



# 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. : 0615676

अभ्यर्थी का नाम/Name of Student : Prajnanandan Giri

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

English

तारीख  
Date

27/08/2023

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

केंद्र  
Centre

NIAT Computer  
Education,  
Bhubaneswar.

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

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

|                                                  |                                             |
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| कार्यालय के प्रयोग हेतु<br>For Official Use      | कार्यालय के प्रयोग हेतु<br>For Official Use |
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**प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))**

| प्रश्न सं.<br>Q. No.              | अंक<br>Marks |  | प्रश्न सं.<br>Q. No.       | अंक<br>Marks |  |
|-----------------------------------|--------------|--|----------------------------|--------------|--|
| 1                                 |              |  | 11                         |              |  |
| 2                                 |              |  | 12                         |              |  |
| 3                                 |              |  | 13                         |              |  |
| 4                                 |              |  | 14                         |              |  |
| 5                                 |              |  | 15                         |              |  |
| 6                                 |              |  | 16                         |              |  |
| 7                                 |              |  | 17                         |              |  |
| 8                                 |              |  | 18                         |              |  |
| 9                                 |              |  | 19                         |              |  |
| 10                                |              |  | 20                         |              |  |
| उप-योग (A)<br>Subtotal (A)        |              |  | उप-योग (B)<br>Subtotal (B) |              |  |
| सकल योग (A+B) / GRAND TOTAL (A+B) |              |  |                            |              |  |



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

निर्धारित समय: तीन घंटे

Time Allowed: **Three Hours**

अधिकतम अंक: **250**

Maximum Marks: **250**

**प्रश्न-पत्र संबंधी विशेष अनुदेश**

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

कुल बीस प्रश्न दिए गए हैं जो हिंदी और अंग्रेजी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

**QUESTION PAPER SPECIFIC INSTRUCTIONS**

*Please read each of the following instructions carefully before attempting questions.*

There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH**.

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated in the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.

## EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

**All the Best**

1.

खाद्य 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 खण्ड में  
नहीं लिखना  
चाहिए  
Candidates  
must not  
write on  
this margin

Food security refers to the availability, accessibility & affordability of quality foods for all within a country.

Different dimensions -

- (i) Food availability → Ensuring availability through proper storage & supply chain with agricultural self-reliance.
- (ii) Food Accessibility → To access food irrespective of social barriers like caste, class, religion, gender etc
- (iii) Food affordability → To reduce cost of food, prevent inflation

India's status in ensuring food security

- (i) Availability : India is a net exporter of food with surplus production of rice, wheat.

II) Accessibility → India's Public Distribution System with National Food Security Act 2013 ensures accessibility with 67% population ~~at~~ under coverage.

→ Also one nation, one ration card and chain of fair price shops ensure the

III) Affordability → Food subsidies ensure affordability for major crops.

→ However, seasonal fluctuation creates issue [eg] Recent tomato price rise

→ Dependence on pulses & oilseeds import make it vulnerable to global price shocks.

To tackle these issues in affordability aspect, Government has initiated operation greens - storage program as well crop diversification to address overall food security in India.

2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्रक 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

Blockchain technology is a decentralised ledger technology that helps in efficient management of data.

whereas ChatGPT is a generative AI technology, that answers to various queries in written format.

Blockchain → for Agriculture →

1. Can use in land transactions to ensure conclusive land titling.
2. To create Agri-stack — a common data storage platform with regard to land, owners & crops
3. For efficient implementation of Soil Health Card with integrated fertilizer management
4. To promote Precision Farming & Conservation Agriculture

## Chat GPT to transform agriculture →

1. To prevent gaps in information dissemination.
2. A substitute to human-led extension services
3. Promote R & D for resilient crops to climate, pest, diseases.
4. To increase awareness level of farmers with regard to input management.
5. Overall, to solve any doubts in farmers' mind with respect to decision making during farming.

However, the need is to avail the technologies in vernacular language with user-friendly manner. Such emerging tech have huge potential to transform agriculture to help achieve goals of sustainable & modern agriculture.

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)

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

De-dollarisation refers to the reduced use of dollars in global trade and replacing it with other local currencies through agreements between nations.

Factors that led to trend towards de-dollarization :-

1. Ukraine war & sanctions on Russia [eg] Rupay - Ruble Agreement between India - Russia
2. Rising assertion of China over global trade (13% of exports)  
↳ Led to use of Yuan
3. Role of Federal bank of USA to increase interest rate  
↳ Led to dollar-led inflation

4. Rising consensus among developing world to find alternatives

↳ BRICS currency debate.

5. IMF's role → to stringent conditions while giving loans to countries

↳ Alternative like ADB, AIIB.

It will lead dollar to lose dominance

1. With BRICS expansion → oil trade may see de-dollarization with inclusion of Egypt, UAE, Iran, Saudi Arabia

2. Regional banks rising → NDB

3. Bilateral trade deals with local cur

However, dollar is still dominant and it is difficult to imagine a complete de-dollarization.

- [E.g.]
1. USA - major FDI source for many
  2. Still the largest economy.
  3. Ease of trade with dollar.

However, significant decline with dollar use can be seen.

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

With WTO's Agreement on Agriculture has been paused with peace clause, India as leader of global south pushing for continuous food subsidy regime in terms of MSP and NFSA.

Merit in India's effort →

1. Still 10% of population lives in extreme poverty.
2. India's rank remain low in Global Hunger Index (101<sup>st</sup> in 2022)  
↳ Need of subsidy to tackle malnutrition.
3. MSP - important for prevention of distress sale.
4. In the interest of small & marginal farmer (84% of all farmer)

5. To ensure competitiveness of Indian agricultural exports.

Challenges with India's effort to retain ~~suppo~~ food subsidy regime: →

1. Against environmental conservation need  
↳ As MSP leads to monoculture.
2. Prevents innovation through a free market economy.
3. Patro-client syndrome due to subsidy.
4. Slows down effort to reduce poverty through active measures  
↳ As subsidy is passive support.

However, looking at global issues and interests of developed country, India should keep pushing for continuance of its subsidy regime.

But it must rationalise the subsidies at home which owes almost 2.5% of GDP.

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 has 4% of global freshwater while 17% of global population. This shows the challenges of water crisis in India,

Initiatives by Govt to address India's water needs:

1. Jal Jeevan Mission - Drinkable water through piped supply.
2. Atal Bhujal Yojana - Ground water
3. PM - Krishi Sinchai Yojana - efficient irrigation
4. Namami Gange - pollution issue.

Challenges of water availability & water quality remain →

1. Less than 1000 litre per capita per day availability.
2. 311 river stretches are polluted.
3. Ground water - contaminated with Fluoride, Uranium etc.

Steps needed → Availability →

1. Recycle of waste water → to improve availability.
2. Recharge of ground water →
3. Traditional storage like Zabo (Nagaland)
4. Water accounting based irrigation
5. Revival of wetlands

Water Quality related -

1. Prevent direct mixing from urban waste / drainage to river  
↳ STP plants
2. Modern purification methods like RO etc. at rural level

Water crisis will rise with global warming. Therefore India's steps should be based on SDG 4.0 - Clean water for all.

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

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

Arctic region consists of more than 30% of global glaciers on Russia, Greenland, Scandinavia, Alaska & Canada.

Major driver of glacial retreat:

1. Arctic amplification : Twice faster warming of Arctic
2. Black carbon deposition → Reduced albedo & high absorption of heat.
3. Positive feedback loop → Reduced glacier → lower albedo → more retreat.
4. Anthropogenic → Use of motorised fishing boats, Arctic navigation etc → CO<sub>2</sub> emission & warming.
5. Deforestation over Siberia.

## Potential Impact -

1. Increased river level in short term  
& drying in long term.
2. Increase in atmospheric temp  
further
3. Release of frozen microbes →  
challenges of new epidemic
4. Loss of habitat for biodiversity  
eg Siberian tiger, etc  
Polar bear etc
5. Further rise in sea level.

Arctic Council must take  
conservation measures to address  
the issue at local level with  
sustainable development ~~mea~~ initiative.

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

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Space tourism is developed  
by various private space agencies &  
demonstrated already by Virgin  
Galactic, Blue Origin & SpaceX.

Challenges associated :

1. Lack of regulation measure
2. Safety challenge
3. Absence of insurance policies  
with regard to death in case.
4. Pollution due to huge emission  
by these spacecraft
5. Inequality in accessibility  
due to high prices.

## Measures to address -

1. Global treaty to regulate Space tourism.
2. Establish an accountability framework on companies operating.
3. More R&D into Methanox fuel → to reduce pollution arising out of traditional solid fuel.
4. Establish the objective of such space tourism & their necessities.

Space Tourism is a emerging sector and must be promoted by ISRO.

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

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CAR-T cell therapy refer to the genetic engineering methods to modify the T-cells in blood to in such a way, that they will target the cancer cells and kill them while leaving the healthy cells unhampered.

~~Chart~~

Potential to overcome limitations of Cas-9 (CRISPR) tech :

1. CRISPR has potential side effect of damaging healthy cell.
2. Seemed as external interference in body → ethical issues
3. CRISPR may also show allergic reactions in body

4. However, CAR-T therapy modifies the already present T-cells of body
5. Therefore, no side effects like CRISPR → No activation of macrophages to create immune reaction.
6. Minimal interventions in body
7. High accuracy for treatment
8. Cost-effective compared to CRISPR Cas-9

Therefore, CAR-T cell therapy needs to be implemented with adequate trials to deal with cancer.

9.

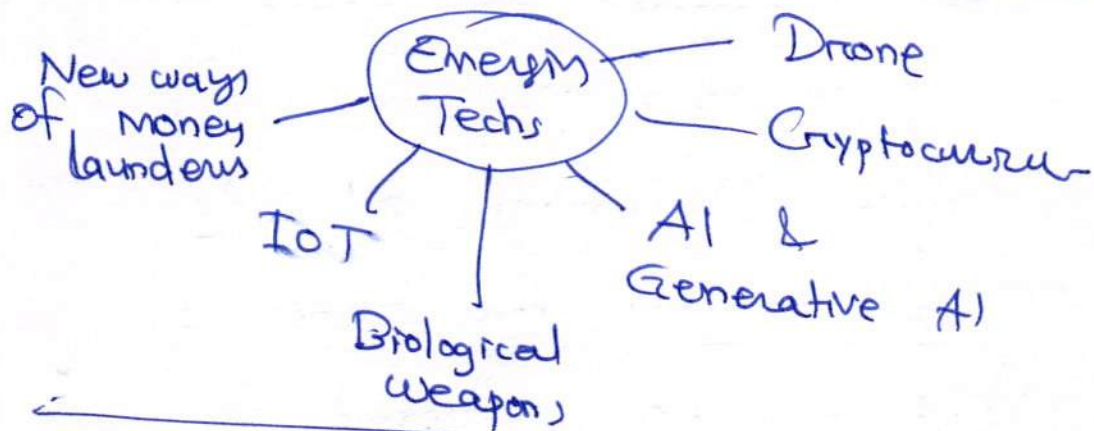
चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)

Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words)

10

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New & emerging technologies by organisations like terrorists, nationalists, insurgents can pose significant challenge to security forces.



Demand concerted Global efforts

1. Gross - border nature
2. High anonymity of user  
eg Dark Web
3. Involves multi-national participation  
eg Blockchain

4. Operated from anywhere  
in the world

5. Poses significant threat to  
global economy & lives  
human lives & health

[eg] Pandemic potential.

6. Single nation may not have  
adequate resources to  
deal with these.

Therefore, to deal  
this, global collaboration is needed.

[G20] can play an important  
role in this.

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

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए  
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With Galwan clash & Yangste incident, the competitive infrastructure growth has been seen in LAC areas.

### Role of ITBP -

1. Indo-Tibet Border Police (ITBP) is one of the CAPFs operating in India-China border.
2. It keeps a track on Chinese movements.
3. Coordinates with Indian Army for decision making.
4. Regular patrolling of sensitive points.

5. Ensures that Ladakh's nomadic herders are not impacted by Chinese aggression.
6. Upholds Indian sovereignty in the region
7. Also patrols Pangong Lake region with motorised boats.
8. Protects and guards Indian infrastructure on border.

Overall, ITBP has very important role in India's border security.

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

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Land productivity refers to the amount of agricultural produce generated per unit area of land (per acre).

Irrigation water productivity refers to the amount of agricultural production per unit irrigation (water. (eg. per litre of water we).

Need for a shift from land productivity to irrigation water productivity :

1. Reduction in fertilizer use that leads to degradation of land.
2. Prevent waterlogging like condition due to excessive irrigation.
3. Promote scientific cropping pattern based on agro-climatic region.
4. Protect soil's characteristics like soil moisture, pH, organic content etc for longer time.

5. Address the present day challenges of land degradation leading to desertification [e.g.] Eastern Rajasthan.

### Challenges in making this shift:

1. Biased and unscientific MSP policy - that promotes rice-wheat monoculture even in semi-arid region.
2. High subsidies on fertilizers to promote land productivity.
3. 84% of farmers are small and marginal who lack the necessary investment required for the shift.
4. Easy availability of irrigation prevents their economic use  

  - Subsidy on electricity to use irrigation pumps
  - Canal irrigation without any limit on use.
5. Lack of govt interventions ~~by~~ with lack of extension services

## Way forward -

1. Water accounting method → Implement it with similar to Soil Health Card.  
↳ Need based irrigation
2. Perr drop , more crop policy under PM - Krishi Sinchai Yojana
3. Drip irrigation , Sprinkler irrigation and Rain guns to be used.
4. Mulching techniques to protect soil moisture.
5. Other sustainable interventions like Integrated Farming , Crop rotation etc.

India has initiated National Mission for Sustainable Agriculture with a component for irrigation water productivity , which is a welcome step towards conservation agriculture.

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)

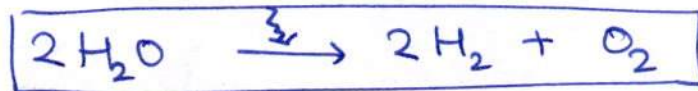
Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

उम्मीदवारों को इस हाथिए में नहीं लिखना चाहिए  
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Green Hydrogen refers to the ~~is~~ hydrogen that is produced through use of renewable energy without any Carbon emission.

This is generally done through splitting of water molecule by electricity to produce hydrogen.



Role that green hydrogen ~~can~~ can play in unlocking the energy security of India:

1. Reduce import dependence in energy source.

[eg] 84% of total energy is imported as coal/oil.

2. Reduce dependence on petroleum for vehicular needs.

[eg] Hydrogen-operated buses  
Hybrid vehicles.

3. Make India 'Afmanirebhan' in energy, as the raw material for Green Hydrogen is water.
4. Already India has achieved 40% of its total energy from renewable energy → can be used for 'Green' hydrogen production.
5. Protect India's energy security through immunity to global shocks.

For this, India has initiated National Green Hydrogen Mission in Budget 2023.

Role of National Green Hydrogen Mission in helping India achieve its goals →

1. To produce 50 million metric tonnes of Hydrogen by 2030
2. Initiatives like Hydrogen mixing in CNG → H-CNG public buses in Delhi

3. To develop storage capacity for large scale hydrogen.
4. To develop fuel cells based on Hydrogen — for mobility, railways as well as for space sector.
5. To provide a roadmap for achieving Panchamitra targets
  - └ 500 GW renewable energy
  - └ 45% reduction in emission intensity

### Challenges -

1. Needs private sector collaboration
2. R & D efforts into sustainable storage and transport processes required, which is lacking.
3. Trained manpower for Hydrogen management.

However, National Green Hydrogen Mission aims to address all the challenges with step-wise investments, which will help in making India achieve SDG 7.0 — Clean energy for all.

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

Minimum wage is an absolute amount of wage required to be paid by industries to the labourers. However living wage refers to the dynamic amount that is adjusted as per inflation, cost of living etc to ensure a basic minimum standard of living for labourers.

Transition from minimum wage to living wage → Benefits

1. Provides a common minimum living standards for all labourers.
2. Adjusted with change in prices as per Consumer Price Index
3. Prevents distress among labourers at the time of crisis like COVID-19

4. In line with Constitutional objective of Article 43, which demands State to ensure fair wages.

↳ 'Welfare State' under DPSP,

5. Helps improving the status of extreme poor and to reduce Multidimensional poverty.

6. At the same time, provides competitive market with level playing field for industrial growth.

### Constraints in adoption of living wage:

1. To decide what all should be included to calculate living wage → has been a topic of debate

2. May increase of cost of labour with overall production cost

↳ Lead to cost-push inflation

3. Extra wages in hand may also lead to demand-push inflation

4. Lobbying by industrial pressure groups against living wages
5. Also, there is a chance of difference of living wages based on region E.g Anoop Satpathy committee suggested different wages for 5 different zones

#### Way forward -

1. Living wages need to be calculated after due study on living standards.
2. Keeping flexibility in calculation method.
3. Participatory decision making on living wage similar to EPFO board

Living wages are necessary for the betterment of labourers and underprivileged sections, which will give them the basic dignity of life.

Therefore, Government must implement this by cooperation of all stakeholders.

14.

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)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
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15

Union Budget contains the revenue generation and expenditure of Government in a particular financial year. Though it is approved by Parliament with voting on appropriation & finance bill, but it lacks public scrutiny both in processes and policies.

Substantial public scrutiny lacking in Union Budget →

1. Almost 80% of the budget passed by guillotine closure without discussion.
2. No public participation in budget making processes → Limited to few government stakeholders.
3. Limited scrutiny by Departmental Standing committees → But their recommendations not binding.

4. Policy formulation under Budget remains top-down approach with govt departments taking all the decisions.
5. No oversight mechanism on implementation of budget.

However, recently Government has initiated few steps, that has led to significant public scrutiny & participation.

1. People's participation in budget formulation → mygov.in portal receives public suggestion for budget.
2. Output-Outcome framework → Helps in analysing the impact of various policies.
3. Social Audit component being added to various policies.  
[e.g] MGNREGA, PMAY etc.
4. Engagement of DRSCs with various stakeholders for pre-budget scrutiny.

5. Role of Media in discussions & critical analysis of policies increasing.
6. Government itself is being engaged with interest groups before budget.  
[eg] FICCI, ASSOCHAM, Labour unions etc.

### Way forward :

1. Formal mechanism need to be developed for two-way communication.
2. Role of NITI Aayog to ensure bottom-up approach need to be strengthened.  
[eg] Budget suggestions from Gram Panchayat to Union Govt.
3. Legal backing to social audit -like methods for greater accountability.

For the economic as well as social development of the country, Budget plays a major role. With more public scrutiny at a various level, this role will be further strengthened with better outcome.

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

उम्मीदवारों को इस लिखित में नहीं लिखना चाहिए।  
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World's 23 % milk production happens in India. This has made India world's biggest milk producer in recent times.

India's transformation from a milk deficit country to biggest milk producer :-

- 1.. White Revolution led by Verghese Kurien in late 20<sup>th</sup> century.
2. Cooperative model of dairy supply chain → that ~~pr~~ ensured maximum participation ~~at~~ of small to large farmers.
3. Seamless supply chain with district village level, GP level, District level and State level cooperatives  
[e.g] ANAND model of Gujarat (AMUL)
4. Development of veterinary mobile units, with timely care of cattle → ensured sustainability of production.

5. Focus on imported breeds like Jersey, Holstein etc for large scale production.

6. R&D efforts by institutes like NDRI Karnal, ICAR etc → supported the growth.

However, productivity of dairy animals remained a challenge.

Low productivity of dairy animals →

1. Particularly for indigenous breed
2. like Murra etc.
2. Frequent diseases like Foot & Mouth disease, Lumpy skin disease (LSD)  
eg) Recent death of > 20 lakh cows out of LSD.
3. Regional imbalance in productivity  
→ Eastern India has less productivity with more small & marginal farmers.
4. Lack of adequate human resources to cover all villages.

5. Use of traditional methods of  
Production → Lack of mechanisation  
in dairy production.
6. Challenges with respect to fodder  
availability and affordability  
↳ High cost of fodder

### Way forward

1. Develop hybrid variety out of  
indigenous breed.
2. Adequate investment in veterinary  
hospital network & doctors
3. Implement best practices of ~~the~~  
New Zealand , Argentina

India has established  
Rasthriya Kamadhenu Aayog for addressing  
the productivity aspect of dairy sector.  
However, a holistic reform in  
approach is needed to tackle the  
issue ~~for~~ through Integrated Farms  
System.

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)

With climate change ,  
Agriculture sector has the most significant  
impact in terms of soil , irrigation ,  
disasters etc. At the same time ,  
agriculture is the contributor to Green  
House and responsible for extreme  
weather like drought etc.

Climate Change → Responsible for crop failure

1. Land degradation with higher  
atmospheric temperature → lowered  
soil moisture → Also leading to  
desertification.
2. Extreme events like flash floods  
out of cloud bursts →  
Floods damaging crops.
3. El-Nino frequency increased →  
Drought conditions over India

4. Locust attacks increased in occurrence

↳ Due to climate change impact

[eg] Cyclonic rainfall over Ethiopia,  
Somalia → gave breeding ground  
to Locust

5. New type of diseases are rising  
due to changes in humidity, temperature  
and rainfall.

[Agriculture] → [partly responsible for  
extreme weather events]

1. Source of 25% of Methane emission

↳ contributes to global warming  
like

2. Excessive fertilizer use → land  
degradation → sometimes leading  
to flash drought / crop failure

3. Excessive irrigation → water logging  
→ Reduces recharge capacity →  
High surface run-off → more floods  
with rainfall.

4. Land use change → conversion of  
wetlands into agricultural land →  
contributes to floods.

## National Agricultural Disaster Management Plan

↓  
To strengthen resilience of farming community

1. Focus on water-shed management approach
2. Sustainable Irrigation methods like drip, sprinkler. → Per drop, more crop
3. Adopting Agro-forestry, Crop rotation, mixed cropping etc for soil moisture management.
4. Organic farming for soil conservation.
5. Diversification of dependence of farmer → horticulture, livestock, apiculture, Mushroom farming etc
6. Creation of Drought Management Cell
7. Insurance focus with PM - Fasal Bima Yojana to prevent agrarian distress in case of disaster.

Sustainable Agriculture is the way forward to address the climate change impact to achieve climate-resilience.

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

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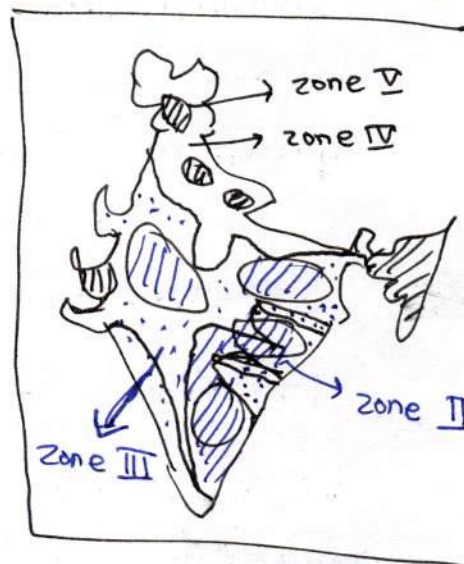
India's 60% region is  
prone to earthquake at various level.  
India has been classified into 5  
vulnerable zones and Delhi lies  
in zone - IV - second most vulnerable  
zone.

### High vulnerability of some regions in India

1. Due to convergent plate boundaries



Indian plate is  
collided with Eurasian  
plate → at 2 cm  
forward movement  
every year.



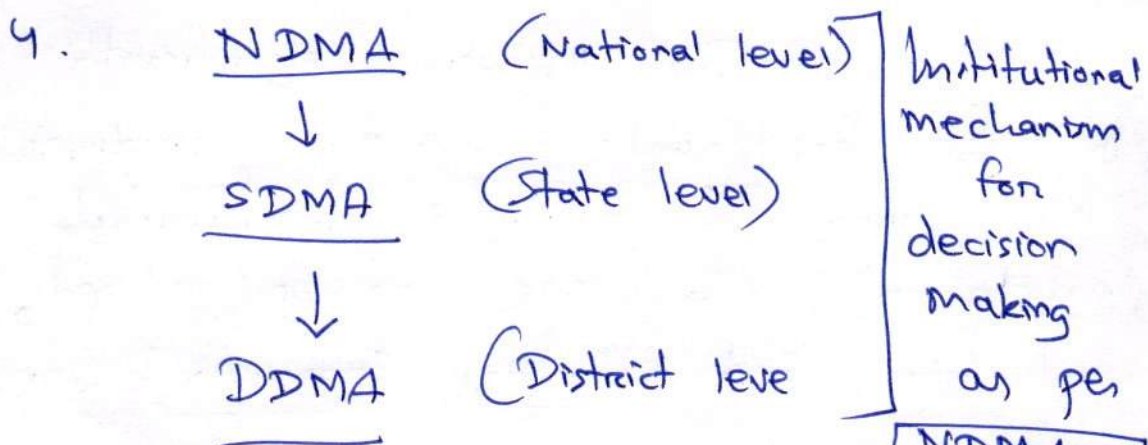
2. This has caused the Himalayan belt to be highly earthquake prone  
[e.g] Nepal earthquake (2015)

3. Delhi lies just 200 km from  
from Himalaya with very close  
to Himalayan frontal fault (HFF line)

Makes it ↓ vulnerable to earthquake

Institutional measures to mitigate  
earthquake losses →

1. National Retrofitting Plan → To  
create ~~also~~ earthquake resilient  
infrastructure on vulnerable zones.
2. National Building Code → for  
future infrastructures.
3. National Earthquake Risk Mitigation  
Program → For timely  
rescue & relief efforts



NDMA  
Act 2005

5. NDRF & SDRF are dedicated force for disaster rescue & relief

Significant Gaps still exist -

1. Absence of a timely information dissemination mechanism
2. P-waves are detected 4-5 mins earlier → This gives golden minutes for ~~the~~ preventive steps

↓  
However, no such mechanism exists in India.

3. Almost 50% houses in vulnerable zones are not resilient to quakes.
4. Absence of adequate manpower with NDRF for timely relief effort.

By investing significantly in ~~the~~ earthquake resilient infrastructure with strong & efficient institutional mechanism, the risk can be reduced, as per ~~sent~~ Sendai Framework (2005) suggestions.

18.

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)

15

Nuclear fusion refers to the forced collision of two smaller atoms to create a larger atom, which releases large amount of energy in terms of heat - which is utilised to produce power.

[eg] Formation of Helium out of two Hydrogen

Advanta. Net energy gain →

To create fusion itself requires large amount of energy, however the energy produced is far more than the input of energy.



Therefore giving a net energy gain



Demonstrated by ITER experiment in France.

## Advantages of nuclear fusion based power generation :→

1. Zero wastage generation
2. Completely clean energy → to help achieve Net Zero goals by 2050
3. Requires less fuel → more energy density → long term use.
4. ~~No~~ Very limited impact on environment as requires less space for production.

## Limitations to generate electricity at commercial scale :

1. Yet to be demonstrated completely  
↳ Under development stage by various countries.
2. Requires huge capital investment  
↳ currently being developed by collaboration of France, India, Japan, USA etc.

3. Challenges with regard to storage of produced energy.
4. Availability of continuous supply of Hydrogen is again a challenge.
5. Absence of manufacturing ability to develop Tokamak reactor for fusion.

#### Way forward -

1. Alternative to fusion is fission → traditional nuclear energy → Needs to increase capacity.
2. Invest in R & D efforts to make fusion viable alternative.

Overall, Fusion process provides opportunity to address the rising global demand of electricity. This needs global collaboration to develop in order to achieve SDG goals & Net Zero targets by 2050.

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)

15

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

Money laundering refers to the concealing or disguising the identity of illegally obtained money to show it as legitimate money.

Prevention of Money Laundering Act 2002 (PMLA) is the overarching legislation in India to deal with money laundering.

Recent Amendments → and efficacy of PMLA 2002 in tackling money laundering

1. Empower institutions like ED, CBI, NIA to tackle the issue of money laundering.
2. Provides authority to track the financial trails of accused.
3. Enables them to keep a check on digital transactions with account details across India.

4. Intelligence agencies like IB play a major role → to tackle Hawala transactions
5. PMLA 2002 provides search & seizure of properties of accused person.
6. Gives arrest without warrant power for prevention of the crime.

#### Limitation of PMLA →

1. With respect to cash transactions & round tripping, limited impact.
2. Cryptocurrency - related money laundering difficult to be tracked.
3. Use of agricultural income methods, cash-intensive business → Limited role of agencies to tackle.
4. Collusive corruption among businessman-politician — bureaucrats to launder money —  
↓  
Reduces efficacy of PMLA.

5. Limited control over tax havens  
like Cayman island, Panama →  
hub of shell companies



Also non-cooperation with Government  
for money launderer's investigation.

4. Way forward -

1. To plug the legal loopholes  
for tax evasion.
2. Empower agencies with digital  
infrastructure & manpower to  
efficient tracking of suspected individual.
3. Also focus on HUMINT & COMINT  
to tackle use of laund  
money laundering in terror  
financing, drug trafficking etc.

Money laundering weakens Indian  
economy through multiple way.

Therefore, amendments in PMLEA,  
tax laws, IT Act etc are needed  
to tackle it with present day  
challenges.

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)

15

उम्मीदवारों को  
इस हार्जिए में  
नहीं लिखना  
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Indian Ocean Region has become the new theatre of global geopolitics due to rising significance of Indo-Pacific region in terms of global trade with China's assertive position.

Security threats present in IOR:

1. Multiple choke points - like Bab-el-Mandeb, Hormuz, Malacca etc  
 ↳ Choking of these will have significant impact on India's trade.
2. Militarisation of IOR.  
[eg] China - Naval base in Djibouti  
 USA - Diego Garcia  
 France - Reunion Island  
 India - Changi base etc.

3. Assertive role of China to gain influence over IOR nations.

↳ Through debt trap diplomacy

[e.g] Hambantota port (Sri Lanka)  
Gwadar port (Pakistan)

4. Spying activities through submarines vessels etc by China.

5. China - Taiwan, China - USA as well as China - India conflicts have direct repercussion on IOR.

↳ Strings of Pearls

6. Marine piracy threats from Somalia region

7. Terrorism → Mumbai attack 2008.

Strategies to deal -

Institutional measure -

1. Integrated Marine Theatre Command based on Andaman

2. Empowering Coastguard & Navy  
with modern vessels, submarine,  
aircraft etc.

### Global collaboration -

1. IONS - Indian Ocean Naval Symposium
  2. IFC - Information Fusion Centre
  3. QUAD & Malabar exercise
- ↓
- With IOR countries & beyond.

### Procedural measure -

1. SAGAR policy - To act as Net  
Security Provider for IOR region
2. HADR initiative like Op Sanjeevani,  
Op Vanilla (Madagascar) to build  
confidence with IOR nations of  
east Africa & islands.

A concerted efforts needed  
to tackle the rising marine threats  
to protect India's strategic interest  
as well as economic interest  
in Indian ocean region.

## SPACE FOR ROUGH WORK

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