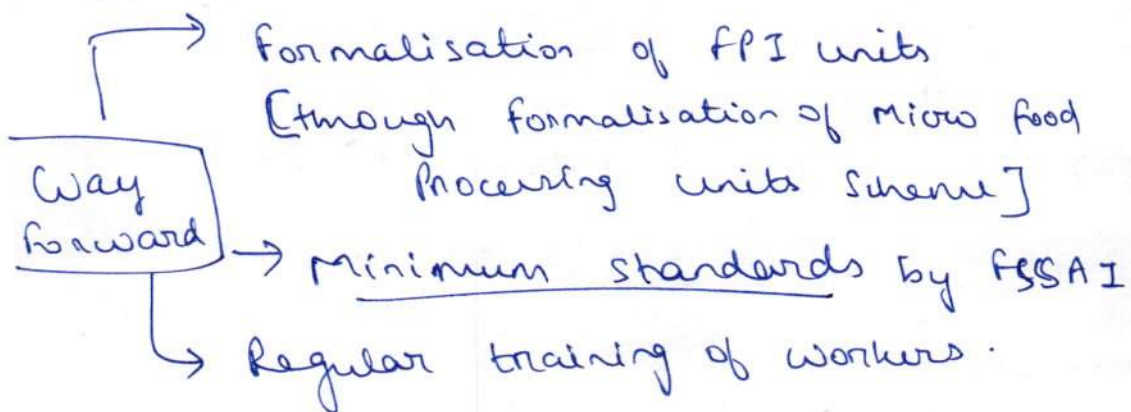
Food safety challenges due to growth of FPI

1) Lack of formalisation - over 4 lakh FPI units contributing to 10% of the output but over 70% of employment - difficult to regulate.

2) Absence of standardisation leading to low quality and hygiene standards.
+ difficult to export to EU.

3) Low value addition and improper management of perishable goods.

- 4) Lack of technology required to ensure quality preservation and packaging.
- 5) Lack of infrastructure eg - cold storage facilities - leading to rotting of inputs.
- 6) Human capital issues - poor working conditions, no training on handling of food products.
- 7) Rising consumerism due to affordable and accessible products, often high in sugar, transfat, vegetable oils - leading to non-communicable diseases like heart issues and Obesity.



Therefore, reforms in the sector can help India effectively utilise its agrarian economy for industrial growth.

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

The Fair Price Shops (FPS) are the last point of contact in ensuring delivery of food grains to citizens under the Public Distribution System.

FPS Transformation Measures taken

- 1) Computerisation of FPS.
- 2) e-Point of Sale Receipt Generator at FPS to reduce fake beneficiaries
- 3) Integration of FPS with Online Depot System for transparency in stock management.
- 4) Integration of Ration with Aadhar, One Nation one Ration to increase efficiency of operations of FPS.

Challenges that remain in FPS

- 1) Technological upgradation efforts in remote areas is incomplete.
- 2) Improper food storage leading to poor quality grain distribution.
- 3) Issues of corruption and ghost beneficiaries persists.
- 4) Lack of capacity building of FPS operators.

Way forward for FPS transformation

- ↳ Shanba Kumar Committee Recommendation
- digitisation of entire process of food grain distribution.
 - Involvement of private sector in FPS.
 - Community engagement via open management of FPS.
 - Decentralising control over FPS to Gram Sabhas.

Therefore, an efficient Public Distribution System rests on the FPS, essential to achieve the goals under SDG2 (Zero Hunger)

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)

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

Agri-tech startups ~~like~~ are growing in prominence in India, driven by the joint spirit of Anusandhan (Innovation) and welfare of kisan (farmer).

Role of Agri-tech startups in helping farmers

I) Enhancing farm productivity

- 1) Innovation in technologies for crop planning, eg- using biosensors for soil analysis.
- 2) Integration of emerging technologies with crop production eg - AI in farms.
- 3) Promoting climate resilience
eg - drought - resistant crop varieties.
- 4) Improving water efficiency
Eg - microirrigation, drip irrigation.
- 5) Increasing agricultural yields
through pest-resistance

Eg- Genetically modified crops like Bt-Cotton.

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

II) Enhancing market access

1) Facilitating digitalisation of market

Eg- helping farmers ~~ing~~ integrate with e-NAM

2) Removing market intermediaries like APMCs

by providing alternate market access.

3)

Measures to make these benefits accessible to all farmers

1) Use Fund of Fund scheme for start ups to promote agri start ups in remote areas like eastern India.

2) Use 'AI4AI' (AI for Agricultural Innovation) to support start ups

3) Digital literacy camps for farmers.

Therefore, these measures can allow agri start ups to effectively and gradually transform Indian agriculture from a sustenance farming to commercial production.

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

Digitization of land reforms

under SWAMITWA scheme is one of the highest priorities of Digital India program, to ensure effective implementation of land reforms.

Role in implementation of land reforms

- 1) Ownership to the tiller - by providing conclusive land titling.
- 2) Protection of tenants - by documenting the ownership of land by zamindars and by tenants.
- 3) Facilitate land consolidation as surveys are carried out to determine quality of land.
- 4) Implementation of land ceiling by preventing Benami transactions.
- 5) Prevent exploitation of small farmers by generating unique land parcel ID.

6) Improve agricultural productivity by integrating land records with access to credit.

Challenges in this synergy

1) Digital Infrastructure is inadequate in remote areas for this complex process.

2) Bureaucratic hurdles faced by farmers in case of lack of proof of land ownership.

3) Multiple land records with forest officials, revenue department creating confusion.

4) Lack of capacity building to carry out scientific assessment of land.

→ SWAMITWA 2.0 to cover left-out regions and farmers.

Way forward → Decentralizing the process + allowing social audits by Gram Sashas.

→ Private sector participation to reduce corruption.

Therefore, these measures can align with Dalwai Committee Recommendations for total agrarian transformation.

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)

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

10

India is currently in its golden period of demographic dividend (2018-2037) and thus measures to fully utilise it are crucial for economic growth.

Need of manufacturing - led growth model

I) Exploit demographic dividend

1) Industries ensure labour absorption and labour productivity.

2) Reduce dependence on agriculture.

3) Promote Innovation in manufacturing through youth power.

4) Allow learning-on-the-job and human capital formation.

II) Accelerate Economic Growth

1) Natural stage after agrarian economy (India skipped industrial development, stagnant at 7-8% of GDP for last 2 decades).

2) Allow India to emerge as Global Hub for manufacturing (replacing to China).

3) Increasing exports and attracting foreign capital and technology.

Measures for manufacturing-led growth

1) Structural measures → ease of doing business

↓ policy certainty. ↓ ease of regulatory clearances ↓ friendly labour laws

2) State incentivisation → FDI scheme

↓ SPFCs for Electronics. ↓ PM MITRA for textiles

3) Skill development → vocational education under MEP

↓ Skill Impact Bonds.

↓ Pradhan Mantri Kaushal Vikas Yojana

4) Promotion of small-scale manufacturing

↓ Support to MSMEs

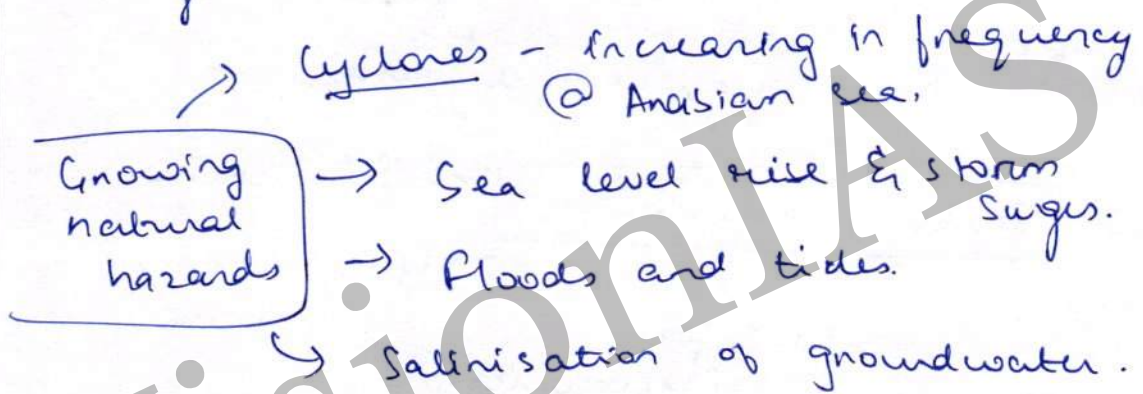
↓ Start-up Accelerator Fund

↓ Stand up India Scheme.

Therefore, effective implementation of these measures can allow India to achieve its target of \$5 trillion economy.

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)

Around 40% of Indian population lives within 100 km of our coasts, and thus require effective adaptation strategies against climate change.



Measures to strengthen resilience

1) Retrofitting of Infrastructure to make them resistant to cyclones, earthquakes.

2) Disaster-resilience → IMO App for real-time updates.

↳ Early warning signals

↳ Cyclone shelters

3) Mitigation of Impacts

- ↳ promoting ~~deforestation~~ ^{afforestation}
- ↳ safeguarding mangroves and corals : natural shock absorbers
- ↳ shifting populations away from extremely low lying areas.

4) Governance measures

- ↳ Urban and rural bodies should make 'Disaster-resilient city Plans'.
- ↳ Involvement of private sector in analysing disaster readiness.

5) Community Engagement

- ↳ Capacity Building and awareness campaigns about disaster action.
- ↳ creation of community volunteers, e.g. - Aapada Mitra schemes.

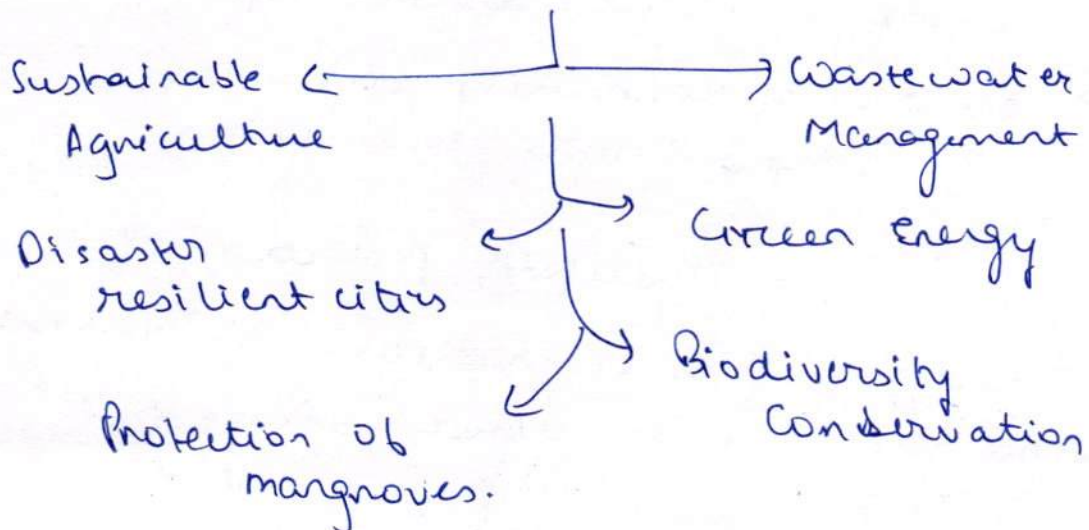
Therefore, protection of Indian coastal communities is imminent in the race against climate change.

7. भारत में अधिक संचारणीय 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)

Green Credit Program has been launched under the Environment Protection Act to incentivise and reward climate friendly actions.

It extends beyond carbon management by rewarding activities that not only reduce carbon emissions but also any programs that have a beneficial impact on the environment.

Initiatives covered



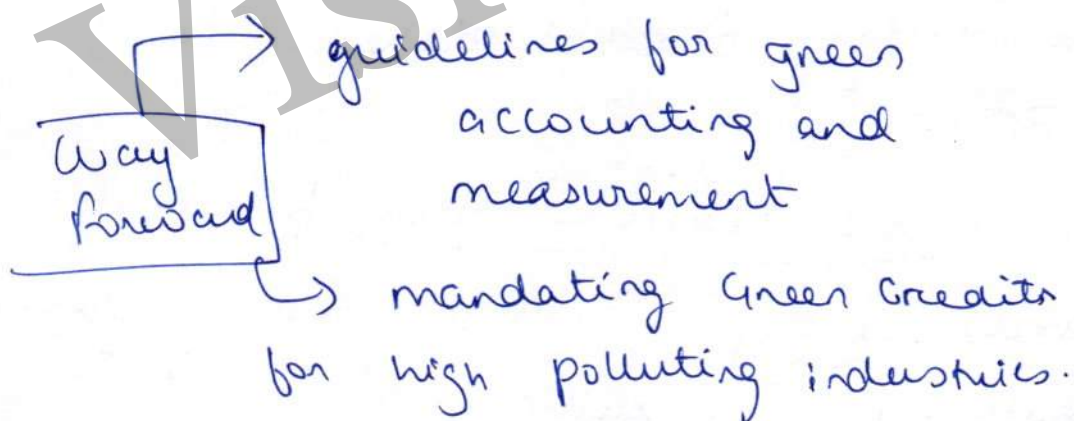
Concerns over implementation

1) Measurement challenges -
quantifying the benefits of the
above initiatives.

2) Confusion with Carbon Credit
Scheme.

3) Lack of trading mechanism of
Green Credits.

4) It is not mandatory and may
thus invite little public action.



Therefore, despite its
limitations, the scheme holds potential
in advancing LiFE movement of
India.

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

10

NavIC is an indigenous navigation system by ISRO, ~~for~~ consisting of 7 satellites placed in geosynchronous and geostationary orbits.

Need for Navic

- 1) Other navigation systems - like GPS, GLONASS - by foreign countries - created dependencies for India.
- 2) Allow Restricted Access for strategic needs of defence services and Standard services for civilian use.
- 3) Improved efficiency - is more precise than GPS.

- 4) Create India's image as a global power - highlight its prowess in space technology.
- 5) Allow use of Navic for other functions like disaster rescue, ocean studies, which were limited with use of other GPS systems.
- 6) Use in socio-economic development - Navic used to study impact and status of AMRUT, Smart Cities Mission, etc.
- 7) Allow space diplomacy - by cooperating with other countries for sharing of Navic - move away from America-dominated global order.

Therefore, ISRO's Navic program has great scientific and strategic merit.

9.

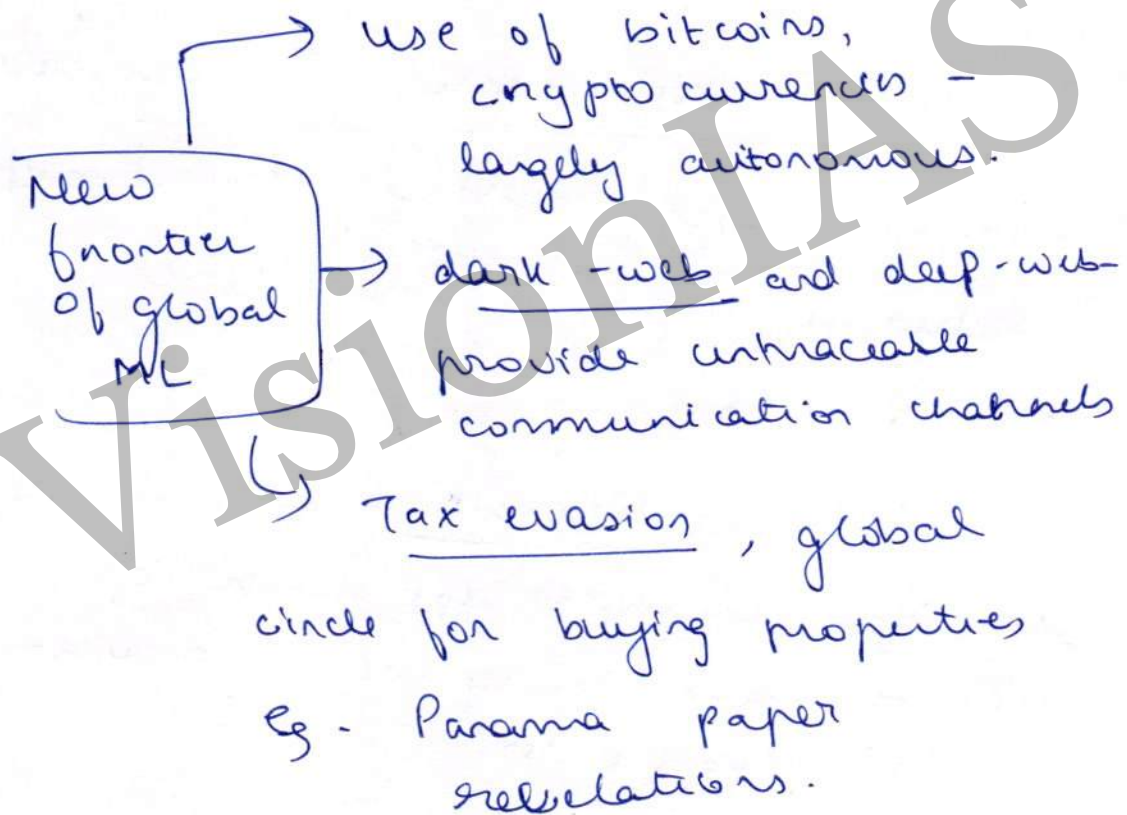
साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)

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 कक्ष में नहीं लिखना चाहिए
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The proliferation of cyber-enabled financial systems has provided a renewed push to money laundering (ML) in the present globalised era.



Measures by government to address

- 1) Cooperating with other countries . Eg - Advanced Information Exchange Agreement of OECD.
- 2) Regulating cryptocurrencies following Vienna Convention.
- 3) Bilateral Agreements like DTAAs.
- 4) Follow best practices like signing Budapest convention.

Therefore, tackling money laundering is essential for safeguarding our Internal security.

10.

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

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

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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Modernisation of our defence forces is dependent on technology absorption, critical for ensuring India's self-reliance.

(Need for technology absorption)

- 1) Allow indigenisation of defence forces.
- 2) Combat emerging threats, eg. drones.

उम्मीदवारों को
इस हार्शियर में
नहीं लिखना
चाहिए
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VisionIAS

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)

15

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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The North - Eastern Region remains geographically, economically and socially isolated from our country, and are the focus of attention of New India.

Issues faced in development

I) Geographical issues

1) Connectivity issues -

Connected to main landmass via a narrow Siliguri Corridor.



2) Hilly terrain and rapidly shifting river courses prevent setting up of industries.

3) 790% International border leading to security concerns.

ii) Other issues

1) Internal security challenges - due to left wing Extremism and militancy, refugee crisis, etc.

(eg - MSCM, ULFA groups).

- 2) Labour issues - lack of skilled labour
+ population apprehensive of migration.
- 3) Tribal population in several states,
which are largely isolated from economic
mainstream models.
- 4) Insufficient infrastructure and state
focus post-independence.

Measures taken to tackle these issues

- 1) Infrastructure Development
 - ↳ National waterway - 2 over Brahmaputra
 - ↳ Aspirational Districts Program.
 - ↳ International Cooperation - Kaladan
Multimodal Project, Agartala-Akhaura
Rail Link.
 - ↳ special focus under Krishi Rail,
Krishi Udan.
 - ↳ focused under 'Act East' Policy.
- 2) State incentive and support
 - ↳ Miti North-East Business Forum
 - ↳ Mega Food Parks - in Tripura.
 - ↳ PLI scheme.

↳ special ministry for development of North East Region.

3) Community Engagement for law & order

↳ Bodo Peace Accord, Karbi Anglong Peace Agreement.

↳ Forest Rights Act for ownership over community resources.

Challenges that remain

China incursion along Arunachal Pradesh + refugee influx from Myanmar

Frequent violence (eg - Manipur) prevents industrial development

Slow pace of infrastructure project development

Way Forward

- 1) Berabaruah Committee Recommendations for integration of North-East.
- 2) Promoting organic farming and tourism
- 3) Community-led development.

Therefore, to ensure economic growth of our country, the road of New India should pass through North-East

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

Micro-irrigation systems are water efficient technologies for irrigation of farmland, effective in minimising water wastage during water crisis and climate change.

→ rising global temperatures (over 1.09°C since 1750s).
 Era of climate change and water scarcity → 91m people in India face extreme water stress.
 → erratic rainfall and drought and flood conditions
 → over-exploitation of groundwater (14% area is 'over-exploited' as per CWGC).

Micro-irrigation can contribute to sustainable agriculture as-

1) Reduce flood irrigation which causes large-scale utilisation and wastage of water.

2) Prevent river pollution due to reduced

fertiliser and chemical wash-off.

3) Maintain soil fertility and prevent land degradation by preventing erosion of top-soil.

4) Reduce groundwater exploitation - over 90% of it is utilised for irrigation.

5) Improved crop productivity - by targeted irrigation and 'per drop - more crop'.

6) Allow land reclamation - drought-stricken, infertile areas can be converted into productive zones
Eg - as seen in Sahel region of Africa.

7) Integration of agri-technology - Internet of Things, nanosensors, can be integrated with micro-irrigation systems
Eg - SENSAGRI system.

Measures for micro-irrigation systems

1) Pradhan Mantri Krishi Sinchayi Yojana

↳ 'Per Drop More Crop' Subscheme

↳ Har Khet ko Paani.

↳ Accelerated Irrigation Benefit Program.

2) Promoting agri-start-ups providing novel solutions. [Agri Accelerator Fund]

3) Skill Building of farmers for awareness and capacity generation.

4) Custom Hiring Centers and Subsidised Credit for farm mechanisation.

Therefore, micro-irrigation systems hold the key to a sustainable and climate-resilient agricultural economy, safeguarding both food security as well as income security.

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 हाथिए में नही लिखना चाहिए
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Indian Railways currently accounts for only about 27% of domestic freight transport, despite being a cost and fuel-efficient means of transportation.

Issues pertaining to freight transportation

1) Cross-subsidization of fares

↳ passengers given fare subsidies, which are imposed on commercial freight transporters, increasing costs.

2) low terminal capacity and overcrowded rail traffic routes.

3) Last-mile infrastructure, eg for loading - unloading of goods is lacking.

4) Performance of trains - regular delays, uncertainties and increasing railway accidents creates deterrence.

5) Bureaucratic hurdles - corruption, regulatory red tapism in freight transport.

6) Connectivity in remote, hilly areas is limited.

Strategies to overcome these issues

Rakesh Mohan Commission Recommendations

1) Streamlining of fares for freight transport.

2) Investment in last-mile infrastructure, through creation of logistics parks, multi-modal transport parks (eg- under Gati Shakti).

3) Regular Track maintenance by involvement of private sector.

4) Reduce turn-around time for freight docking by integration of modern technologies.

5) Improving train performance -

better planning of routes, KAUACH integration across all routes to prevent accidents.

6) Improve operational ratios of Indian Railway by allowing market-based pricing models.

7) Human Resource Overhaul

↓
regular training

↓
integration of donats (eg- IRPS)

↓
reduced workforce pressure by outsourcing to private sector.

Therefore, development of Railway, based on 'Build - Nurture - Repair' model, instead of 'Build - Neglect - Rebuild' model can allow the mode to increase its share in freight transportation in India.

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)

15

उम्मीदवारों को इस हार्शिए में नही लिखना चाहिए
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India is the global leader in energy transition, with aspirational goals of 500 GW from renewable energy by 2030 under its Panchamta.

India's status in renewable energy transition

- 5th in solar energy production
- 4th in overall renewable energy
- 4th in wind energy production.
- top growing market for Electric vehicles.
- ↳ Leader of Global South in Just Energy Transition.

Factors behind this

1) Geographical factors

1) Tropical climate - allows for round-the-year solar power capacity.

2) Western coast - windy and highly

suitable for wind energy generation.

3) Long coastline of over 7500 km allows for tidal wave generation, offshore wind farms.

4) Large network of rivers allow for hydroelectric power generation.
Eg - Tehri Dam, Etahin Project.

II) Regulatory Factor

1) State support for decarbonisation

Eg - FAME for electric vehicles,
100% Electrification of Railways Plan
by 2030.

2) Investment in renewable energy
technology promoted

Eg - AI scheme for solar energy components,
mining of critical elements subsidised.

3) Favourable schemes → solar rooftop scheme
↓ ↓ → National Solar Wind
Biomass generation through COBARDHAM. Ethanol Blending Program Hybrid Policy

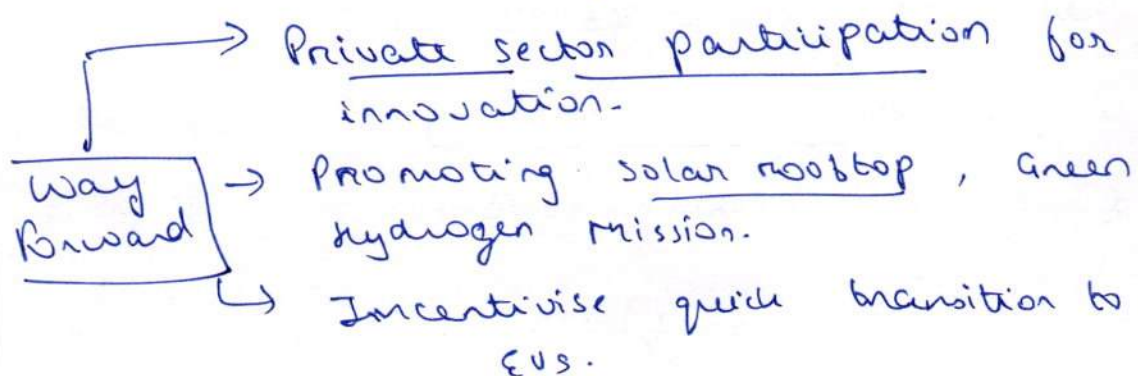
III) International factors

1) India as the leader - eg - pioneered International Solar Alliance, Climate Resilient Disaster Infrastructure, Global Biofuel Alliance @ G20 Summit.

2) International Cooperation eg - Green Energy Partnership with Denmark, Minerals Security Partnership with USA.

Factors that challenge India's position

- 1) Dependence on China for solar components.
- 2) Civilian concerns over nuclear energy.
- 3) Lack of Battery Storage Infrastructure (around 160-170 GW needed).
- 4) Inadequate climate finance (India needs USD 4-5 trillion for net zero by 2070).



Therefore, India's efforts for global renewable energy transition have solidified its image as the emerging power.

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

Agricultural runoff due to large scale fertilizer and pesticide use poses a big challenge for our environmental sustainability, requiring urgent measures.

How it contributes to environmental pollution -

- 1) River pollution - as these chemicals are largely washed off due to flood irrigation to nearby river.
- 2) Lead to eutrophication due to nitrogen and phosphorous content, leading to Red Tides and Algal Blooms.
- 3) Threat to Biodiversity - eutrophication of rivers generates toxic wastes and gases leading to deoxygenation of rivers and death of fish stocks.

- 4) Impact nutrient recycling and the ability of water to regenerate itself.
- 5) Air Pollution - can enter the air through winds or evaporation, leading to pollution as well as green house impact.
- 6) Groundwater contamination - fertilizer & pesticide laden water can seep into groundwater.
- 7) Soil pollution - as they may cause erosion of top soil, soil infertility and land degradation.

Measures to mitigate impact

- 1) Adoption of drip-irrigation, micro-irrigation to reduce water runoff.
Eg- as done in Israel.
- 2) Promotion of organic fertilizers or nanos urea, neem coated urea to reduce chemical use in fertiliser
↳ implementation of PM PRAMAM scheme.

3) Wastewater treatment - i.e. treatment of irrigation water for removing chemical pollutants before discharging into rivers.

4) Reduce use of pesticides by promoting pest-resistant cropping

Eg - BT Cotton, DMH Mustard.

5) Promote drought-resistant crops like millet, to reduce the need of flood irrigation or chemical fertilisers.

6) Adoption of Biotechnology - for eg, Genetically modified Bacteria to break down pollution in water bodies and prevent algal blooms.

Therefore, these measures will help us achieve sustainable agriculture, and the goals under SDG 2, 13 and 14.

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
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Himalayan states are characterised by pristine beauty and serenity. However, large scale tourist attraction is posing a challenge to its ecological stability.

Tourism in Himalayas: Impacts

- ↳ Creation of roads, hotels, resorts.
- ↳ waste generation and plastic pollution
- ↳ deforestation.
- ↳ changing river courses



MAN-MADE DISASTERS

- ↳ Joshimath Land subsidence.
- ↳ Avalanches and landslides (eg- Kedarnath floods)
- ↳ Increasing vulnerability to Earthquakes (eg- Sikkim).
2023

Measures to prevent disasters and promote Sustainable tourism

I. Infrastructure development

- ↳ should be based on carrying capacity of the region.
- ↳ Geological stability and Environmental Assessment before granting permissions.
- ↳ 'Blasting' method of construction should be banned.
- ↳ Incorporating traditional knowledge systems Eg- Dhajji-Diwari system of construction in Jammu & Kashmir.

II. Regulating tourist activity

- ↳ limits on number of tourists entering a region.
- ↳ prevent pollution by tourists (eg- Sikkim - recently released guidelines for mandatory carrying of garbage bags while entering the state)

- ↳ complete ban on single use plastic (as done by Sikkim).

III. Promoting sustainable tourism

- ↳ Adhering to Dharamshala principles for tourism development.
- ↳ Early warning systems and prompt evacuation measures to prevent loss of life during disasters.
- ↳ Restrictions on cars and road transportation, promoting alternative means like cable network.
- ↳ Involve local community in city planning for ensuring healthy cities.
- ↳ Creating disaster-resilient infrastructure

Therefore, sustainable tourism is critical to ensure that our pristine environment works with us, not against us.

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 हाशिए में नहीं लिखना चाहिए
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Superconductors refer to materials and elements that allow transmission of electric currents with zero resistance.

Currently, there are no materials that can offer superconductivity at room temperature, they always require extremely low temperature and pressure conditions.

Superconductors fuel innovation in science and technology as follows -

- 1) Electricity transmission - can allow for zero transmission losses, fast transmission of electricity.
- 2) Robotics - can enable super-smart and minute robotics operation.
Eg - use in robotic cleaning

of surgical equipments.

3) Support super computers and Quantum

Computers - allow for interlinking of computers and creation of robust cyberspace infrastructure.

4) Quantum Communication - maintaining

quantum coherence, safeguarding quantum integrated encryption can use superconductors.

5) Green Energy - superconductors hold great potential in solar cell production, and fuel cell production.

6) Internet of Things can be strengthened by using supercomputers, across the value chain.

7) Bullet Trains use magnetic levitation technology, which can be benefitted by using superconductors.

8) Web 3.0 which is decentralized

and based on remote processing can utilise superconductors for creating robust decentralized channels.

9) Cyber physical systems under IIo 4.0, which is based on Digitization can use superconductors for improving efficiency of production.

Therefore, large scale research in the field of superconductors is ongoing. The discovery of materials which can maintain superconductivity at room temperatures hold the potential for transforming our technological and economic systems.

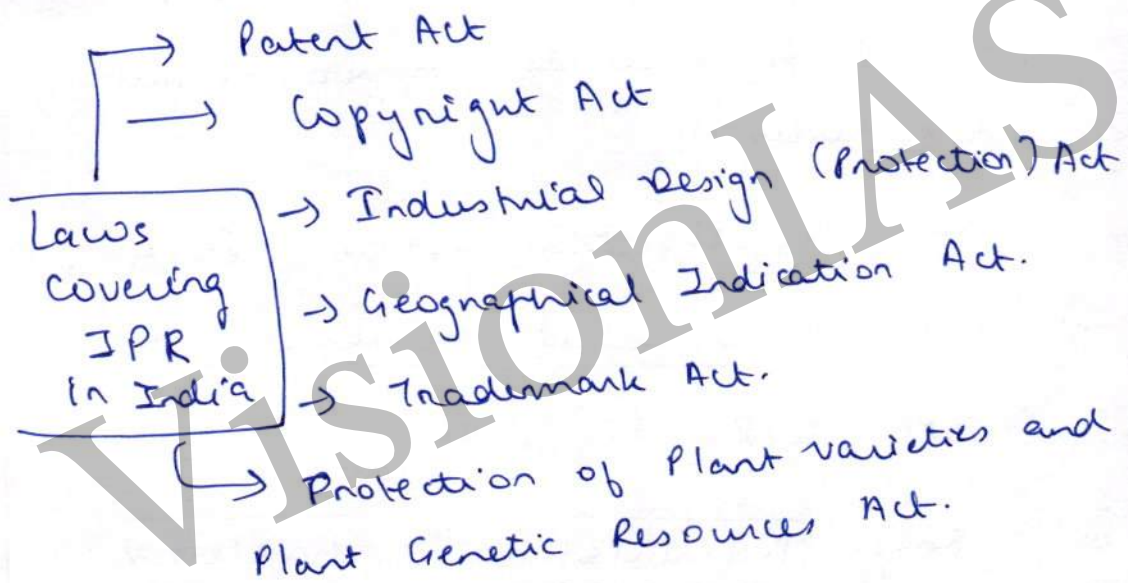
18.

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) 15

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

India ranks 10th in the Global Innovation Index. Yet, the IPRs generated from India do not align with the vast potential our nation holds.



Challenges hampering commercialisation of IPRs

I) Enforcement challenges

- 1) Weak protection under Copyrights Act in India. → large-scale piracy seen.
- 2) Prevention of bio-piracy remains a

threat, due to inadequate attention given to Traditional Knowledge Protection.

- 3) Difficult compliance mechanisms and lack of effective deterrence in laws
↳ laws not updated regularly.

II) Regulatory challenges

- 1) Lack of protection given to plants varieties \Rightarrow prevents commercialisation and research.
- 2) Lack of effective global protection.
- 3) Lack of centralized database to evaluate IPRs in India.

III) Enfor. Administrative challenges

- 1) Large delays in granting patents - takes anywhere between 5-23 months currently.
- 2) Large number of judicial delays - backlogs in cases, delays in ordering judgments and absence of fast

track courts or Specialized Tribunals.

Way Forward

1) Streamlining Patent Regulation

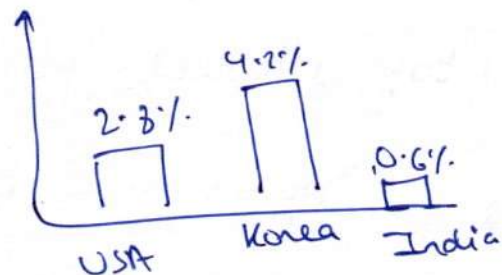
- ↳ Use of AI / Machine Learning
- ↳ creation of national database in local languages.

2) International agreements, like WIPO Agreement on Plant Resources and Food security should be adequately ratified.

3) Promoting Innovation - Increase

public expenditure on R&D

% of GDP spent on R&D.



Therefore, commercialisation of IPRs is essential to realise our effects our ^{Vision of} ~~Sabka~~ 'Jai Anusardhan'.

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

Integrated theatre commands

were recommended by Kargil committee for division of India into 6 theatres, with each theatre having an integrated service of the 3 wings.

Challenges in creating theatre commands

- 1) Resistance from armed forces - as it may reduce the status of the top-ranked position.
- 2) Threats at Border - from China, Pakistan - do not allow enough time for planning and mobilising theatre commands.
- 3) Lack of inter-service synergy and concerns over competition.

Benefits of theaterisation of commands

- 1) Effective resource utilisation -
as defense equipments can be commonly shared and effectively utilised.
- 2) Unified war command possible as the chief of the theatre can command all three forces.
- 3) Manpower rationalisation and reduction of burden of human resources on army by creating synergies.
- 4) Reduced cost of training as several modules are repeated for all three services.
- 5) Maritime theatre commands @ Lakshadweep and Andaman & Nicobar - ensure secure sea lanes of communication and free and open Indo-Pacific.

Way Forward

- 1) Gradual shift towards integrating the services with fallback option in case of border aggression.
- 2) Discussion and consensus building with leaders of the 3 forces to prevent alienation.

Therefore, these commands hold the future for a modernised, secure and self-reliant defence force in India.

20.

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

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

15

Border villages are crucial in ensuring stable foreign relations, and effective border security, and are thus prioritised as 'first villages'.

Border villages as first villages: Strategy for enhancing border security

1) Prevent alienation of local population and ensure confidence in armed forces.

2) Can be used for situational awareness, gathering information about geography and terrain.

3) Prevent radicalisation, militantism

Eg- working as Overground Workers in Jammu & Kashmir

4) Infrastructure development,
Such as roads, railways, communication.
- can be used for swift military
action.

5) Socio-Economic development
through schools, hospitals can
promote spirit of nationalism.

Measures taken by government

1) Border Area Development
Program - for infrastructure
development

2) Vibrant Villages Programme -
for access to basic services in
remote villages.

3) Community Outreach - through
Operation Sadhbhavana by
Indian Army.

4) Civic Engagement and Trust

Building - Eg - CRPF soldiers
learning Kashmiri language.

5) Youth engagement - through

'Bharat Darshan', Youth connect
programs.

6) Skill Development - eg Project
Humayat.

7) BRO undertakes road construction
to reduce geographical isolation.

Therefore, cultural connect
and confidence building with border villages
are crucial in ensuring robust border
management in India.

SPACE FOR ROUGH WORK

VisionIAS