

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. : 01146808

अभ्यर्थी का नाम/Name of Student : SANSKRITI TRIVEDI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

25-08-24

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

केंद्र
Centre Bhai Joga Public
School, Delhi

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)					



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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)

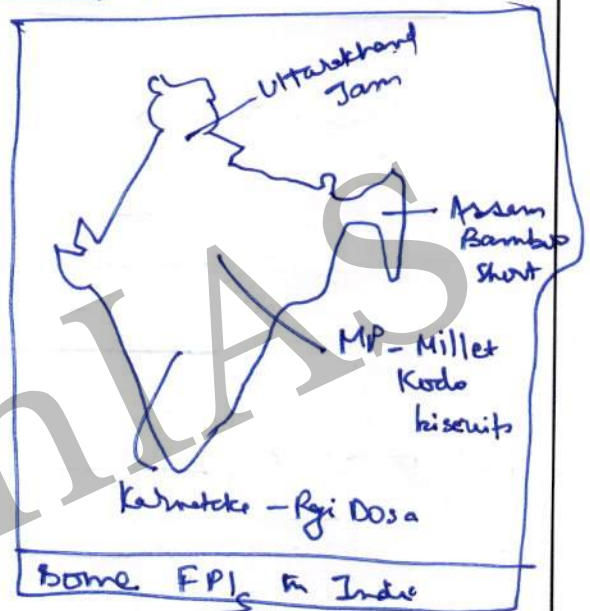
How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words)

10

Food Processing Industry (FPI) is a

sunrise sector; with 300MT of cereal production around 3% of it is processed.

Growth of FPIs
leading to
food safety challenges



① Due to diversion of land from cereal or basic grains of

food security to exotic food like makhan in Bihar

② Due to greater value added products and government's incentives like SAMPADA scheme - even small subsistence farmers are shifting to FPIs; thus leading to food safety.

3. In many places focus on single commodity due to use of FPIs leads to dominance of that food grain → less diverse food habits
↓
thus micronutrient deficiency

(e) maize in TN

4. FPIs produce food that is processed and has some preservatives, added fats etc thus can have health repercussions like ~~MSG~~ MSG found in few banana chips

5. Over dependence on FPIs and processed foods leads to lack of fresh intake of vegetables and fruits (e) juice over fruit

6. Accessibility to fortified good quality food is highly fragmented as such foods are mostly higher cost (e) chia seeds
biscuit

These solutions → Balance FPIs with fresh intake
→ Govt. outlets like SAFAL to sell subsidised food

These steps can ensure added QVA to agriculture sector aiding in doubling farmers

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

PDS in India is the government intervention to actualise its DPS of public health (article 46) and fair price shops (FPS) are the outlets through which the food is sold at subsidised rates -

The FPS is evolving as -

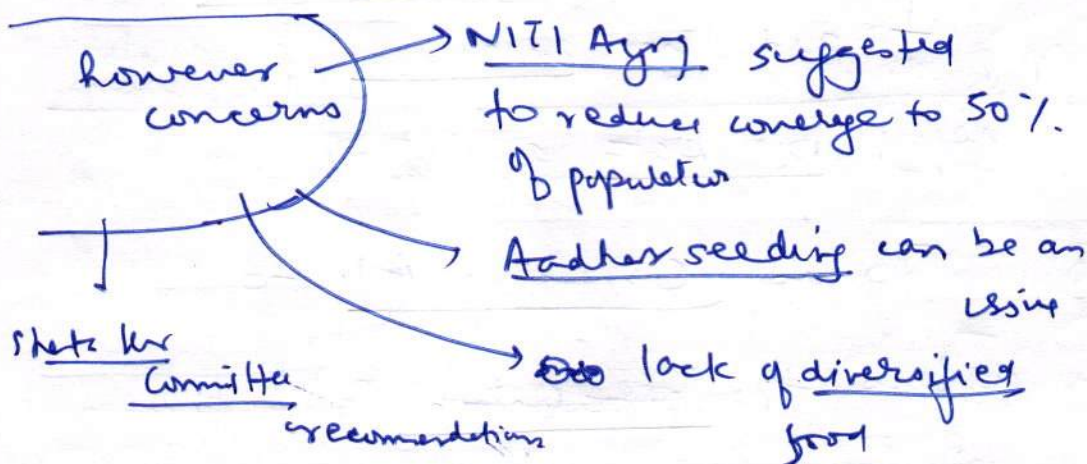
- ① Earlier during British times, such shops catered to war-ravaged communities
- ② Post independence some states like Tamil Nadu had free food policies but India did not have nation wide FPS systems
- ③ Then in the 1990s regional PDS started with FPS being targetted at few states as per regional disparity.

④ Post the PVCL judgement there was focus more on targetted PDS where entire India was covered with PDS.

⑤ NFSA 2013 was a game changer as it established FPS on mission mode. Around 67% target is to be met under the Act.

⑥ Currently FPS gives Artyodays Priority households based food - rice, wheat also - kerosene oil

⑦ Today FPS are connected to e-PDS as per Chhatrigrash's successful model. (technology enabled)



Thus ONDC (Open Network for Digital Commerce) is a good step to take FPS benefits to all.

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

Agri-tech startups ensure the interface of agriculture with technology ensuring better prospects and reach for farmers to double income and create agri-preneurs (Dalwai Committee)

Role in farm productivity

- ① To assess condition of soil and give focused solution
- ② To share best practices globally to aid in enhancing production using Big Data analytics
- ③ To use Generative AI to assess the production and thus plan production
- ④ To create satellite data on

temperature & monsoon to ~~also~~ have better production

Role in market access

- ① To connect with online portals like e-NAM, G.R.A.M.s
- ② To have direct connections with supermarkets, farm to fork providers like Blinkit
- ③ To better advertise their products
- ④ organic in information market
- ⑤ Better price discovery seen in IBM's AI based model

Thus budget of 2022 gives special focus on support to rising agri-tech start up sector in India.

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

Land Reforms are systematic steps taken to ~~ref~~ regulate land ownership, titling, tenancy and even quality of ~~ref~~ land seen through post independent actions like

- Zamindari Abolition Act
- Tenancy Reforms Act
- Operation Barga (WB)
- Bhoo-dan

Role of Digitization :-

- ① Ensure that land titling is proper due to surety of data
- ② Reduces litigation as land issues form largest issues in courts (Supreme Court Observer)
- ③ To have transparency in land allocation so that no miscreants can change the records

(4) Interoperability seen in government services as online records can be used to assess other parameters

(eg) Project Bhoomi of Kerala

(5) Having database of cadastral maps helps government form better policies (eg) SUAMITVA in rural areas for this purpose

(6) Land record digitisation leads to better commercial value of land thus benefit to owner (eg) seen in DLRMP scheme

however concerns

- poor might not have supporting docs
- digital divide & illegality can alienate poor
- land issues are often very complicated need case to case basis solutions

In this scenario Chhattisgarh's Bhu Adhikar Rally is a good movement to look into people led and tech enabled reforms

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

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

As per census 2011 around 63% people are in 15-59 age group.

By 2027 India is expected to surpass China in population that gives huge demographic dividend too (UN)

Manufacturing led model needed as

① To get and create more jobs as currently agriculture has disguised employment (43% with only 18% GVA) Budget Data

② Service sectors are creating jobless growth as merely 20% people in skilled jobs.

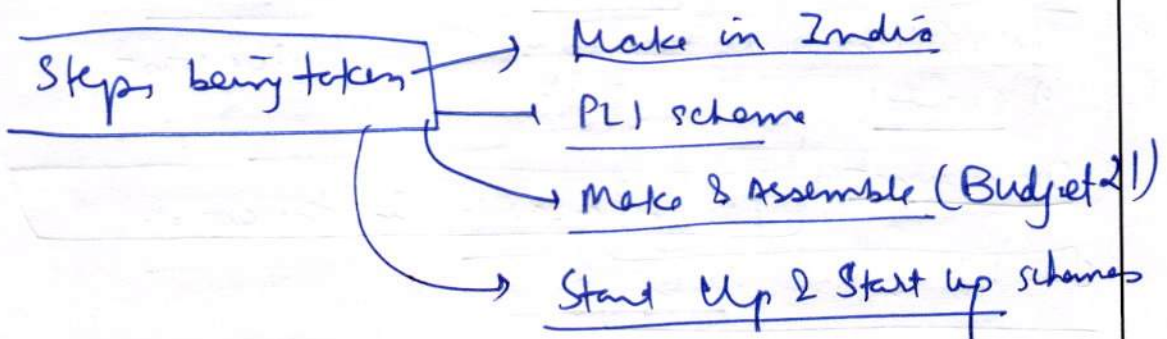
③ India has to use its comparative Advantage of high demography to gain access to global supply

chains as seen in China, Bangladesh
& Vietnam

④ As we are input dependent on many basic goods - manufacturing can lead to attractiveness, save on forex and have better BoP figures

⑤ Manufacturing sector also ensures skilling of people thus human empowerment in the long run is beneficial

⑥ Manufacturing also creates Spillover benefits like infrastructure creation - like heavy roads, bridges that also support logistics sector

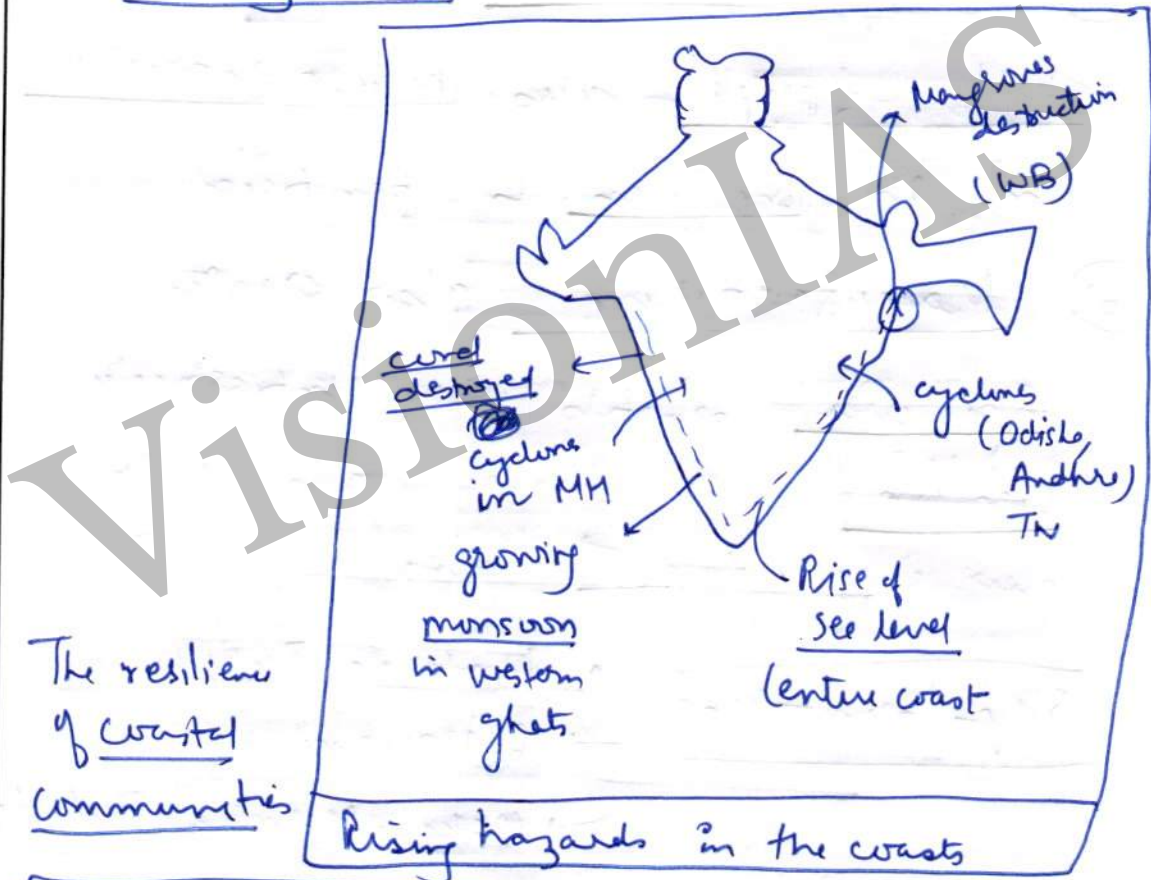


Manufacturing can thus be the missing piece of the puzzle of Indian growth ensuring basics Saty & Vikas

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

India has 7516 km long coast thus vulnerability is high as M/o Earth science notes rise in hazards due to climate change in the coming decades



The resilience of coastal communities

can be enhanced by :

- ① By having strong implementation of laws and rules for disasters like NDMA guidelines ; calling & training

- ② To have hazard maps and evacuation plans ready in case of disasters
(eg) Ganjam district, Odisha appreciated by UNESCO.
- ③ To have supporting infrastructure to counter rising sea level (eg) Mangrove restruction
- ④ Fishing communities to be made aware of hazardous season given subsidies under Matsya Sampada
- ⑤ Rehabilitation of those under threat
(eg) Sagar island of Sunderbans are submerging
- ⑥ Ensure access to basic needs
(eg) drinking water as groundwater is contaminated by sea level rise
- ⑦ Tourism & construction to be regulated (eg) Western ghats prone to landslides - Wayanad ^{case} due to tourism

The knowledge of local tribes and people have to be amalgamated with modern tech to have resilience

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

Green Credit Programme is one of the new climate financing methods for achieving goals of Net Zero and is regulated by Bureau of Energy Efficiency (BEE)

Extension beyond (carbon management) to more sustainable environment

- ① Broad policy thus just doesn't focus on reduction of CO₂ and other gases but a comprehensive policy.
- ② Ensures finance for wide range of products and initiatives like green-energy systems, H-based energy etc.
- ③ Market mechanism ensures trade of surplus & deficit credit; thus incentivises transition

to sustainable systems

- ④ Today only greenhouse gas emission is not the concern but wide range of issues like - green inclusive energy; disasters due to climate change - here green credit is useful.

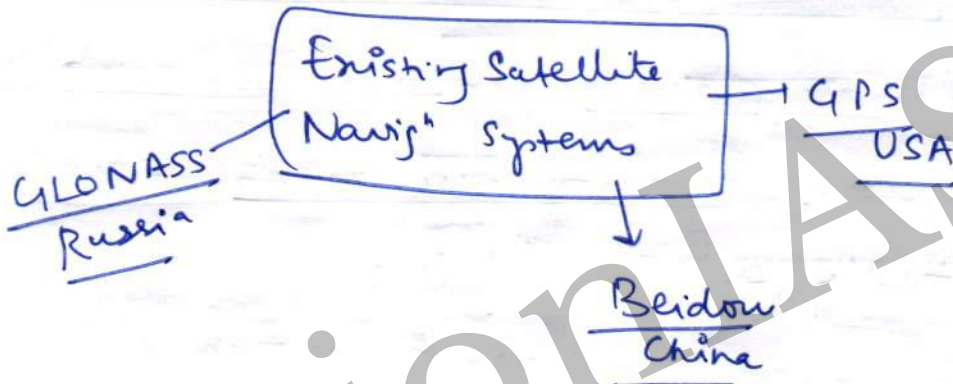
But concerns on implementation :-

- ① Private players can shift responsibility by using money to buy credits without actually cutting pollution
- ② Greenwashing can be performed
- ③ The Energy Exchanges, rates are not yet clear.
- ④ Is voluntary; thus not binding. Thus there is need to put focus on these new tools of sustainable development. Even at COP-28, India proposed to have Green Credit Programme

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

NAVIC is the indigenous navigation system through GAUAN systems that is based on IRNSS (Indian Regional Navigation Satellite System)



Need for NAVIC

- 1) To have indigenous, home grown system thus have autonomy over the data
 - 2) As security concern is high in Indian neighbourhood, need for focused navigation system
- (eg) IRNSS have military components

- 3) The existing systems are not totally
secure to carry stealth activities
- (4) GPS is controlled by USA army
- 4) Attenuation in satellite systems
ensures saving on fees paid for
using such systems
- 5) To assert India as a rising space
power
- 6) To assist neighbouring countries
in navigation; ~~also~~ thus have leadership
in the region; Net Security provides
role is met (eg) SAARC satellite const
- (7) To have focus on local issues as
IRNSS covers around 1500 km² (eg)
fishing zones, disaster alerts etc

But concerns → Not completely developed
→ limited area of coverage
→ Many systems already use GPS
(eg) Android phones

Thus transition to NAVIC has to
be gradual and NAVIC has to
be updated & maintained

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

Money Laundering as per Transparency International is the layering and placement of proceeds from illegal sources and formalise them through various channels.

Cybercrime - new frontier for money laundering:

- ① Use of tech based new areas like deep web and dark web to source money
- ② Use of blockchain enabled cryptocurrency to actualise the legitimation of the laundered money
- ③ Use of phishing and vishing to extract bank & c details to use common citizens account for laundering money

(4) use of NFTs to launder money on the
globe or selling artefacts.

Steps to address the issue

- ① Robust laws like IT Act 2008,
Telegraph Act; Telecommunications Act, PMLA
- ② Have strong & revamped cyber security
policy 2013 - more skilled experts to
track such activities.
- ③ Special protection of critical infrastructure
like Banks, investment companies that
can be used
- ④ Banks have to be trained and have
detectors of such activities
- ⑤ Ethical hacking to bring culprit to
justice
- ⑥ Greater awareness among people.

Thus a holistic steps have to

be taken and collaboration with FATF;

BIS (Basel) can further help

adopt best practices

10.

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

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

10

Defence sector is crucial for the internal & external security of India and includes the armed forces and even the paramilitary forces ; intelligence agencies
 like CRPF ; like RAW, IB

Need for tech. absorption in defence sector

① changed nature of warfare today as more hybrid, grey warfare is being done (eg) attacks on critical infra like Kudankulam, BSNL etc

② Globalisation and tech development has increased scope of clandestine and better stealth thus need to counter this (eg) Anti Drone Systems of DRDO.

- ③ To have better intelligence for better preparedness (4) use of Big Data, IoT for analysis of enemy countries activities.

Challenges India can face :-

- ① Lack of adequate finance as there are social sector obligations.
- ② ~~Need~~ Lack of indigenous research on technology as 0.67% of GDP spent only.
- ③ Only few ~~are~~ personnel can be skilled in such high tech thus huge personnel left out.
- ④ Nervous reaction from neighbours as already image of India is that of big brothers.
- ⑤ Foreign tech is prone to espionage.

Thus defence indigenisation through IDEX, ADITI, Srijanputra are good steps to ^{bring} technology into defence sector.

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

North Eastern region is the hilly area of India linked to mainland with the chicken neck and has huge ethnic diversities.

Issues faced in Trade & Industry development

- ① Lack of finance as state lack self finance through taxation as limited arenas of taxation exists.
- ② Politically in turmoil due to ethnic clashes (eg Kuki-Zo-Meitei in Manipur); also unstable governments like Nagaland.
- ③ Geographically, the land is not levelled thus paucity to construct industries; also the region is prone

to disasters like landslides (Manipur) 2023

and earthquake (zone V as per GSI)

④ Supply chain becomes obstructed
due to concerns of logistics - the
chicken neck is the only corridor
connected to mainland; the air travel is
also limited

⑤ International influence has led to
proxies, extortion and security
concerns like Chinese funding to
insurgents. Skepticism to invest.

⑥ Human Resource Development is
backward; lack of skilling; basic agriculture
practised

Measures taken are:

① Special provision for North East region in
all schemes (eg) Make in India

② Special department of development
of North East

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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3. ~~and~~ Special grants are given under Finance Commission transfers to aid.

4. Ethnic clashes solved through settlement like ULFA agreement, BRU agreement

5. Connectivity built through Ashrafs

6. International collaboration
all of these help
↳ connectivity for
↳ Act East policy
↳ Japan is aiding in NE development
↳ Keladan multimodal with Bangladesh

7. Security concerns have been met with AFSPA, border forces like Assam Rifles

8. Development and skill development in focus through PM-Devine, Backward Area Grants for

9. Focus on uniquely industries of NE like oil palm; organic food; aid to oil fields of Assam

however concerns → lack of budgetary transfers
→ international collaborations are not reliable
→ Rule of forces (AFSPA) questioned
↳ Jivan Reddy

Thus NEF has to be given focus to reach \$7 billion by 2030

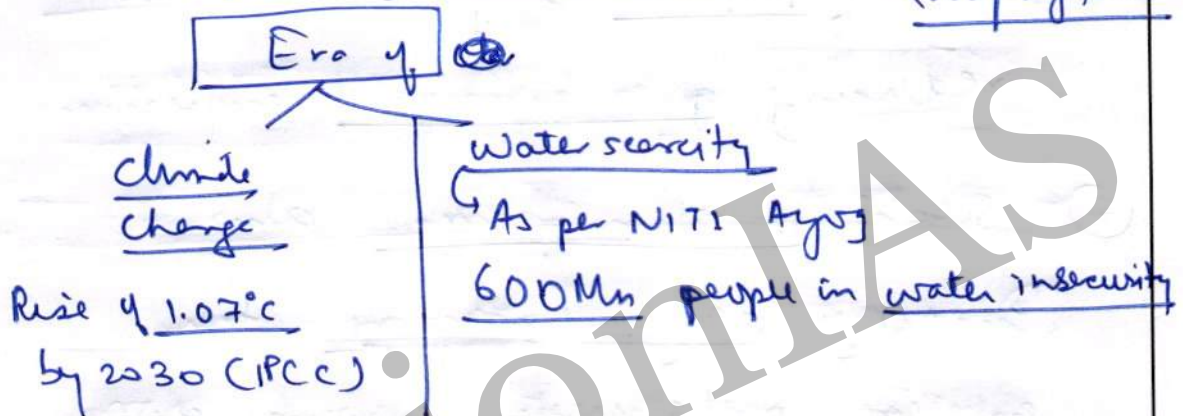
12.

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 हार्शिए में नहीं लिखना चाहिए
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Micro Irrigation systems refer to those systems that are modelled on 'per drop more crop model' and take water to the plant by direct means. (See) sprinklers drop systems



Micro Irrigation and sustainable agriculture

① Reduced water uptake as systems like drip take water to roots ∴ effective utilisation

② This can be effective in regions like Punjab - Haryana that have extracted water beyond 'critical' (CGWB report).

- ③ Such systems also avoid lack of water logging thus no leaching of water to gino salts thus reducing productivity of soil
- ④ Lack of water logging ensures no source of Methane is generated thus reducing green house gas emissions
- ⑤ Such irrigation systems also encourage dryland farming thus ensuring food security through crops like millet.
- ⑥ These systems also help in matching crops grown with the agro-climatic conditions
- ⑦ There is also greater scope of mulching and thus preserve soil moisture as surrounding land is ~~not~~ available

These were envisaged to give rise to what M S Swaminathan called 'Energy Green Revolution'

But concerns

- ① Expensive systems to set up.
- ② Watershed management and command area development had to be done before installing systems
- ③ Maintenance needed — thus adding to input costs.
- ④ Water logging ~~also~~ also acts as weedicides.
this can be disturbed

Steps taken by Government

- PM KSY — funding given
- Accelerated Irrigation Benefit (under NABARD)

Countries like Israel have done ~~phenomenally~~ good work to adapt to water scarcity, India can engage.

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 शीट में नहीं लिखना चाहिए
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As per CIJ data around 60-70% freight in India is carried by roads leading to congestion of limited highways ; thus Railway sector is of immense importance.

Issues in freight transportation in Railways

- ① Congested railway tracks, as same tracks used for passenger and freight systems
- ② Old tracks ; some from British times ; thus lack of modern system ∴
Speed is low
- ③ Railways being prone to accidents and losses (e) - Kanchenjunga goods express (2024)
- ④ As the rail track is limited ; the last mile connectivity is not possible

thus roads are preferred

- (5) Geographical limitation too as hilly tracks can't be covered by railways
- (6) Cross subsidisation of railway tariffs for goods - while passenger tariff is low; the goods tariff rises.

Steps to overcome issues :

- (1) Single Regulator can be made to manage freight trafficking.
- (2) Private sector to be brought in to expand reach of railways (R. Mohan, B. Debroy committee)
- (3) Dedicated freight corridors to be expanded for increasing freight
(eg) East & West corridors
- (4) Modernisation of controls, better training to locomotor drivers for safety - (eg) ICAVACH portal to be universalised

⑤ To develop railway - roadways and other modes together to ease last mile connectivity through hub & spoke like model

⑥ Tariffed to be regulated + incentivise the private players and industry

But concerns remain

- Private sectors have to be regulated
- High operating costs of railway
- slower thus perishables have to managed

Thus National Rail Policy 2030 as

- per Budget 2021 need to be revisited to enhance railway's freight usage.

14.

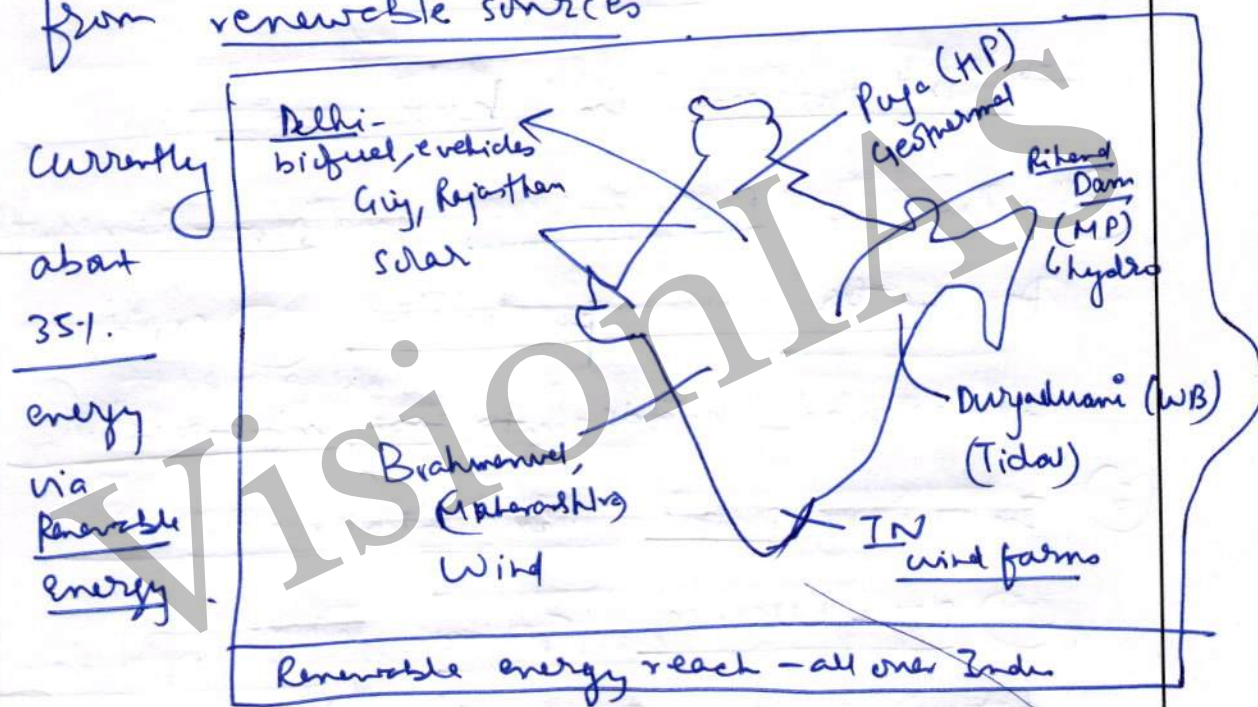
उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

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 हिसाब में नहीं लिखना चाहिए
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As per our parliament goals
announced at COP-26 of UNFCCC
we aim to reach 50% of our energy
from renewable sources



Factors that have aided in Renewable Transition:

- ① Government support and policy have strong tilt to promote renewable energy
- ② Renewable Purchase Obligation on DISCOMs

(2) Financing in research ~~and~~ by both private and government sectors.

(eg) PSUs like PFC, IREDA etc

(3) Use of geographical advantages

(eg) Solar systems being focused as India is a tropical country

→ wind systems in huge coast

(4) Linking Renewable and Non-Renewable for better interoperability. (eg) Grid connections made to use infrastructure already present

(5) Involving people as stakeholders

(eg) PM-KUSUM Scheme where farmers can even sell the excess energy

(6) International collaborations - to get best practices (eg) Nordic countries on e-vehicle; International Solar Alliance

7. To start the to commitments made
like at COP26 and also emerge as
leader of global south in transition

However concerns remain

1. Coal & Fossil fuel still important (eg) 55%
energy by coal

2. Expensive transition as system are
high tech requiring

3. Need Input of Singapore from China
Li from Argentina for e-vehicle
∴ Balance of Payment Deficit

4. Focus more on solar than other forms
reflected in policy

5. Lack of reliability as depend on
nature

6. Transition can be exclusive of few (eg) - coal workers
Thus India has to focus on SDG-7 and
further ensure inclusive transition.

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 क्राशिए में नही लिखना चाहिए
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Agricultural runoff

refers to the fluids that contain chemicals from agriculture and are carried by rainwater / other streams to pollute other bodies of land, water.

Contribution in pollution :-

① WATER :

(a) lead to contamination of water bodies with N, Sulphur, Urea etc.

(b) there is possibility of Eutrophication

as the dissolved chemicals reduce the oxygen dissolved (BDO high) -

this can lead to death of organisms

as seen in East Kolkata wetlands

(c) these can seep down into groundwater through cracks

and examined it (as per CowB - already 17% sectors are critical)

(2) AIR

(a) the stagnant water containing the run off can release Methane like gases thus causing climate change

(b) oxides of Sulphur, Nitrogen are also pollutants (SO_2 , NO_2 , NO_x)

(3) LAND

(a) the soil is degraded as run off water is absorbed in soil

(b) causes leaching of salts

(c) these can enter food webs and can cause Bioaccumulation

Measures to mitigate impact;

(1) Check overuse of fertilisers through Soil Health Card, Uwalek portal.

(2) Check over-irrigation that causes run off. Shift to be made to

micro irrigation systems like drip

- ③ In the farms there should be contour bunding to stop and channelise such water flows to designated stops and not to freshwater sources.
- ④ Water bodies can be cleaned on regular basis through bioremediation techniques
- ⑤ Shift towards more organic fertilisers under Paramparagat Krishi.
- ⑥ Research to check contamination level of groundwater on regular intervals to check health hazards, as done by CGWB

⑦ Though agriculture is essential as it gives 43% employment (CMIE), it has to be sustainable as per Food Systems Approach of FAO.

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 हिसाब में नहीं लिखना चाहिए
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As per ICIMOD; Himalayan States are fragile to climate change, melting ecosphere and extreme disasters; thus special attention is needed.

Disasters due to tourists seen @ —

① Due to excess connectivity projects on fragile systems leading to landslips (eg) Chardham yatra project (Silkyara (2024))

② Due to tourism, more extraction of water from ground → leading to subridence (eg) Joshirath (2023)

3. Unregulated ~~prob~~ growth of resorts on
highly earthquake prone zones (eg)
Shimla

4. Long queues on narrow roads
specially on weekends leads to disasters
like motor vehicle accidents on sharp turns

5. The biodiversity is also facing crisis
due to disturbed ecological cycles.

Measures to prevent such disasters

1. have NDMA guidelines for preparedness
and mitigation (eg) like recent on
glacier lake floods (Silkaim 2023)

2. Mandatory EIA to ensure
sustainability of projects before construction
(eg) of large dams

3. ~~Regulate~~ Taking steps to
strengthen the land features like
embankments; supporting structures
on landslide prone region and
afforestation

⑩ To ~~to~~ ^{have} ~~promote~~ sustainable tourism

- ① Regulate tourists as per the season
- ② during monsoons limit trekking as ~~is~~ highly vulnerable to landslides
- ③ To red zone certain regions that see frequent earthquakes
- ④ Regulate growth of home-stays and check if they follow guidelines or not
- ⑤ Eco tourism model where tourists are made aware about the repercussions of exploitation
- ⑥ Awareness to not loiter the pristine snowcap lands, bugyals.
- ⑦ Use local community's knowledge on Himalayas (eg) Sherpas revered the mountains

Tourism is an essential service sector component and economic source for hill states but long term benefit lies in regulation

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 हार्जिए में नहीं लिखना चाहिए
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Superconductors refer to those materials that show higher conductivity as compared to metals and show unique properties at lower temperatures

Innovation in diverse fields

- ① In energy sector - used in Renewable energy production
- ② In electronics & special equipment manufacturing
- ③ To separate metals and thus used in metallurgy.
- ④ Used in space sectors for needs of satellite; rovers.
- ⑤ As these reduce friction and thus conserve energy - useful to replace in machinery

But concerns :-

- ① Lack of Research & Development as 0.6% spent only on research
- ② Supply chain is controlled by few countries as raw materials are tough to procure
- ③ Recently research indicates that there can be no absolute superconductivity — thus need to rethink at these

India is engaging with these emerging technology through initiatives like ICET with USA, support to IISc for research and even promoting private sector to commercialize these research.

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)

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

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Intellectual property rights

protect invention of knowledge and products of mind and is also enshrined in the UDHR as per article 27.

Laws on IPRs				
↓ <u>Patents</u>	↓ <u>Copyrights</u>	↓ <u>Geographical Indications</u>	↓ <u>Trademark</u>	↓ <u>Trade Secrets</u>
Patent Act 1972	Copyright Act 2008	GI Act 1999	Trademarks Act	TS Act
(eg) on inventions	(eg) on books	(eg) Rasgulla of WB	(eg) Symbol of Mercedes	(eg) Coca Cola recipe

Challenges in commercialisation

(1) Enforcement :-

(a) Due to lack of proper procedure of implementation the IPRs are not utilised

(b) Lack of awareness about filing IPRs and benefits from commercialisation

(1) (c) lack of any specific enforcement law

(2.) Regulatory

(a) Due to over regulation there is 'fear' before commercialisation

(b) Legal hurdles are costly

(3) Administrative

(a) the policy enforcers lack info about IPRs at their functioning

(b) a lot of paperwork and bureaucratic red tape hampers the commercialisation

(c) the IPRs have to be re-registered after every few years (e.g) Patents - 20 years thus lack of incentive

Other Reasons for lack of commercialisation

4. Sheer lack of awareness among people

(5) Local communities like tribes
face biopiracy thus their unique
knowledge under threat (4) Arogyapack
medicine of Kani tribes.

(6) Obligations like compulsory licensing
disincentivise pharma companies to
research on new products.

These steps have to be taken:

- (1) Application of laws in letter & spirit
- (2) More awareness of people
- (3) National IPR policy 2016 to be
widely advertised
- (4) KAPILA programme on IPR

Commercialisation

- (5) Incentivise private sector and
encourage innovations

Thus our motto of

Innovative India - Creative India should
guide IPR policy making (IPR policy 2016)

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

Review Suggested by committees like Kargil & Shelcetta committee; theaterisation of command refers to integrated actions by the three forces ensuring interoperability and efficiency of limited resources.

Challenges of ITC -

- ① The lack of joint training can lead to conflicts between the personnel of the forces.
- ② The training already given will be futile thus huge costs associated with designing and operating new training modules.
- ③ There can be dominance of land forces as they are numerically in majority also more widely

spread.

4. As armed forces work on hierarchies and command there can be confusion and conflict over Leadership

5. Theatrisation can lead to dilution of Expertise of each individual forces

6. Logistic difficulties as currently 17 commands exist

Theatrisation can lead to better integration as:-

1. limited resources can be used effectively

2. Avoid duplication of efforts

3. Share best practices among the service personnel.

4. Create threat-terrain-task based special forces

5. useful as India had Cold start Doctrine which is not very

effective against the hostile neighbourhood
we live (China - Pak axis)

- (6) The creation of Chief of Defence Staff
is essential link to ensure leadership is managed. (CDS)

Steps to be taken for ITC :-

- (1) Gradual theatrisation and not one go
- (2) Confidence Building Measures ~~against~~
~~the~~ ~~axis~~ among the forces
- (3) Trainings to be integrated but also focus on specialisation
- (4) CDS to ensure that leadership of all commands communicate.

As India embarks on new Agriwell programme; it can be used to start the modelling of theatrisation based training.

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)

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

15

India has 10,500 km long border and shares land border with seven countries, the border regions are mostly rural; thus need special attention

Border village — key to border security

- ① Development of border village infrastructure can ensure better connectivity for security forces.
- ② Human resource development can help in people being oriented to development and not extremism or insurgency.
- ③ Border infrastructure can also check illegal immigration.
- ④ Economic opportunities like tourism, industries can give rise

to virtuous cycle of poverty alleviation

Border village Development → Reduces insurgency → Enhanced security

Border thus as Strengths & not liability

Measures taken by government

① Border infrastructure - seen through Backward Grants Fund; technological interventions like BOLD - QIT in Bangladesh border

② Border Security forces - engaged in development tasks like disaster control; health needs (eg) Assam Rifles called Friends of North East

→ Also engage in combat when needed

③ ~~Through~~ Economic gains

(a) tourism development

↳ through Parvatmala (rope-ways)

(b) special focus on trekking hiking

(eg) Ladakh

(c) Develop industries and research centres

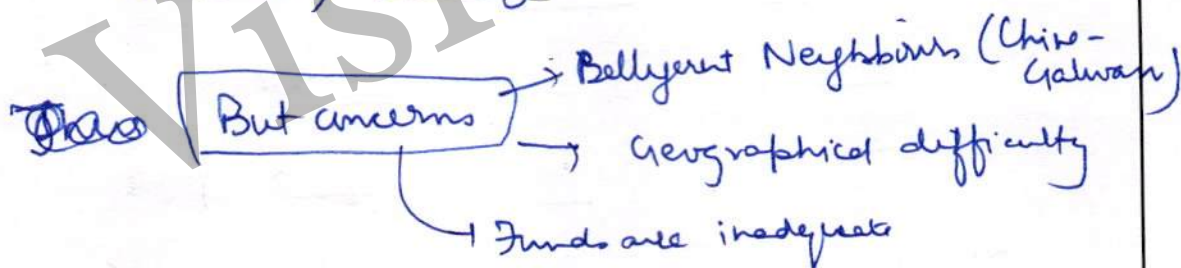
(eg) Hanle Observatory at Ladakh

(4) Human Development

(a) Through PM-DevINE to ensure border villages are not 'ghost towns'

(b) People to be eyes and ears of the security forces

(c) Confidence building measures like Winning hearts & Minds (WHAM) in J&K; Parvez Scheme.



Border development ensures

holistic understanding of

Security - where HUMAN SECURITY

is a key pillar.

SPACE FOR ROUGH WORK

AL

VisionIAS