



VISIONIAS

INSPIRING INNOVATION

ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

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. : 1126858

अभ्यर्थी का नाम/Name of Student : ABHINAV ASHOK

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

25.08.23

सामान्य अध्ययन (प्रश्न पत्र-I) GENERAL STUDIES (Paper I)

केंद्र
Centre

NOIDA 114

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.

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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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 सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

What are the different dimensions of food security? Examine India's status in terms of ensuring food security with regard to these dimensions. (Answer in 150 words)

10

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

Food security means the affordability, accessibility and availability of food. According to UN Committee on Food Security, it is the economic & social availability of nutritious food of choice at all times.

Dimensions of Food Security

- 1) Availability - India has ensured availability post green Revolution where a large surplus of grains like wheat & rice is present.
- 2) Affordability & Accessibility - By the means of PDS, Antyodaya Anna Yojna etc., it has ensured low cost at all ration shops.

India's status of Food Security

- 1) Largest PDS system in the world hence ample accessibility.

2) Production of rice is about 315 MMT and ~~rice~~ wheat is also large much greater than even its storage capacity

3) The presence of large number of schemes like NFSA, Antyodaya tojra and other benefits to farmers, its affordability has been ensured.

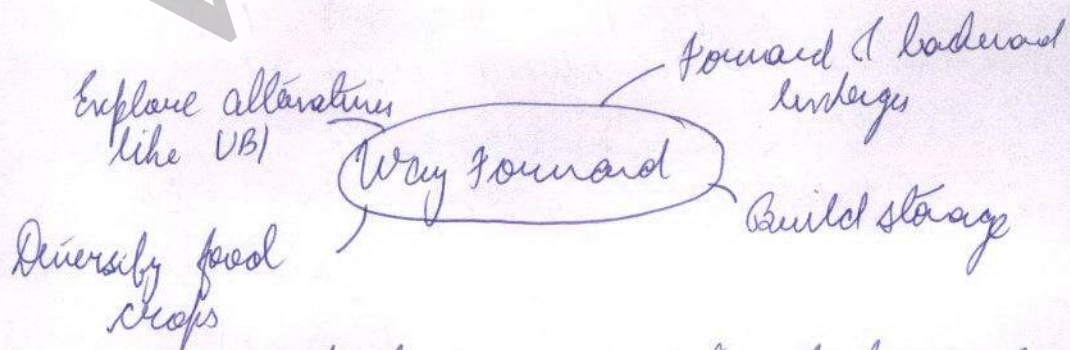
Challenges to India's food security -

1) Storage - Poor facility of only 145 MMT.

2) First In First Out - Inefficient method where the grain rot for a long time.

3) Inclusion, exclusion errors & leakages.

4) Lack of nutritional security



India is a food secure country but needs to focus on nutritional security by focusing on horticulture, protein diet

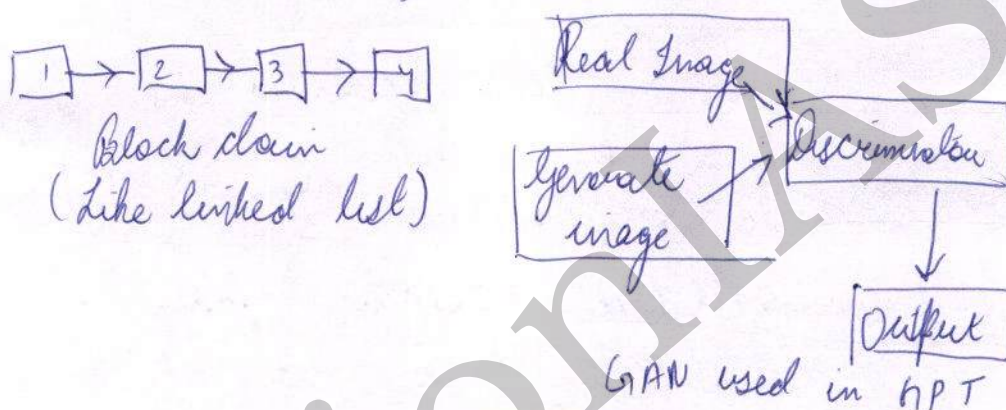
2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्र में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)
Modern technologies such as blockchain and ChatGPT are powerful tools with immense potential to transform agriculture into a more efficient and sustainable sector. Discuss in the context of India. (Answer in 150 words)

10

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

Technologies such as blockchain & GPT have gained a lot of currency. Blockchain is a distributed ledger which is unalterable. Chat GPT is a generative AI



Application of GPT & blockchain in Agriculture

- 1) Land records - Blockchain ensures easy and foolproof record keeping
eg) Andhra Pradesh is using it
- 2) Precision agriculture - Using GPT, it can be used to study real time requirements of farms & intervene accordingly

- 3) Weather forecasting - GPT can execute commands based on the weather patterns for crop protection.
- 4) Crop insurance - The crop insurance can be proliferated because of blockchain by recording the growth of various crops at various times.
- 5) Real time pictorial analysis - Leveraging satellite image with GPT can cover the problems and coverage of crops at a certain time.

Challenges to leveraging GPT & blockchain in agriculture -

- 1) High expertise is required for using this
- 2) A lot of capital expenditure at forefront.
- 3) Maintenance & operability issues.
- 4) Low tech uptake so far.

The country needs to make agriculture production because 66% population depends on it by slowly inducing these technologies and providing aid & help to farmers for easy deployment

3.

वैश्विक अर्थव्यवस्था में वि-डॉलरीकरण की प्रवृत्ति में हालिया तेजी के लिए कौन-से कारक उत्तरदायी हैं? क्या आपको लगता है कि डॉलर का प्रभुत्व जल्द ही समाप्त हो जाएगा? (उत्तर 150 शब्दों में दीजिए)
What factors have led to the recent acceleration in the trend towards de-dollarization of the global economy? Do you think the dollar will lose its dominance anytime soon? (Answer in 150 words)

De-dollarisation is the phenomenon of decreasing dominance of dollar in the world economy.

Factors leading to de-dollarisation -

- 1) De-risking - Countries want to de-risk from Fed tapering & other shocks due to US economy.
- 2) Friendshoring - More countries are looking to gain products from friendly countries.
- 3) Geopolitics - US's hegemony seems to be deteriorating specially after Afghan pull out after 20 years & Saudi-Iran deal buckered by China.
- 4) Trade War - Trade war between China & US is hurting world economy.
- 5) Russia Ukraine War - Lead to weaponisation of trade leading to fears of even trusting by dominant players.

Unlikelihood of US dollar losing its dominance -

उम्मीदवारों को
इस हशिप में
नहीं लिखना
चाहिए
Candidates
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write on
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1) size of economy - The size of US economy is about \$25 trillion while that of China is \$19 trillion hence a large gap.

2) Depth of US trade - Almost all countries trade significantly with USA.

3) Kindelberger Trap - The rising economies are not in a strong enough position to fill the void of US.

4) Depth of market, trust - Due to free market, there is a developed bond, energy, trade market and people trust the transparency in US against China's controlled economy.

US De-dollarisation may lead to Yuan internationalisation as is being done by Russia & China hence there is a need to grow 'Rupee' in this field for which RBI has come up with an action plan which must be implemented.

4.

विकसित देशों द्वारा भारत पर खाद्य सस्मिडी व्यवस्था में बदलाव करने के अत्यधिक दबाव के बावजूद, भारत के लिए निर्धन व्यक्तियों हेतु अपना नीतिगत समर्थन बनाए रखना एक उचित कदम होगा। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Despite significant pressure from the developed countries to alter its food subsidy regime, there is merit in India trying to retain its policy support for the poor in the country. Discuss. (Answer in 150 words)

10

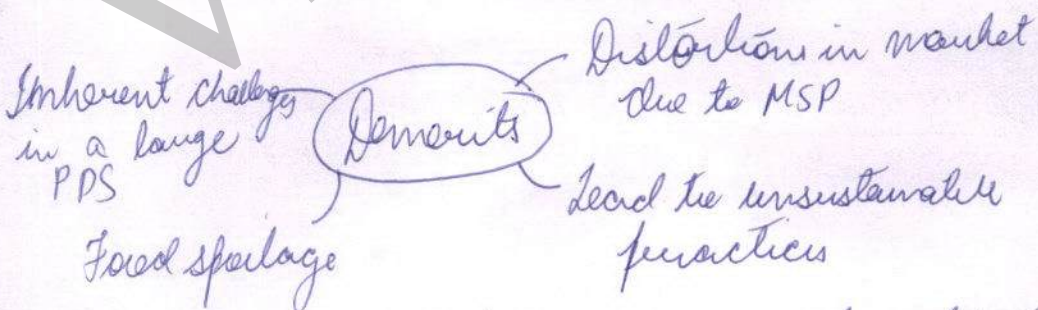
Food security is of utmost importance for the people of every country. India has achieved this and has also been a prominent exporter of products like milk, meat to the world.

Pressure from developed countries to India's food subsidy -

- 1) Amber box - India's PDS and public procurement has been put in this list which is seen to be market distortionary.
- 2) Fisheries - Policies such as Matsya Sampada Yojna are claimed to be leading to unfair exploitation of fisheries.
- 3) Animal husbandry - There is a perception that India is providing undue impetus for production of milk, meat etc.

Merit in India's food subsidy -

- 1) Large poor population - Out of 1.42 billion people, about 25% are poor hence neediest.
- 2) Dependency Ratio - About 25% children & 7% adults need proper nutrition.
- 3) Impetus to business - The agriculture sector's productivity is tried to be improved by MSP regime.
- 4) Insurance against Disasters - In case of a large disaster, these food are essential for survivability.
- 5) Growth trends - India has been growing in population and its nutritional security is very important for children.



Large countries like US provide subsidy upto 15% but are not seen to be distortionary, hence this false narrative against India's subsidy needs to be stopped by leveraging diplomatic capital.

5.

भारत की जल संबंधी जरूरतों को पूरा करने की दिशा में सरकार द्वारा कई पहलों की शुरुआत की गई है, परंतु जल की उपलब्धता और जल की गुणवत्ता जैसे मुद्दों पर अभी भी नीतिगत हस्तक्षेप की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Several initiatives have been taken by the government towards addressing India's water needs, but the issues of water availability and water quality still warrant prioritised intervention. Discuss. (Answer in 150 words)

10

India receives about 4 billion cubic meters of rainfall every year and has a requirement of about only 3 billion cubic meters but still is water stressed due to inefficiency.

Challenges to water needs in India -

- 1) Low efficiency - The water use efficiency is very low specially in agriculture sector because of flood irrigation.
- 2) Water usage - About 80% of water is extracted from ground because 52% of India is rain dependent for agriculture.
- 3) Pollution - Very polluted stretches of water exist specially in Ganga, Brahmaputra due to industrial effluents from towns, fertilizers, petroleum.
- 4) Lack of conservation structure - Very low no. of water harvesting tanks are

set up.

Initiatives taken by Govt.

- 1) NWDPRP - National Watershed management programme for most of the districts
- 2) PM Krishi Sinchai Yojna - To promote precision agriculture
- 3) More Crop Per Drop - To increase water use efficiency.
- 4) Canals & Dams - For more equitable distribution of water
- 5) Environment Protection Act - To prohibit discharge of untreated waste water.

Way Forward

- 1) Promote dhara pynes, Tankas etc which are traditional storage structures.
- 2) Separate the feeder lines for agriculture to stop misuse & overutilization of water.
- 3) Promote behavioural changes among people.

India is a water stressed country with about 1500 l/capita and hence urgent interventions are needed to ensure sustainability.

6.

आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)
What are the major drivers of glacial retreat in the Arctic? Describe the potential impact of the retreat of Arctic glaciers on the ecosystem. (Answer in 150 words)

10

Arctic glaciers have been melting rapidly and the 6th Assessment Report of IPCC claims that a temperature rise of 1.6°C has already taken place.

Drivers leading to glacial retreat in Arctic -

- 1) Global Warming - Increase temperature leading to ice melt.
- 2) Slowing of AMOC - Arctic Meridional Ocean current & Rossby Waves are not able to cool this region adequately.
- 3) Rapid emissions - The world is emitting a large amount of fine particles which in the form of soot, lower the albedo of ice.
- 4) Shipping Industry - A large shipping route here specially for Russia is leading to emissions.

Impact of retreat of glaciers from Arctic.

- 1) Slowing of ocean currents - Because of larger volume due to ice melt.
- 2) Slowing of AMOC - Leading to greater temperature rise and thus a positive feedback loop would be created.
- 3) Global sea rise - Threat to specially the small island nations
eg Indonesia shifted its capital due to sinking.
- 4) Opening up of new trade route - Perhaps the only benefit would be greater connectivity.
- 5) Availability of resources - Some new resources can be extracted from these new melted sea beds.

Arctic glacial retreat is a sign of warning for humanity for which steps like Paris Climate Deal, Cyclicland Declaration, Mission LIFT need to be embraced for a sustainable future.

7.

अंतरिक्ष पर्यटन, जिसे सीधे तौर पर एक साइंस फिक्शन फिल्म के रूप में देखा जाता था, अब बिना किसी बाधा के वास्तविकता बन रहा है। अंतरिक्ष पर्यटन से संबंधित चुनौतियां क्या हैं? इन चुनौतियों से निपटने के लिए क्या उपाय किए जा सकते हैं? (उत्तर 150 शब्दों में दीजिए)

Space tourism, which was viewed as something straight out of a science fiction movie, is now becoming a reality albeit not without hindrances. What are the challenges associated with space tourism? What measures can be taken to address these challenges? (Answer in 150 words) 10

Space tourism is becoming a reality with Jeff Bezos of Amazon & owner of Virgin Atlantic taking a trip to space recently.

Space tourism market -

- 1) Currently the world space market is valued at \$145 million which would grow further.
- 2) Presence of large number of rich people willing to take these trips.
- 3) With low per kg cost as promised by SpaceX upto \$100/kg it could be possible soon.

Challenges to space tourism -

- 1) Space industry - The space industry is growing but the investment required is huge and the completion times are long.
- 2) Space suits - Currently the world is using cold war era suits.

- 3) Health Impacts - Due to intense solar radiation
- 4) Weaponisation - Secret weapons or using the dual use technology to wage wars
- 5) Commercialisation - Ethical issue of distorting another planet & space for our commercial gains.
- 6) Kessler Syndrome - Due to presence of large number of debris in space.

Measures to address the challenges -

- 1) Set a rule for global adherence of space tourism including safety rules.
 - 2) Greater coordination between organisation like ISRO, SPACEX to bring down the global cost of development.
eg: Chandrayaan 2 was built only in Rs ₹360 crores.
 - 3) Tracking of debris and clearing of some of it to prevent untoward event.
 - 4) Declaration on non weaponisation and strengthening of UNCOPOUS treaty to address contemporary developments.
- Space tourism has immense potential for India as well which needs to be nurtured.

8.

वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी, CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words)

10

Chimeric Antigen Receptor Therapy is a method of altering the cells of a human being to produce antigens which have self healing capabilities.

CAR-T as a game changer & overcoming limitations of CRISPR Cas-9

- 1) Conclusive treatment - The treatment using CAR-T cell therapy provides protection from recurrence.
- 2) Undesirable changes averted - As CRISPR-Cas9 can lead to wrongful endonuclease incisions at undesired sites.
- 3) No foreign body introduced - Enhanced safety as a person's own cell is synthesized and altered and used in the process.
- 4) Treating all cancers - It is capable of treating all types of cancers.

without radio or chemo therapy which have many adverse reactions on the body.

5) Not much monitoring required - As the cells start working on their own slowly and hence lower hospital consultation.

6) Modern technology - While CRISPR Cas-9 was used previously, this a newer and better technology.

Challenges to CAR-T cell therapy -

1) still in the initial phases of test.

2) High cost of treatment.

3) A large amount of testing & operation required before commercialisation.

4) CRISPR tech has been widely used so far and hence inertia in changing the methods.

5) Low cost of radiation & chemo therapy.

CAR-T cell therapy is the future of cancer treatment if the cost is cut down substantially & would lead to eradication of cancer & better life expectancy.

9.

चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)
Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words)

10

Emerging technologies have been progressively deployed by extremist organisations to destabilise the world.

Emerging technologies used by extremists -

- 1) Crypto currency - Because of no monitoring and decentralisation
- 2) Social media - For recruiting and radicalising the youth.
- 3) Missile technology - Illegally acquired being used for wars
eg) Hamas using missiles on Israel.
- 4) Drones & UAVs - These are increasingly used to destroy infrastructure.
eg) attack on Israeli Airbase.
- 5) Modern stealth system - To evade being detected by national security
eg) Stealth missiles

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Need for concerted global efforts -

- 1) Borderless world - where an attack can be done remotely from anywhere.
- 2) Threat to state security anywhere is a threat to security everywhere due to connectivity.
- 3) Safe havens - some countries act as safe haven for those organisation which need to be pressurised.
- 4) Grey financing - financing is done using money laundered, hawala transaction which have networks everywhere.

Steps needed -

- 1) Stronger vigilance architecture globally.
- 2) Exchange of intelligence information for better coordination
- 3) Operations against these organisation to flush them out of every country.
- 4) Monitoring of social media.

The world is at a decisive point to stop the menace of violence perpetrated which needs one track direction at a global level.

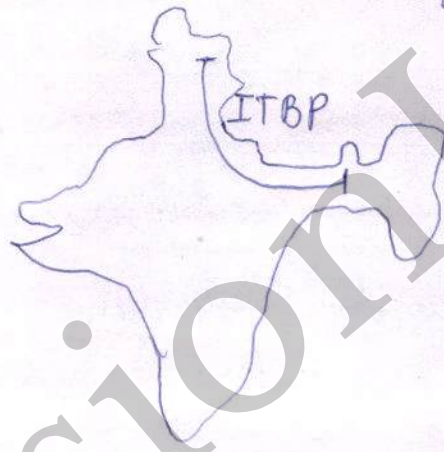
10.

गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

With the Line of Actual Control (LAC) remaining tense after the Galwan and Yangste incidents and both India and China ramping up infrastructure in the border areas, discuss the role that ITBP plays in the region. (Answer in 150 words)

10

LAC faced incursions from China in 2020 in Galwan, Chusul, Demchok, Depsang, Yeghwa and Pangong Lake in 2020. While disengagement has occurred at most places Demchok & Depsang still remain hot zones.



The ITBP is responsible for guarding the Indo Tibetan border with China.

Role of ITBP in the region -

1) Stop Incursions - From Chinese side into the country.

2) Patrolling at tallest mountains - They constantly patrol these borders for safety.

37 Disaster evacuation - Played a central role in rescue operations in Srinagar floods, 2013 Kedarnath floods.

47 Engaging the community - By community engagement programmes to coordinate & cooperate with security forces and act as their eyes & ears.

57 Coordinate with BDO - In the construction of border infrastructure.

Challenges faced by ITBP -

17 Difficult living conditions.

27 Postings in other regions like Kashmir region for which by the CRPF is better trained.

37 Education, health, connectivity is relegated behind.

The ITBP is one of the elite & central forces which ensure a peaceful sleep for citizens by guarding its eastern flank.

11.

क्या आपको लगता है कि भारत को 'भूमि उत्पादकता' के सिद्धांत को छोड़कर 'सिंचाई जल उत्पादकता' के सिद्धांत को अपनाने की आवश्यकता है? अपने उत्तर का औचित्य सिद्ध कीजिए। यह बदलाव करने में कौन-सी चुनौतियां विद्यमान हैं? व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए)

Do you think there is a need for a shift from 'land productivity' to 'irrigation water productivity' in India? Justify your answer. What are the challenges in making this shift? Explain. (Answer in 250 words)

15

India has a large agricultural area and has been producing surplus food but a focus on land productivity was emphasised to ensure greater yield. But now demands of water irrigation productivity are rising.

Problems with land productivity

- 1) Sole focus on land resources.
- 2) Chances of exploitation of other resources like water, fertilizers.
- 3) Unsustainable in the long term as it may lead to nutritional deficiencies in soil.
- 4) Soil salination and erosion are greatest challenges.
- 5) Chances of weed growth & competition among crops for growth.

Weed for Irrigation water productivity

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- 1) Rationalised use - Of all resources as it would be used only at a particular part of a plant for a particular time.
- 2) Low fertilizer usage - As fertigation can lead to a better targeting of requirements.
- 3) Less soil salinity - By doing away with flood irrigation.
- 4) Lesser electricity required - As lesser usage of motor leading to lesser extraction of water & hence environment friendly.
- 5) Weed growth curbed - Unnecessary man power & insecticide & pesticides would be decreased.
- 6) Greater disposable income - Due to lesser cost of input overall for farmers have chances of doubling income.

Challenges in making the shift

- 1) Low proliferation of water conservation structures.
- 2) Attitudinal barriers of farmers.
- 3) Technology integration would be difficult
- 4) Large investment required in setting up infrastructure

Striving to improve water productivity is the need of the hour as according to UNDP, $1700\text{ m}^3/\text{capita}$ is the limit for water stress and India has about $1500\text{ m}^3/\text{capita}$ of water and hence immediate interventions in the largest water using sector is required.

12.

भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

15

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Green hydrogen refers to the hydrogen that is electrolysed by using energy from renewable sources thus sustainable.

Role Hydrogen can play in energy security

- 1) Abundance - H_2 is abundant in the form of water which can be easily electrolysed even by using pencil of graphite & electricity.
- 2) Reduced imports - As India can become self sufficient in the sector.
- 3) De-risking of national needs - By avoiding weaponisation of trade as is being done by West against Russia.
- 4) High calorific value - The energy produced is very high which is used even in spaceships due to high thrust to weight ratio.

- 5) Reduced foreign needs - India would maintain its focus and would not depend on market fluctuation on its outflow.

National Green Hydrogen Mission's role in achieving energy goals.

- 1) Production - At least 5 MMt / year upto 2030.

- 2) Export - Not being dependent on others & exporting to become a global hub for production.

- 3) Carbon emissions - To the tune of 1000 MMt equivalent of CO_2 .

- 4) Present foreign outflow - Of about Rs. 1 lakh crore.

Challenges in Green hydrogen production -

- 1) Inflammability - Highly reactive hence ~~has~~ handling challenges.

- 2) Electrolysing - High cost of setting up electrolyzers that run on green energy.

37 Transportation - A great challenge as it could pose threat to life

India has launched Green Hydrogen Mission as the first move in global economy which needs to leverage this well to ensure energy security.

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13.

हाल के दिनों में, सरकार न्यूनतम पारिश्रमिक की जगह जीवन निर्वाह पारिश्रमिक को अपनाने पर विचार कर रही है। भारत में जीवन निर्वाह पारिश्रमिक को अपनाने के लाभ और इसमें विद्यमान बाधाएं कौन-सी हैं? (उत्तर 250 शब्दों में दीजिए)

The government has been weighing a transition from minimum wage to living wage in recent times. What are the benefits and constraints in the adoption of living wage in India? (Answer in 250 words)

15

The government has ensured minimum wage to poor in the form of MGNREGA and other similar programmes but the requirement of living wage has become popular these days which is also called Universal Basic Income.

Benefits of living wage in India -

- 1) Assurity of income hence psychological security.
- 2) Expenditure on choice of products hence greater development.
eg) untied funds can be used for buying, schooling etc.
- 3) Lead to lesser farmer & distressed suicides.
- 4) The health outcomes may improve due to better food consumption & choice.

- 57 Lesser income inequality in the country.
- 67 Women empowerment.
- 77 As the wage is unconditional & is given to all, it would lead to better equity.
- 87 May raise the savings, investment in the country leading to more production.

Challenges of living wage in India -

- 17 Moral hazard & people may become lazy.
- 27 The money may be usurped by male members of the family from females.
- 37 May lead to a crisis of substance abuse due to assured income.
- 47 Huge burden on the public exchequer.
- 57 Other subsidies may have to be phased out.
- 67 Information asymmetry in the society due to which money may not be put to good use.
- 77 Fear of inflation in the economy.

An NGO Work free recently conducted a pilot project in Hyderabad for being wage and it was observed that it led to greater woman empowerment, lesser cases of domestic violence hence a further set of projects could be undertaken to see its feasibility.

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केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्र को प्रभावित करता है, फिर भी न तो बजटीय प्रक्रियाएं पर्याप्त सार्वजनिक जांच के दायरे में आती हैं और न ही बजट नीतियां। क्या आप इस कथन से सहमत हैं? अपने उत्तर का औचित्य सिद्ध कीजिए। (उत्तर 250 शब्दों में दीजिए)

The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

15

The Union Budget is laid before the parliament every year under Article 112 which mandates that the President shall ensure budget presentation in the parliament every year.

Effect of budget on every sector

- 1) Fluctuation in stock markets
- 2) Allocation of funds to ministries
- 3) The laying of macro economic indications
- 4) The framed strategy statement.

Budget not under substantial public scrutiny -

- 1) Unrealistic estimates - Where targets which are not achievable are set.
- 2) No monetary authority - There is no fiscal authority to monitor it. Not even CAG scrutinizes the budget before the spending begin.

3) Poor financial knowledge - Of the framers
of the budget who may not be
economic experts.

4) Estimates Committee - It does not get the CAG
guidance as the Public Accounts
Committee does.

5) Unscrupulous methods - The already existing
schemes are described to be
portrayed as a new one.

6) No fixed recipe for allocation - somewhat
arbitrary allocation based on
populist policies.

[Budget does come under scrutiny]

1) By the Parliament - Which can reject
the proposals if the estimates
are not prudent using ~~token~~
token cut motion, economy cut
or policy cut motion.

2) By the citizens - Who weigh the benefits of the budget and vote in the elections accordingly.

3) By the industry - It is consulted while finalising the budget and is even consulted after it is done.

4) Estimates Committee - The 30 membered body helps in shaping the budget which is helpful.

The Budgetary system in India has been strong due to presence of high democratic credentials and presence of experts and hence only minor changes such as realistic allocations & targets need to be set.

15.

भारत स्वयं को दूध की कमी वाले देश से दुनिया के सबसे बड़े दूध उत्पादक देश के रूप में बदलने में सक्षम हो गया है, लेकिन देश में डेयरी पशुओं की उत्पादकता चिंता का विषय बनी हुई है। विवेचना कीजिए। (उत्तर 250 शब्दों में दीजिए)

India has been able to transform itself from a milk deficit country to the world's biggest milk producer, but the productivity of dairy animals in the country remains a concern. Discuss. (Answer in 250 words)

15

India is the largest producer of milk globally.

Challenges in productivity of dairy animals -

- 1) Lack of indigenous varieties - People are not aware of the high productivity
eg) Murrah Buffalo is resistant to parasitic infection.
- 2) Informal sector - It is highly unorganised and fragmented.
- 3) Limited number of cooperatives - Big cooperatives like Amul, Nandini, Sushila, etc. are only a few large ones while most others are outside it.
- 4) Lack of forward & backward linkages - Leading to low price realisation in the open market.

5) Diseases - such as Lumpy skin Disease have been lowering the productivity & leading to deaths.

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6) Foeder inflation - In Nov 2022, inflation as high as 30% in India.

Way forward -

- 1) Co-operativisation - Integration of more individuals in these groups.
- 2) Storage & processing - For lower spoilage, greater value addition for more price realisation.
- 3) Veterinary recruitment - Increase the number of animal doctors who are minimal in India compared to livestock.
- 4) Control Inflation - such as foeder which is the base of this sector.
- 5) Packaging & Branding - For the world.
- 6) Food processing - emulate New Zealand model which is one of the

largest ice cream producer

Co-operatives

Animal Husbandry
Investment Fund

Steps taken

e-GOPALA

Rashtriya Gokul
Mission

The country needs to leverage its strength to gain an edge in the world economy for a better & stronger animal husbandry sector which single handedly contributes 30% to agricultural sector.

जहां एक तरफ जलवायु परिवर्तन, फसल की विफलता के लिए जिम्मेदार है, वहीं दूसरी तरफ चरम मौसमी घटनाओं के लिए कृषि क्षेत्रक स्वयं आंशिक रूप से जिम्मेदार है। विवेचना कीजिए। भारत में कृषक समुदाय की प्रत्यास्थता को सुदृढ़ करने के लिए राष्ट्रीय कृषि आपदा प्रबंधन योजना के तहत क्या रणनीति अपनाई गई है? (उत्तर 250 शब्दों में दीजिए)

While climate change is responsible for crop failures, the agricultural sector itself is partly responsible for extreme weather events. Discuss. What strategy has been adopted under National Agriculture Disaster Management Plan to strengthen the resilience of the farming community in India? (Answer in 250 words)

15

Climate change is rapidly occurring leading to adverse weather events and IPCC 6th assessment report claims temperature rise of 1.1°C already.

Agricultural sector leading to extreme weather events -

- 1) Unsustainable crops - The unsuitable choice of crops like planting sugarcane in Marathwada which is a drought prone region.
- 2) Unsustainable extraction - Of water from the ground leading to over-exploitation & agricultural drought.
- 3) Flood irrigation - This not only uses a lot of water but also leads to a substantial emission of

methane from the fields.

47 Indiscriminate use of fertilizers - Excessive use has been leading to water pollution & lower land productivity.

57 No use of technology - To reduce the wasteful input in the crops like precision agriculture.

Natural reasons responsible -

- 17 Global climate change
- 27 El-Nino Southern Oscillation
- 37 Monsoon - getting more erratic
- 47 Western disturbance irregularity
- 57 Pests, locusts attacks

Strategy adopted under National Agri Disaster Management Plan -

- 17 Choosing suitable crops according to climate zone
- 27 Using sprinkler, precision agriculture
- 37 Disposal of high yielding varieties

• for greater productivity & lesser inputs.

4) Crop insurance - To prevent from failure

5) Programmes to aid agriculture like
PM Kisan Samman Yojna to be nullified.

The farming sector is in a dire need of
reforms which calls for greater budgetary
2-0-

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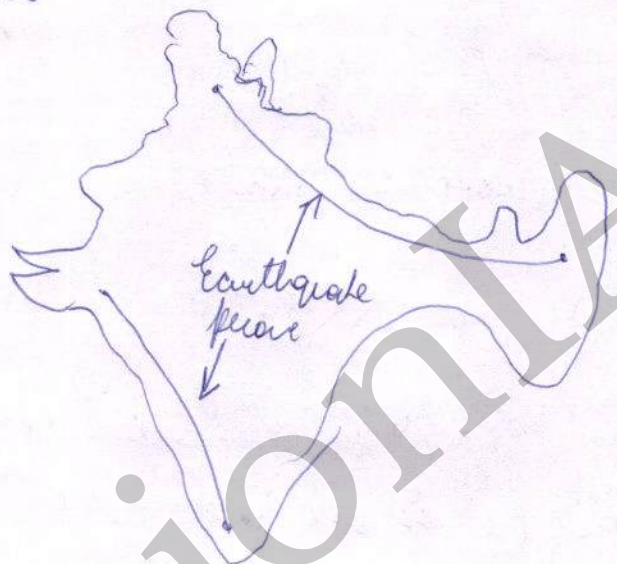
17.

दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

Some regions in India, including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words)

15

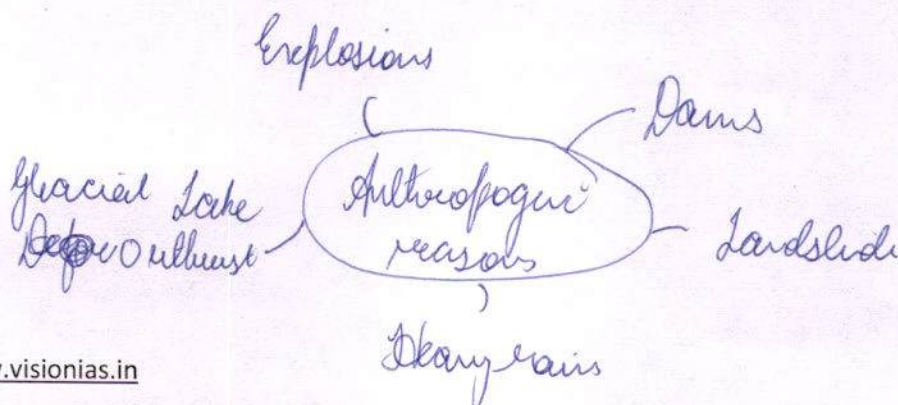
Earthquake are shak of the ground due to the plate movements & other anthropogenic reasons.



Regions vulnerable to earthquake

1) Himalayan belt - Due to convergence of Indian & Eurasian plates.

2) Western Ghats - Due to rainfall & development.



Institutional measures taken

- 1) Earthquake prone zoning - Created a map for this
- 2) BIS Standard - For building earthquake resistant houses.
- 3) NDRF, SDRF - For immediate rescue & relief.
- 4) National Executive Committee - Headed by Home Secretary for coordination.
- 5) NDMA & guidelines - With PM as the head to ensure safe & fast saving of lives.
- 6) Aapka Mithra scheme - Recruited volunteers to help.

Gaps that exist -

- 1) Rampant development in eco sensitive zones.
 - eg) Mandlaam road project.

2) Low enforcement of earthquake resistant buildings

3) Coordination problems in National Executive Committee & National Crisis Management Committee

Mindful development  Better houses
eg Bhuga houses

Greater awareness

The NDMA guidelines are comprehensive but challenges can be addressed to make India a strong country in line with the Coalition for Disaster Risk Infrastructure & Sendai Framework.

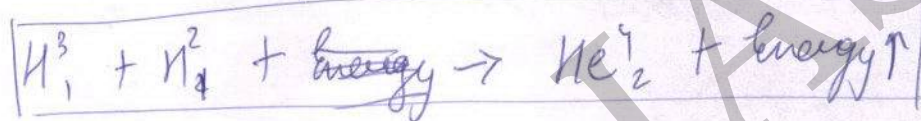
हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों में दीजिए)

Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial scale? (Answer in 250 words)

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Net energy gain recently announced for nuclear fusion. Fusion is the combining of 2 elements to produce another element which in the process emits energy.



Advantages of nuclear fusion

- 1) No nuclear waste generated
- 2) Would lead to infinite & forever production of energy.
- 3) Would avert the environmental problems
- 4) Lead to greater development with equality
- 5) Lead to discovery in other scientific fields like cryo technology
- 6) Sustainable grid all across the world.

Limitations of using nuclear fusion commercially

- 1) Difficulty in achieving neutrality
- 2) The magnets required to separate the plasma need a lot of energy.
- 3) May be a hazard and could lead to huge explosions.
- 4) Evacuation & transmission problems
- 5) Low income countries may not be able to emulate the system.
- 6) Risk of weaponisation by non state actors.

India is a part of ITER and will have IPR rights over it. Even China & Russia are in the process of development of this technology which could solve the energy problem of the world.

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19.

हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन रोकथाम अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling the menace of money laundering in India. (Answer in 250 words)

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Efficacy of PMLA, 2002-

- 1) Restricts terrorist financing
- 2) Close watch of placement, layering & integration.
- 3) Noel Hanper case of 2022 upheld the desirability of this legislation
- 4) Low cases of money laundering in India compared to other countries like Pakistan
- 5) Restricts public servants from receiving funds hence independence of state machinery.
- 6) Receiving of funds in designated SBI branch of Delhi hence better tracking of funds
- 7) Restrictions
 - 1) Funds cannot be transferred to other entities

- ii) Funds can only be used for the purpose for which it was received.
- iii) Not more than 20% can be spent on administrative machinery.

PMLA 2002 and specially after the recent amendment of Noel Harper case in SC and strong independence of ED has been able to tackle the menace of money laundering well.

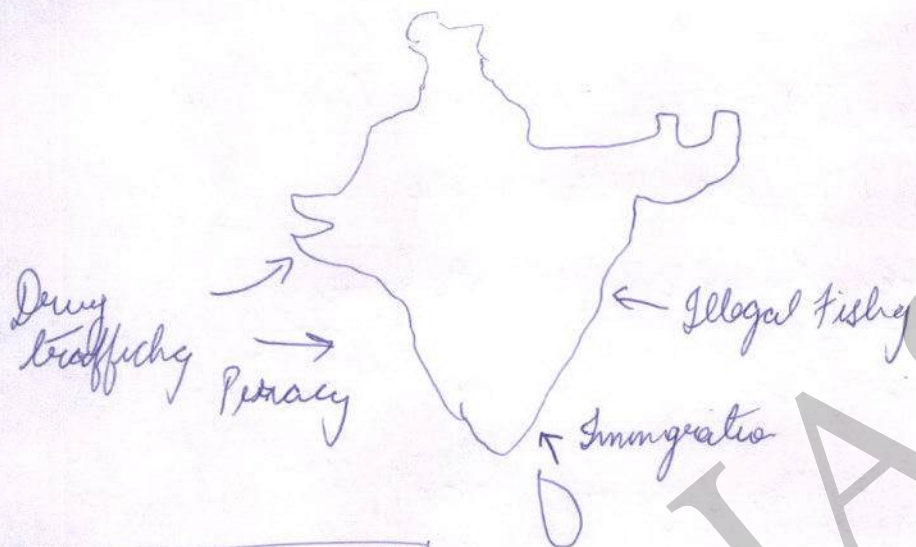
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हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

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Security Threats-

- 1) Drug Trafficking - Recently a large drug bust at Mundra port under Operation Samudraagupta.
- 2) Immigration - From Sri Lanka due to instability in the country.
- 3) Illegal Unregulated Fishing - In the high seas that could be used by Terrorists to attack e.g. Mumbai 2008 attacks came in this manner.

11) Piracy - High piracy from African side which leads to law & order situation because of illegal trade & human trafficking.

12) Chinese ships - Using Mission Creep to send intelligence vessels to Sri Lanka

Strategy to deal with them -

1) Integrated tri service theatre

2) Strengthen Indian Coast Guard.

3) Strengthen customs & border checks.

4) Raise the issue on global forum for coordination at G20 for piracy.

5) Community engagement against any suspicious activity.

6) Comprehensive refugee dialogues with source countries & proper legislation

7) Addressing worries of Chinese ships at Hambantota port frequently with Sri Lanka government.

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