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INSPIRING INNOVATION
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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 उपरान्त अपने साथ ले जा सकते हैं।

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

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

General Instructions

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

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

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

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

पंजीकरण सं./Registration No. : 01502746

अभ्यर्थी का नाम/Name of Student : TANISHA MISHRA

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

25/08/2024

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

केंद्र
Centre

LUCKNOW

निरीक्षक के हस्ताक्षर
Invigilator's Signature

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

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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)

10

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

Food Processing Industry (FPI) is a surprise industry growing at a CAGR of $\sim 12-15\%$ (PLI scheme).

Rapid Growth

- 1) Increasing value addition
- 2) Schemes like Operation Greens, Kisan Sampada Yojana
- 3) Policies of APEDA, MPEDA also accelerating high value exports.

Food Safety Challenges

- 1) Diversification of food to these industries
- 2) Rise in horticulture prices due to

Shortage in the market eg. apple's price surge

3) The industry through its linkage power modifying cropping patterns eg. more cropping of high cash crops at cost of food grains

4) Lopsided development of industry with less focus on hinterland → food imbalances

5) Less focus on millet value addition

6) Rapid growth has also meant lack of quality standards → food safety

7) 70% firms are informal (PM Formalization Scheme)

8) Diversion of food grains from producing states to rich, consuming states and areas eg. tribes not getting fair share.

Thus, FPI to be a true sunrise for agri sector must take care of these factors

2.

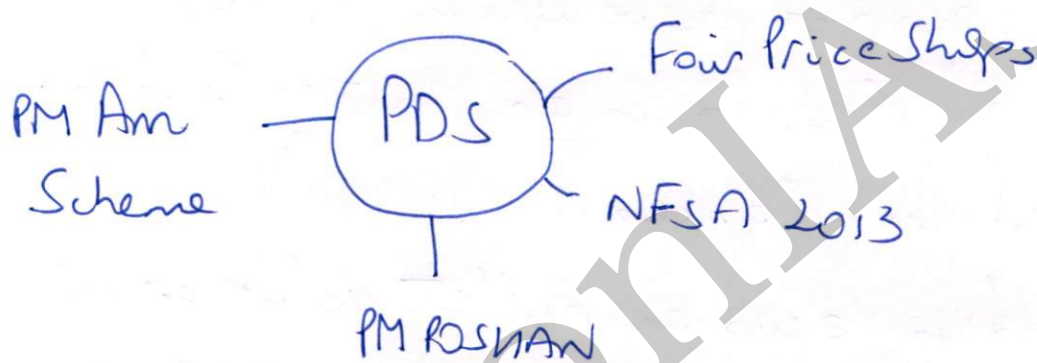
भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

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
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write on
this margin

The Public Distribution System
is a robust, largest food grain
distribution system in the world.



FPS Transformation

- 1) To ~~be~~ make it more technologically advanced
- 2) Weed out ghost beneficiaries eg.
Another authentication
- 3) Spread to more rural and hinterland

- 4) Scheme like One Nation, One Ration Card for migrant workers
- 5) Finger print system
- 6) GPS tracking of trucks carrying materials to the FPS.
- 7) Change also in the materials distributed. eg. incorporation of millets
- 8) State specific changes eg. more of rice in East India
- 9) FPS shops being led in a more accountable, transparent manner.

Thus, the evolution of FPS is an evolving process. Much progress has been made but a lot needs to do in line with objectives of NFSA and the recommendations of Shanta Kumar Committee.

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

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

India has the 3rd largest startup ecosystem in the world. In this ecosystem, agri startups are the rising stars.

Agri startups Technology as a solution to :

I) Enhancing Productivity

- 1) Building of small scale machinery to be deployed given 80% small and marginal holdings (avg. size: 1.68ha)
- 2) Input monitoring via remote sensors, crop testing eg. AGRIMETER, Microsoft's ICRISAT
- 3) Targeted ~~or~~ input delivery eg.

nano drones for seeds, sprinklers for
micro irrigation

4) Promoting affordable machines
through unique models eg. Uber for
Trucks

5) Promoting education and awareness
(Fork to farm information chain) eg.
e.Choupal, Whirl

6) Niche tech like Blockchain and
Big Data analytics to deliver most productive
cropping pattern (avoid cobweb)

II) Market Access

- 1) Price discovery and open marketing
eg. PRAMAN horticulture exchange
- 2) Business to Farm gate connectivity
eg. agritech business apps eg. Big Basket,
Fresh.
- 3) Business / Market advising eg.
chatbots apps

Therefore agritech is the key to
a remunerative agriculture as envisaged
by Ashok Delwai Committee.

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

"Digital India is the solution
for the land and farm distress"
— PM Modi

Digitization of land records means
making the paper system of records
digital to increase operability and
ease of access.

Role of digitization in effective
implementation of land reforms

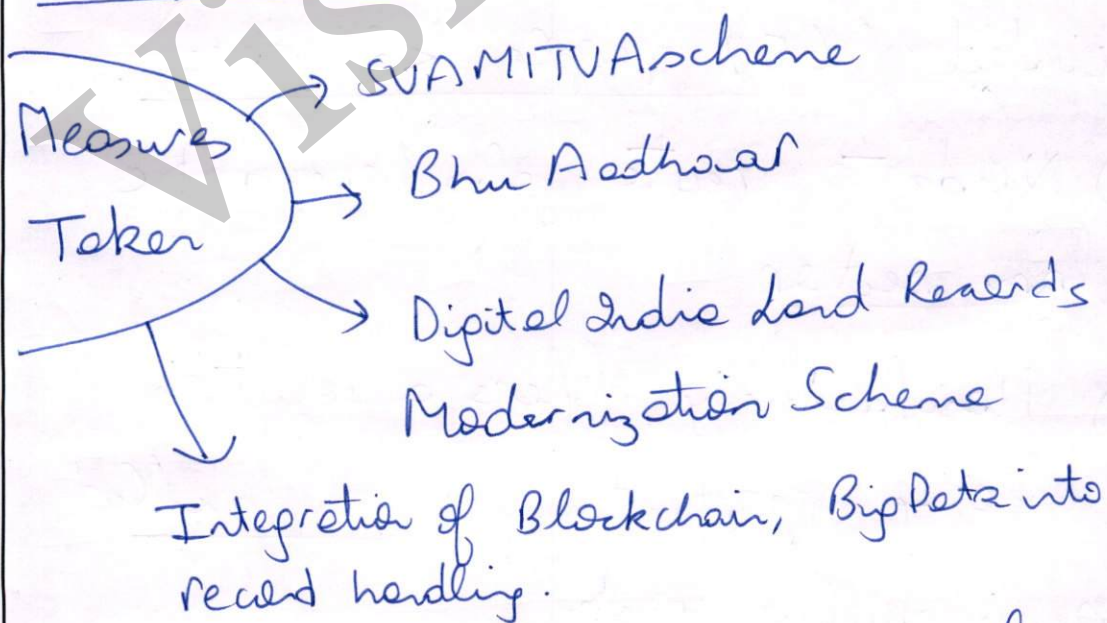
- 1) Ease of access of records
- 2) Reduces litigation costs and time
- 3) A digital map records help plan
targetted reforms
- 4) Help in grading of reforms as per
priority eg. more representation

then land consolidation will precede over land ceiling.

5) Help in identifying defaulters

6) Linking of record and papers to identity layer of Aadhaar - help weed out people manipulating land ceilings

7) Type of land and productivity, location can help chalk ~~st~~ out productive consolidated holdings → FPO formation.



Digital India can be a panacea for major ill ailing the reform movement.

5.

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

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

10

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

Manufacturing sector's contribution to the GDP has stagnated at ~ 12-15 % while the aim continues to be 25 % by the National Manufacturing Policy.

To fully exploit demographic dividend

1) India is at the prime of its demographic dividend (65% people < 35 years).

2) Needs to create jobs beyond the farm sector

3) Manufacturing offers a solution offering opportunities for low skilled semi skilled youth

4) With Industry 4.0, and automation of

services sector eg. Chatbots, robotic call centres, a social safety net of robust manufacturing must.

- 5) Imperative to integrate into the global supply chains and fully exploit China+1 wave eg. Apple shifting assembly plants
- 6) Manufacturing - easy to train youth ($< 3\%$ formally trained as per PLFS)

Accelerate Economic Growth

- 1) Manufacturing creates forward and backward linkages eg. credit market, banking, logistics
- 2) Export development eg. Team Up for Toys
- 3) Increase GDP by increasing production
- 4) New industries eg. Telecom, Pharma, FPI developing where India has upper hand
- 5) Less disruptive than services eg. Covid pandemic impacted services more.

Thus, via schemes like PLI, Start Up India, PMKVY and SHG movement,

India must amp up its manufacturing capabilities

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

India with a vast coastline of $\sim 7000\text{km}$ is vulnerable to natural hazards caused by climate change.

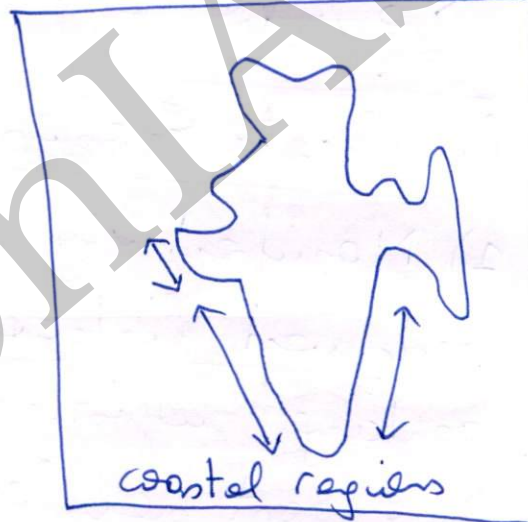
Natural hazards from climate change

1) Increased cyclones due to more heating

2) Melting of glaciers $\rightarrow$ sea level rise e.g. IPCC 6th Assessment Report predicts Mumbai drowning here

3) Increased hazards from new source e.g. more cyclones originating in the Arabian Sea now

4) Climate change $\rightarrow$ more heat waves impacting marine ecosystems (the main



livelihood of these communities)
5) Ocean acidification (evil twin of climate change) → depleting fish stocks, water pollution

Now our resilience be strengthened

- 1) Sagar Mala Programme's port led development model
- 2) Increase infrastructure to promote resilient blue-green infra (or per CDR)
- 3) Diversification of livelihoods eg. FPIs in aquaculture, Mastya Sempeda Yojana, PM KVV
- 4) NDMA guidelines must be drafted in local languages and popularized
- 5) Mission mode deployment of schemes like MISHTHI (Magrove), SANBHAGITA (wetland)
- 6) Marine National Parks and biodiversity sensitive planning and training eg. equipped boats, reduce bottom trawling.

Coastal communities are the face of

7.

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

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

10

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

Green Credit Programme is the flagship programme of the government to promote greening of ecosystems and incentivize such activities.

Green Credit Programme

marketable credits

obtained by →

planting of trees or plantation

Promotes more sustainable environment

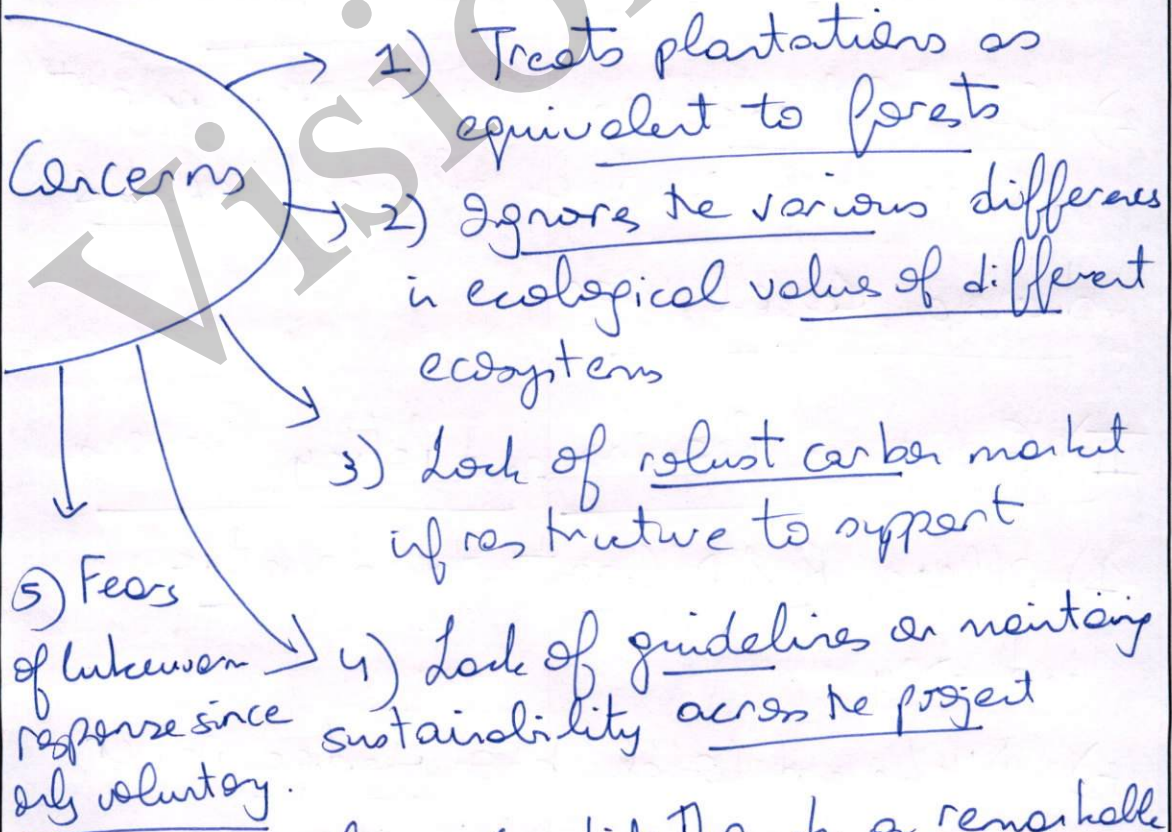
- 1) Wide spectrum of activities covered
eg. renewable energy, biogas and sustainable waste management
- 2) Carbon centric to eco centric approach
with wide positive externalities

3) Covers not only obligated entities but also common citizens or voluntary CSR by businesses

4) Exemplifies the spirit of Jen Bhagidari and Mission LIFE.

5) Incentivizes the credits by making it marketable

6) Expands 'carbon markets' to now cover 'green markets'.



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 is the Indian, sui generis model of GPS navigation centered around Indian sub continent specifically.

Need for NavIC

I) Security Reasons

- 1) Other GPS systems by different countries may exploit sensitive information
- 2) Self Reliance as other powers might withdraw it in times of need eg. US during Kargil War

II) Economic Reasons and Policy Reasons

- 1) Offers R & D boost to domestic industry
- 2) Niche and local knowledge rather than faulty navigations of GPS

- 3) Offers more reliable, adaptable and focussed information
- 4) & helpful for logistics sector eg. roads, rail, inland ports
- 5) helpful in effective planning of land uses and allocation
- 6) Drafting of infra projects especially in sensitive border areas eg. BRO's projects

III) Political and Geo Political

- 1) Gives India a space in the global navigation owning countries
- 2) Boost to international and regional prestige
- 3) Helpful in extending its influence by offering services on beni fide basis eg. SAARC satellite model
- 4) Helps in planning operations in IOR as 1st responder.

Thus, NavIC has multiple uses.

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

As per UNODC, cyber crime is any crime planned, perpetrated or implemented via use of cyber networks.

Cyber enabled financial crime is illegal generation, usage and dissemination of funds to give effect to a criminal act. It is being as a new frontier of money laundering.

1) Placement stage: via cryptocurrency
eg. Monero

2) Generating of proceeds of crime via black mailing, phishing, hacking into credit card systems.

3) Integration via purchases eg.
NFTs, anonymous cash apps like
Dani Dote

4) Tools of money laundering and tax
evasion are getting apps eg. Mahadev
Betting App Case

How can Government tackle this?

1) PMLA, 2002 and subsequent amendm-
-ents bringing Virtual Digital assets
under its ambit

2) Improved KYC norms

3) RBI, SEBI norms of regulation
and disclosure to be tightened

4) Usage of technology like Big Data to
map out suspicious activities.

5) Adoption of global principles eg.
Wolfsberg principles

6) Awareness generation eg. cyber hygiene

Such a comprehensive approach is
needed to counter this "bloodless war"
(PM Modi)

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
Candidates must not write on this margin

10

Industry 4.0 and the introduction of disruptive technologies has mandated Indian Army to amp up its technology awareness and usage.

Why need

- 1) 2.5 front war (General Bipin Rawat) will need increased capabilities possible through technology
- 2) Increased new zones of warfare eg. cyber warfare, grey zone warfare, psychological warfare
- 3) Technology will streamline efforts eg. KAVACH Border Management by BSF
- 4) Fill in for human errors eg. sensors on

border, BOLD- Q1 T.

5) Improved training and capacity
building eg. use of Virtual Reality
to train soldiers

6) Take care of border areas

7) Increased information handling
eg. Big Data, AI

8) Increased and better decision
making

Thus, technology integration
is the must for a Future ready
Arm force.

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)

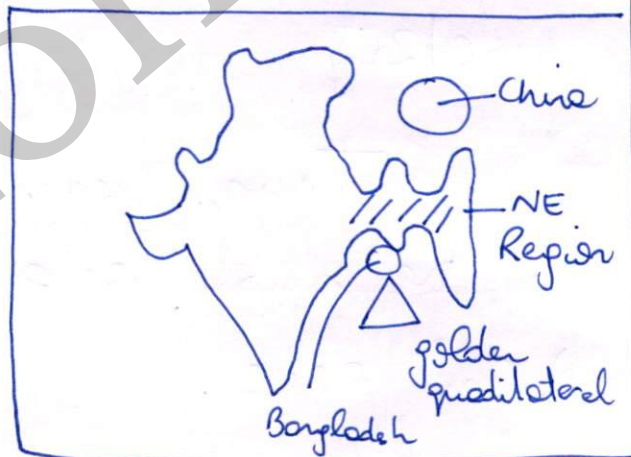
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उम्मीदवारों को इस हशिग में नही लिखना चाहिए
 Candidates must not write on this margin

The 2nd ARC termed North East to be in a constant state of 'stable anarchy'. This has spillover effects on the state of industries and trade there.

Issues faced

1) Historical factors of British policy towards the tribes → stalling of growth in the region



2) Political factors

- a) Division of state lines has caused inter tribal rivalry eg. Meitei - Kuki
- b) Mobilization of groups on tribe basis

c) Secession and regionalist movements
eg. Greater Nagalim

d) Insurgency eg. UNLFA

3) Security / Border issues

a) In the 'arc of chaos' between
Myanmar and now Bangladesh

b) Cross border movements eg. scrapping of
FMR recently

c) Proximity to golden triangle - drug
trafficking, money laundering destabilizing
the region

4) Economic Reasons

a) 6th schedule and issues is in proximity
of land

b) Largely isolationist attitude - lack of
robust consumer markets

c) Security reasons leading to increased
business costs

- d) Connectivity issues $\rightarrow$ $\uparrow$ in freight charges eg. narrow Siliguri corridor
- e) Non exploration of niche industries eg. Organic farming (Sikkim) and hydro electricity
- 5) Geographical reasons difficult terrain, dense forests

Measures

- 1) Establishment of MONER, NorthEast Development Council
- 2) Agriculture: Bringing Green Revolution to NE Scheme (BGRNE), Horticulture Mission
- 3) Infrastructural: PM DeVine, NABH Nirman (for airports), PM Sadak Yojana.
- 4) Political - NE Council, reaching out to groups eg. Assam Accord

Only on a comprehensive approach like this can NE be blessed with flowish industries.

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

The UN Secretary General Antonio Guterres termed the present age as the 'Global Boiling Age' with a choice between Collective action or collective suicide. Micro irrigation is an important component of such collective action.

Micro Irrigation is the use of agricultural irrigation in a precise, targetted manner to reap maximum productivity from minimum water use eg. micro dripe sprinklers

How can it contribute to sustainable agriculture?

1) With 18% population and just 4% of water resources micro irrigation is not only a choice but a necessity.

- 2) It can bring sustainability to agriculture practices.
- 3) Can reduce water wastage
- 4) Help in maintaining adequate groundwater levels eg. depleting water tables in Punjab (water scarcity tackled)
- 5) Micro irrigation can help rationalize water use and thereby reduce subsidy burden on states
- 6) This & reduced burden can lead to increased infra and R & D spending
eg. ~~Rs.~~ Money spent on R & D can lift 323 people out of poverty but if spent on subsidy only bring 23 people.
- 7) Micro irrigation can also be used to micro deliver fertilizers (fertigation) thus reducing toxicity / acidity levels

eg. Ideal N:P:K ratio = 4:2:1
but presently 22:5:1)

8) With climate change and erstwhile fertile lands being degraded eg. Punjab, Western UP - microirrigation is the solution

9) Can improve general productivity of land due to wise use of inputs

10) Can be a nudge to good practices eg. Direct Seeded Rice

Measures
Taken

- 1) Krishi Sinchai Yojana
- 2) Per Crop More Drop
- 3) Microirrigation development Fund
- 4) International collaborations with best nations in this area eg. Israel

Thus, if climate change and water scarcity is to be tackled, microirrigation is the way for an "Evergreen Revolution"

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

India ranks 38th in the Logistics Index with logistics cost varying between 12-15% GDP (as opposed to world average of 8%). To reduce this cost, railways is the way forward.

Indian Railways as freight transporter

1) Despite being 45% cheaper than road transport, railways' share in freight is at a meagre 27%.

Issues

- 1) Cross subsidization
- 2) Adverse pricing
- 3) Absence of inter modal connectivity

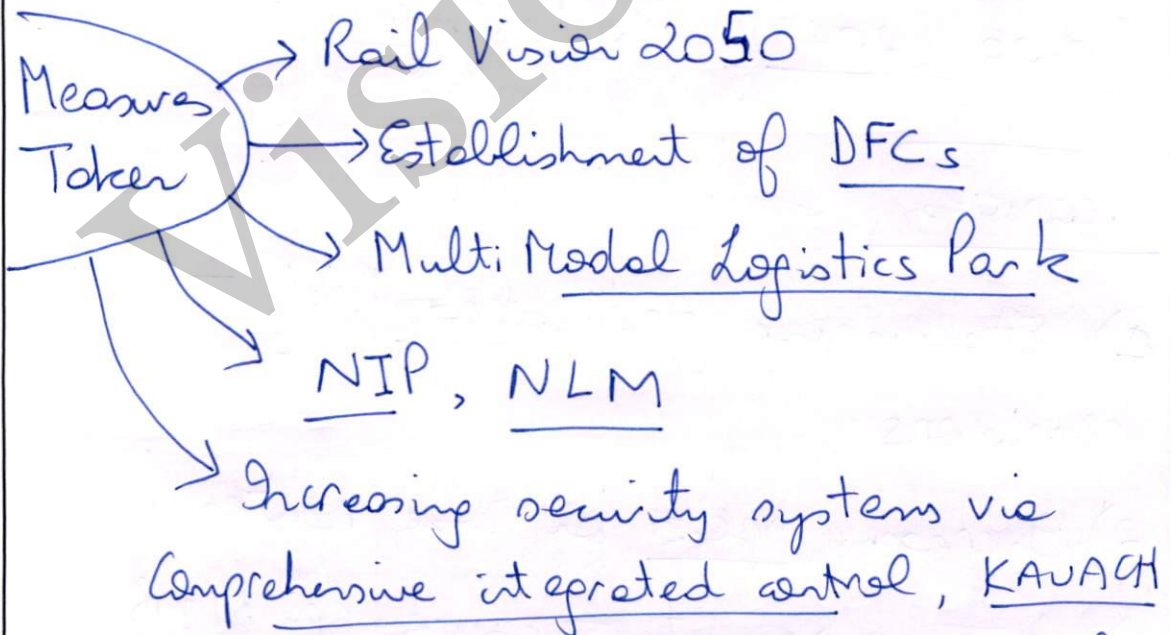
- 4) Lack of adequate connectivity to hinterland
- 5) More convenient and wide network of roads eg. 3rd largest road network, PM Sadak Yojana
- 6) Lack of dedicated freight corridors connecting major centres
- 7) Low speed of freight trains
- 8) Railway accidents due to derailment, poor maintenance eg. derailment near Gonda (2023), Kachajurand Express (2024)

Measures

- 1) Establishing dedicated freight corridors
- 2) Increasing speed on these routes
- 3) Amp up security measures eg. LHB coaches, KAVACH system, Electronic

Linking

- 4) Incentivize businesses by reducing the heavy subsidization burdens eg. rationalizing of passenger fees on elite routes
- 5) Develop robust system of rail-road port connectivity
- 6) With railways becoming Net Zero by 2030, incentivize rail use by Renewable Energy Certificates (RECs)



In line with recommendations of the Kakodkar and Bibek Debroy Committee railways must step up!

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

India in line with its NDC targets and Panchamrit Resolve, has been making great strides in global energy transition (67th rank in WEF Energy Transition Index).

Impressive Strides

- 1) 45% energy capacity installed via renewable energy
- 2) 4th largest in all renewable power sources eg. solar, wind, hydro.
- 3) Achieved and ahead in targets of reducing carbon emission intensity by 33% (renewed target is now 45%).

FACTORS THAT LED TO THIS

I) Geographical Factors

- 1) Being a tropical country receives ~ 3000 days worth of sunshine → solar energy
- 2) Large coastline (7000 km) → offshore wind, hydropower, Thermal Energy
- 3) Complex terrain of North East provides opportunities for small hydro
- 4) Thorium reserves → Nuclear 3 step program

II) Policy / Legislative Factors

- 1) Presence of acts like ~~Env~~ Environment Protection Act ¹⁹⁸⁶, Energy Conservation Act, 2001
- 2) Specific ministries eg. Ministry of Environment, Petroleum and Natural Gas and Ministry of Power
- 3) Robust carbon market development eg.

PAT scheme

4) Schemes targetted at specific sectors like PM KUSUM, PM Surya Mukt

Byli

5) Establishment of Green Energy Corridors

6) Policies to ensure integrated planning eg. National Solar-Wind Hybrid Policy, National Offshore Wind Policy

7) Incentivizing corporate sector via ESCs, RECs, & Green Credit Scheme

8) Sustainable living promoted via Mission Life, BEE Star Labelling, ECBC Code

9) Focussing on niche tech like Ocean Thermal Energy (eg. Plant at Lokshodweep), R&D, electric vehicle (eg. E-Amrit, FAME, E 20 targets)

Though India has made great strides, it is only getting started. It is time it does the hat of Vishwa Guru yet again!

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)

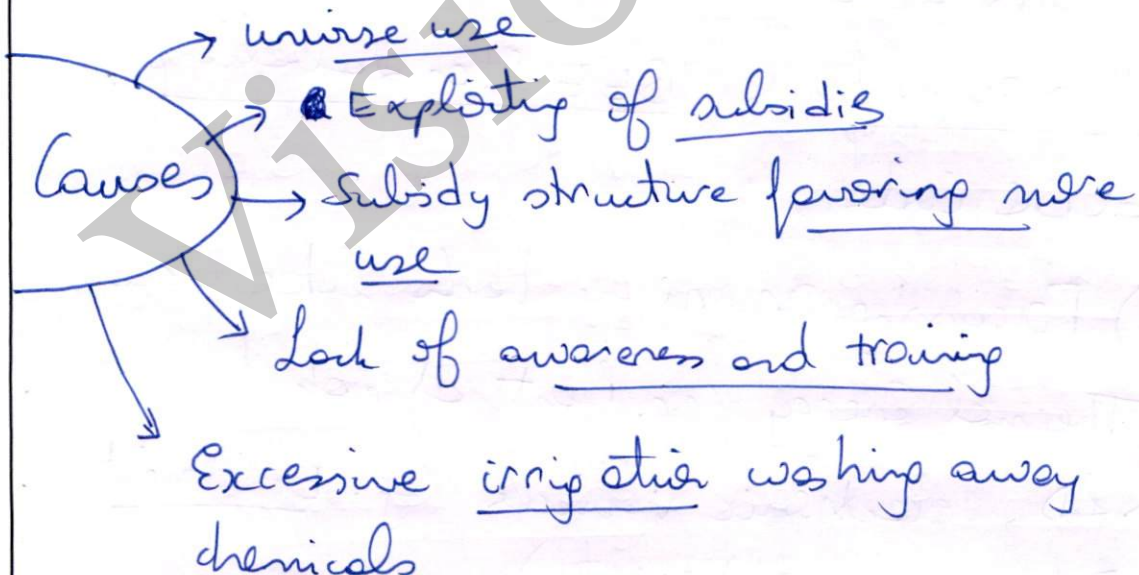
How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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The Green Revolution brought blessed India with plenty production (330 MT foodgrains, 352 MT horticulture) has also led to negative externalities. Primary of it being unwise pesticide and fertilizer use.

Fertilizer and Pesticides Runoff



HOW DOES IT CONTRIBUTE TO POLLUTION

- 1) The runoff pollutes downstream, ponds etc (water pollution)
- 2) It leads to acidic soil (soil degradation)
- 3) The runoff can also enter the atmosphere through water cycle → acid rain eg. SO_2 , NO_2 pollution
- 4) Leads to degradation of land productivity eg. Punjab
- 5) The runoff gets deposited in soil nearby → soil pollution eg. deposition of urea, Nitrogen fertilizers
- 6) To counter heavy use of fertilizers, unwise water use also leads to depletion of groundwater (contamination of ground water)

Measures to mitigate

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

- 1) Wise use of fertilizers and pesticides via awareness and training
ep. Kishi Kendras, Kisan helplines
- 2) Rationalizing fertilizer subsidy to disincentivize indiscriminate use
ep. 22% fell in fertilizer subsidy in 2024
- 3) Schemes like Soil Health Card
- 4) Promote natural, organic farming like Kisan SAMPADA Yojana, Krishnati Yojana
- 5) Rationalizing use via PM PRANAM
- 6) Employ technology ep. AGRI METRES, new sensors to detect heavy use
- 7) Behavioural changes via FPO training

It is important to take a comprehensive approach like this to deal with the twin challenges of fertilizer & pesticides.

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

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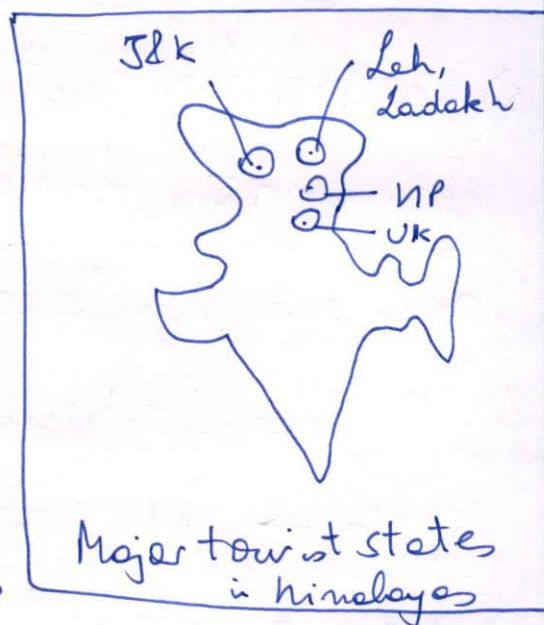
India has been a popular tourist destination for its diverse culture, terrain and spirituality (9th largest tourism sector). However, unsustainable tourism is a bane.

Growing influx of tourists

1) Climate change and resultant heat stress has made these destinations more popular esp. surge in traffic in May, June

2) Low cost tourism opportunities for students, young population

3) Adventure sports esp. river rafting, sky/para gliding.



4) Only region in India offering snow clad view and experience, spiritual ^{spots} (eg. Tashimeth)

Breached Ecological Capacity

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

However, this wide tourist foot~~print~~ fall has come at a cost of ecological imbalance.

- 1) Polluting of rivers eg. Beas river in Manali
- 2) Littering on mountains and trek passes eg. Rohatang Pass
- 3) Construction activity via blast, heavy duty drillers → weakening of rocks and boulders
- 4) Unwise construction of highways and passes → increased landslides
- 5) Being a Zone V earthquake prone area, the region is already fragile.

- 6) Unregulated vehicular emissions → air pollution esp. traffic jams on hills
- 7) Unregulated tourism industry esp. setting up of bed and breakfast in silent far off village communities
- 8) Disturbing the biodiversity
- 9) To fulfill needs of spiritual travellers, dams and energy constructed → bypassing EIA, SIA norms esp. Jashimeth

Measures

- 1) Drafting of a model tourism code with duties of each stakeholders
- 2) Centralized portal registration to monitor and regulate crowds
- 3) Integrated Himalayan Tourism Task Force to take care of state differences
- 4) Awareness and training esp. ads like Incredible India, Dekho Apna Desh
- 5) National Mission for Sustainable Himalayas

Himalayas are a blessing to this nation with spiritual, ecological significance and thus must be saved.

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 हाथिए में नहीं लिखना चाहिए
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" If Industry 4.0 is the future, then ~~super~~ ^{superc} ~~conductors~~ is the key to that future."

Use of superconductors

- 1) In electronic industry - in mobile phones, smart devices
- 2) In smart metres to regulate power usage
- 3) In the agriculture industry to construct heavy duty machinery (eg. National Mission for Mechanization of Agriculture)
- 4) Health Sector - construction of surgey

robots, Scanning devices and machines
eg. X Rays

5) Superconductors have wide usage in the transport sector too with e-vehicles, green bus fleets and green rail way coaches.

6) Their uses range beyond this to even cospace industry eg. making of payloads eg. ASPEX, PAPA in Aditya L1, launch vehicles eg.

PSLV C57, GSLV Mk III.

7) In the manufacturing sector to make automatic supply chain mechanisms, heavy duty processors.

8) Ever used in niche technologies
eg. Quantum Computing, building
of Blockchain servers.

Measures Taken

- 1) PLI scheme for Electronics
- 2) R & D spending and establishment
of National Research Foundation
- 3) FUTURE Skills Prime programme
- 4) Modified - Special Incentive
Package Scheme
- 5) SemCon India, India Semiconductor
Mission (eg. setting up of fabrication
labs in Gujarat and Assam 2024).

Thus, superconductors have
wide ranging uses.

18.

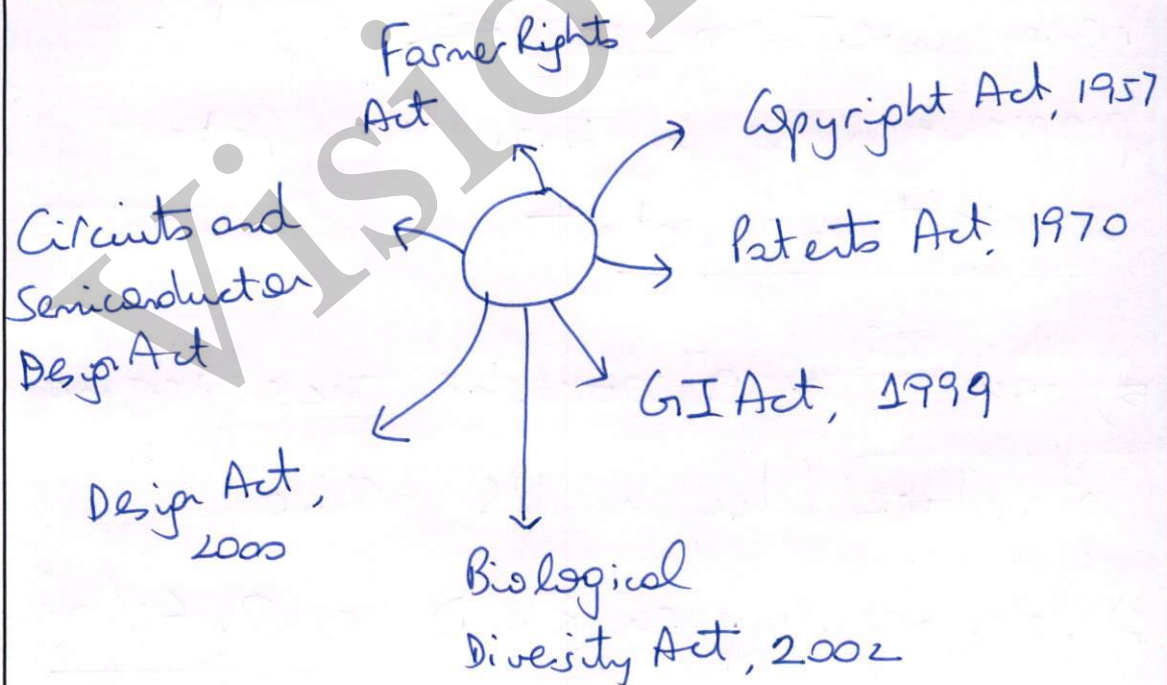
यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तर वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

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

India ranks 40th in the world Innovation Index. With the 2nd largest global pool of AI talent, India's IPR regime is the facilitator that will drive its growth.

Laws covering almost all types of IPRs



Challenges in commercialization

Regulatory and Administrative

- 1) Cumbersome procedures and process
- 2) Lack of a unified online portal
- 3) Overlapping of IPR Rights eg.
Conflicts between Copyrights and Patents
- 4) Absence of clarity over niche, novel inventions eg. ~~copy~~ computer programs used in industries both copyright and patent
- 5) Lack of an encouraging, incentivizing structures like in US, China
- 6) Low Spending on R & D eg. 0.6% of GDP
- 7) Commercial sector lagging behind eg.

share only 37 % of R & D spending

8) PSUs run mechanically with little innovation

a) Foreigners dominate patent approvals
(~ 70 %)

Enforcement

1) In law courts which are already clogged

2) Long time waiting $\rightarrow$ loss of first mover advantage

3) Absence of specialized tribunals esp. abolition of IPR tribunals

4) Little power with Registrars to enforce IPR rights.

Thus, it is required that the vast legal framework of ~~IPR~~ IPR is complemented with equally robust administrative framework in line with WTO Agreements and Paris, Berne Conventions.

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)

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

15

"Half done reforms create new vulnerabilities while not solving old ones"

— Shivshanker Menon

Theaterisation is such reform that must be completed.

Integrated Command ITCs are

consolidation of command centres in a few specialized areas cutting across army, navy and airforce.

Challenges

- 1) Lack of prior experience
- 2) Different codes and way of functioning of each force

3) Different priorities and sofs.

4) Lack of unified and collaborative camaraderie yet.

5) Different capabilities

6) Lack of specific knowledge about each other domains → problem of choosing the commanding authority.

7) Biases in operationalization

8) Lack of a comprehensive, National Security Doctrine

Theaterization → Greater integration

1) Focus on the niche / specific requirements of the command centre
eg. J & K, NE

2) Faster mobilization and deployment of forces eg. important in Doklam-

like standoffs

- 3) Inter force interaction and knowledge sharing
- 4) Learning from mutual experiences
- 5) Manpower to be rationalized via integrated planning
- 6) Not working in silos
- 7) Intelligence sharing eg. Army's informers helping plan air attacks.
- 8) Resources can be better utilized - due to integration and stewardship

Thus, theaterization of the forces is the need of the hour when India faces threats of a "2.5 front" war (General Bipin Rawat)

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)

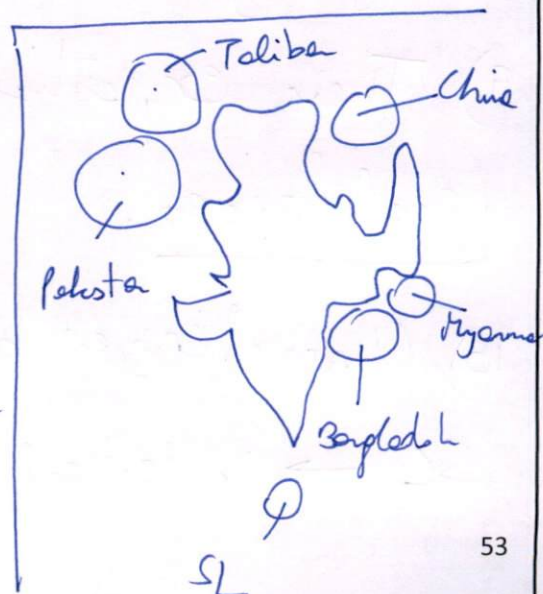
Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words)

15

Borders areas need to be interpreted as the "first frontiers" of the countries.

Treating them as first

- 1) Countering cross border insurgency
eg. NE states
- 2) Given India's vulnerable geopolitical
sandwiching between Afghanistan,
Bangladesh, SL, Myanmar
- 3) First responders in
case of any sterdoff
or disturbance (Piracy
attack)
- 4) Vulnerable to refugee
influx and thus



must be prioritized

5) Proximity to Golden Triangle,
quadrilateral, 10R region

6) Historically neglected and thus
development has stalled

7) Increasing India's stature esp.
show of power via bridge construction
near Indo-China border.

8) Vulnerable to ideological and
psychological warfare esp. China and
Pakistan propaganda and funding NE
insurgency

9) Their expertise can be utilized by
local forces.

10) Characterized by mostly tribals, OBC,
SC → important from social justice

enple too.

Measures taken

- 1) Vibrant Village Programme -
for North India border villages
- 2) BRO's infrastructure spending
increased
- 3) Village guards scheme redrafted
to utilize expertise and local
energies
- 4) Project Arunachal : infrastructure
development
- 5) Border Haats - entrepreneurship
- 6) Sagarmala (port led development
for maritime border areas).

Border areas are a store house
of expertise and resilience and must be
mainstreamed in national security
planning.

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