



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. : 1167967

अभ्यर्थी का नाम/Name of Student : SALONI GAUTAM

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

27/8/23

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

केंद्र
Centre

DEHRADUN

निरीक्षक के हस्ताक्षर
Invigilator's Signature

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

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
<p>परीक्षक के हस्ताक्षर Signature of Examiner(s)</p>	

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

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



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Time Allowed: **Three Hours**

अधिकतम अंक: 250
Maximum Marks: **250**

प्रश्न-पत्र संबंधी विशेष अनुदेश

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

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

सभी प्रश्न अनिवार्य हैं।

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

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

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

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

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

QUESTION PAPER SPECIFIC INSTRUCTIONS

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

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

All questions are compulsory.

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

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

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

Keep the word limit indicated in the questions in mind.

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

EVALUATION INDICATORS

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

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1.

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

Food security highlights the country's capabilities to meet the food related needs of its population.

Dimensions of food security

- ① Able to address Hidden Hunger too.
→ Diet rich in nutrients is required.
- ② Curbing/Controlling food inflation
→ Affordability of food is must.
- ③ Accessibility of food
→ ensured it by PDS system.
- ④ linkages of food security with other schemes.
→ ⑨ POSHAN aprad

India's Status

- ① Accessibility of food grain.
→ India enacted NFSA Act, 2013

- Includes 67% of population.

• BAPU - Biometrically authenticated
PDS system ensures inclusion error
is not there.

② Availability of food grains

→ Post green revolution, India achieved
self sufficiency.

• India's exports touched \$50 (21-22)
agri

③ Hidden Hunger addressal.

→ Millet recognition is to country this,

→ Horticulture production more than
foodgrains.

④ Food Inflation.

→ Perishable food items is still
struggling (eg) Price like of tomatoes

⑤ Food Storage.

→ Capacity of FCI, CWC (warehousing)
needs to be added with Village
Storage scheme.

→ Incapacity of cold storage hmc leads to
96k cr losses of food.

Hence, India's food security is improving &
diversifying.

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
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Blockchain and Chat GPT holds
immense potential to change agriculture
into profitable enterprise.

Blockchain.

① Land records digitization could be
secured via Blockchain.

• (Arvind Panagariya) → talks about 3L's

- Land leasing
- Land records.
- Land consolidation.

→ to boost private sector participation.

② DBT transfers via blockchain to
eliminate leakages.

eg) PM KISAN transfers.

Chat 4PT

- ① Agriculture extension services.
 - Vernacular language information production for farmers.
- ② Information about new technologies in agriculture.

उम्मीदवारों को
इस हार्शिए में
नहीं लिखना
चाहिए
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VisionIAS

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 इतिहास में
नहीं लिखना
चाहिए
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this margin

De-dollarisation refers to the less /
shifting the use of dollar to domestic
currencies in global economy.

eg) Rupee-Rial agreement
Rupee-Rouble agreement.

FACTORS

① Ukraine conflict.

→ led to protectionist stand of
many countries.

② Post-pandemic Recovery

→ USA initially practised Quantitative
Easing and then hike the
interest rate.

↳ hurting India like economies ;
also it made dollars volatile.

③ Collapse of banks in USA & UK

eg) Deutsche & Silicon Valley Bank
Collapsed → weakening of USA economy.

④ Imported inflation.

→ lead to weakening of domestic currencies.

⑤ Rising China's economic power

(eg) Yuan in SDR (IMF) reserve.

Yuan used in debt-trap diplomacy - reducing dollars demand.

⑥ Friendshoring & Nearshoring

→ maintaining economic relation either in similar geographies or similar convergence of interest.

Dollar's relevance is here to stay!

① China's economy spiralling down.

→ real estate sector & domestic (ULB) economy is suffering.

② USA bounced back after bank collapse

③ Strong regulatory framework post 2008 financial crisis.

④ Dominance of IMF, World Bank etc.

Hence, the shift is going to be gradual.

India can focus upon Indian Rupee strengthening by focussing the recommendations of (SS Tarapore Committee)

4.

विकसित देशों द्वारा भारत पर खाद्य सब्सिडी 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

India's food subsidy costs around 3 Lakh crore hurting fiscal deficit.

Despite this, it is mandatory to provide food security to its people. (DPSP A.39)

Merit in India's food subsidy

① Poverty incidence and impact

• 22% of population lives below poverty line (Tendulkar committee)

② Hunger is an issue

① Therukhand - girl died due to denial of PDS benefit.

③ Growing population.

- Largest populated country.

④ Food Inflation harms the purchasing power of poor.

⑤ Unemployment → CMAE data ~ 83%.

⑥ Productivity of food grains is dismal.

However, certain changes could be made in food subsidy

- ① NFSA Act, 67% population covered
→ Reduce it to 20% (bottom most)
(Swaminathan committee)
- ② Reduce inclusion error (25%) & exclusion error (65%)
- ③ Update SECC-2011 data for selecting beneficiaries.
- ④ DBT, food coupons, ERU11 could be brought of to target food security.

Hence, food security is a merit subsidy it can be balanced with fiscal prudence and food security of population. SDG-2 (No hunger)

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

Jal Jivan Mission (JJM) is an umbrella initiative to provide water ^{needs} availability. However, SDG-8 - Clean water and sanitation is incomplete without its quality and availability.

Issues of water Availability.

- ① Functional piped water supply for 24 hours is a challenge.
- ② Regional Variation in implementation of mission.

Water Quality

- ① BOD levels are breaching permissible limits.
- ② Industry effluents polluting water.
- ③ E-Coli & TDS of water are not fit for drinking.
- ④ Salt water intrusion in coastal areas.

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

⑤ Odour and taste of water is making the missions goal ineffective → people preferring not drinking it.

⑥ Arsenic & fluoride contamination.

⑥ West Bengal (Arsenic) & Haidwar (Fluorine) → causing fluorosis and black foot disease.

Way Forward

- ① Central Ground Water Board, Central Ground Water Authority for effective check on quality of groundwater.
- ② Qualitative aspect included in mission.
- ③ Availability of water should be ensured. → ④ Social audits.

Hinware Bazaar Model (Mihir Shah Committee community) and Atal Bheejal Yojana align with SDG-8.

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 हاشियर में नहीं लिखना चाहिए
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Arctic has lost 10% of the ice cover in last century. It is melting at the alarming speed. Also, it is one of the tipping point.

Factors | of glacial retreat

- ① Navigation in arctic by countries like Norway & Russia.
- ② Industrialisation → Greenhouse gas emission increasing temperature
- ③ Activities of exploration in Arctic
 - World's 40% of oil & gas in this region which is undiscovered.
- ④ Huge mineral deposits
 - ⊆ Coal, Zinc, Copper etc.
- ⑤ Ocean current circulation
 - it gets disturbed and weakened
 - ⊆ AMOC (Atlantic Meridional Overturning Current)

Potential Impact

- ① Sea level rise
 - 3 mm/yr presently → More sea level rise could drown small island states.
- ② Release of Methane from Methane hydrates
 - global warming will get increased
- ③ release of pathogen
 - Invasive species; zoonotic diseases could happen.
- ④ Threat to Biodiversity
 - ⓐ Polar.
- ⑤ Affects atmospheric & oceanic circulation
 - affects local climate & hence, agriculture, hence food security

Arctic council, India's arctic policy along with other multistakeholder it is the duty to protect & use it sustainably for humanity.

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 a reality now with

Blue origin as first spacecraft to touch Karman line entering into arena of space.

Challenges

- ① Privatization of space sector.
- ② Elitist class could only afford space travel.
→ gap between have & have nots widened up.
- ③ Climate change as it releases harmful gases in atmosphere.
- ④ Excessive resources requires for space travel.
→ Divestment of resources by space agency.
- ⑤ Monopolisation of space by few private companies.

- ⑥ Possibility of space colonization in future.
→ for mineral extraction.

Measures

- ① Regulatory body to manage space tourism.
- ② Participation of private bodies to curb monopolisation.
- ③ Partnership of Private & Public Sector.

⇒ INSACE, ANTRIX.

Hence, space tourism has opened new possibilities. It is a global common hence its use is for everybody.

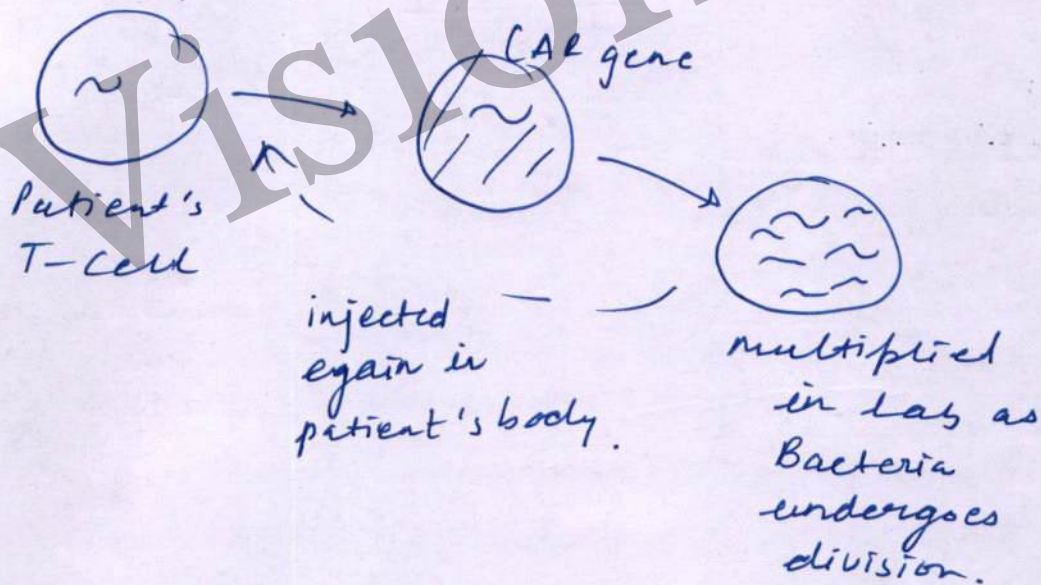
8.

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

CRISPR - Cas 9 deals with a molecular scissor used to genetically manipulate & edit the gene.

CAR T cell therapy involves the use of Chimeric-Antigen Receptor gene from a bacteria used for multiplying patient's own T-cells.



CAR T-cell Therapy Advantages.

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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① Laboratory procedure.

↳ easier than CRISPR/Cas9.

② Tried & Tested method.

↳ used in vaccine cancer
treatment by TATA Hospital.

③ Ability of rejection of treatment by
body is less.

→ Patient's own T-Cells are inserted.

• Whereas Cas9 → could be
dangerous if slight mistake
happened for Patient's life.

Both CAR T-cell therapy and Cas9
requires research to widen its
application.

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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India's G20 presidency is shaping the debate about global concerted efforts for deployment of new & emerging technologies by violent extremist organisation.

Need

- ① Organizations turned global in nature.
→ Hence, efforts must be global.
- ② Threat to each country, as now the threat has become global without borders.
- ③ National efforts should be aligned with international efforts, to tackle the menace.
- ④ Cyber threats on critical infrastructure

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VisionIAS

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

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VisionIAS

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VisionIAS

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

उम्मीदवारों को इस हार्जिए में नहीं लिखना चाहिए
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India's population is 18% of world's having 2.5% of land and 4% of water resource. Both land productivity and irrigation water productivity should be the focus.

Land Productivity : Agriculture output per ha of land.

Issues

- ① Land fragmentation.
- ② Small & marginal farmers (85%) < 2 ha. of land.
- ③ Mechanization of land is a challenge.
- ④ Input cost rises up.

Water Productivity : Water applied to have the desired output. (minimum)

Issues

- ① Micro-irrigation is not well developed.
- ② Agriculture is rainfed dependent.
- ③ Crop diversification is limited.
- ④ Mostly water guzzling crops grown - Rice, Sugarcane due to Government MSP policies.

However, having a shift from 'land productivity' to 'irrigation water productivity'

could be useful for agriculture growth :-

- ① Maximum output from the same piece of land by using optimum water utilisation.
- ② Crop diversification will boost agriculture.
- ③ Micro-irrigation useful from both farmers and environment perspective
 - ↳ solves the problem of excessive ground water usage
 - ↳ excessive water ~~do not~~ could cause soil salinization due to waterlogging.

Challenges in having this shift

- ① Federal challenge
 - Land is a State subject., so does agriculture.
 - Getting State's on board for this shift is must.
- ② Government policies
 - MSP to be diversified (include pulses) - Arvind Subramaniam.

→ electricity subsidies to be limited

↳ causes water exploitation

(eg) Punjab, Haryana.

③ Infrastructural gaps

→ micro-irrigation is not well developed.

④ Accessibility to farmers of these micro-irrigation devices via

Way Forward

(Irrigation water productivity)

→ I2U2: Learn from Israel (micro-irrigation)

→ Mihir Shah Committee
(community participation to rejuvenate water bodies)

→ Swaminathan (farm ponds) committee

(Land Productivity)

→ ZBNF, Organic farming

→ soil health card.

The shift is required seeing the trends in agriculture. It gives a boost to agriculture exports and a move towards sustainable development.

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)

Green Hydrogen is produced via renewable energy source and it is a revolutionary thing to achieve net-zero commitment by 2070.

Role of Green H₂

① Solves the issue of intermittency of Renewable energy - Solar & Wind.

→ Excess energy could be diverted for creation of H₂.

② Alternative fuel in automobiles

→ EV batteries which causes lot of pollution on mining stage :- Green H₂ is good alternative of that.

③ Useful in hard to abate sectors

Ⓐ Industries

→ Green H₂ could be used to generate power and process becomes cleaner.

④ The waste products in producing Green H_2 is water vapour, only.

→ No emission of harmful gases.

⑤ Urban mobility could be powered by Green H_2 .

→ pollution in urban areas could be controlled to much extent.

⑥ India's growing power in solar and wind.

→ it gives the good alternative to be energy-resilient.

Challenges of Green H_2

① Requires only freshwater for production] → India water stressed country.

② Electrolyser manufacturing in India is required to be profitably extract energy.

③ H_2 is colourless & odourless gas. Difficult to monitor its leakage.

④ Highly flammable gas → Difficult to transport.

⑤ Difficult to use in heavy transportation.

National Green H₂ Mission

- ① Electrolysers manufacturing in India.
→ PLI scheme is considered.
- ② R & D labs to fine tune green H₂ application.
- ③ Coordination among ministers for successful creation of energy.
- ④ Green H₂ production requires Grid integration as well.
- ⑤ Diversifying the renewable energy source.

National Green H₂ Mission is our first step towards clean, affordable energy (SDG-7). Hence, desired and collective efforts in this direction are required.

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

Living wage denotes the minimum amount to sustain not only just basic needs but can live holistically with housing, education, health, shelter etc benefits.

Benefits of adopting Living wage

- ① Cost of living rising in urban areas.
→ Urbanization going to 50% by 2050.
- ② Education, Health, Housing becoming unaffordable.
→ Living wage could ensure this.
- ③ Better standard of living.
- ④ Helps in creating social capital for country.
- ⑤ Protects environment
⑤ will not encroach urban space or encroaching upon flood plains for housing.

(c) Regional variation in determining living wage.

(eg) Nagaland & Delhi living wage will be different.

Way Forward

- ① ANOOP SATPATHY COMMITTEE : minimum wage having regional variation.
- ↳ ② living wage to developed in consultation with the accurate criteria.

'Living wage' aims at human development not just survival. Hence, its existence should come into picture after due deliberation.

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)

15

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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Article 112 - Annual Financial Statement
(Budget) is mentioned. Budgetary Processes and Budget Policies escapes the public scrutiny hence reducing accountability & transparency in procedure.

Budgetary Processes

① Presentation of Budget: generally by Finance minister.

② Voting on demands of grants :-

Here, the budgetary policies escapes the scrutiny because :-

- i) discussion do not happen on each demand of grant.
- ii) they get passed via guillotine.
- iii) Not referred the fiscal prudence of bills by parliamentary committee.

Budget Policies not coming under public scrutiny

① Fiscal prudence of policies is not checked.

eg) CAG is responsible for audit not comptroller.

② Off-budget borrowings

→ Not discussed in budget session.

→ Not included in fiscal deficit.

③ Awareness of public and limited involvement of Media &

→ Accountability is reduced.

④ Disruption of Parliamentary sessions

⑤ Ineffective opposition to hold majority government accountable.

overutilisation of funds on some policies.

effective check could not be made.

(Challenges)

① Misutilisation of public funds.

→ unspent funds as it is non-lapsable

eg) NIRBHAYA.

Way
Forward

- ① Parliamentary sitting to be increased (16th L-S 330 days) & (17th Ls ~ 280 days)
- ② Accountability of Parliamentarians to discuss budgetary policies on floor of house.
- ③ Outcome based budgeting
- ④ Sunset clause.

Fiscal prudence in budgetary process
and Budgetary policies to have strong
macro-economic fundamental of country.

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 first as milk producer country. Its animal husbandry sector is the second highest contributor to India's GVA (agriculture). (30%)

Productivity of dairy animal is a concern

① Diseases burden on dairy animals

→ Burcellloises and foot & mouth disease is common.

② Leprasy in cattles in 2021 caused losses in dairy sector.

③ Feminization in animal husbandry

→ women involved in unpaid dairy work.

→ Hence, it is not the focus of reinvestment of profits in dairy sector.

④ Cattle Breeds

→ foreign cows gives more milk
but their fodder cost is high, prone
to more pest attacks → overall
this increases the input cost of
farmers. → thereby, reducing productivity.

④ Fragmented sector

→ economies of scale could not be
reached, thereby reducing
productivity.

⑤ Climate change.

→ affecting the productivity.

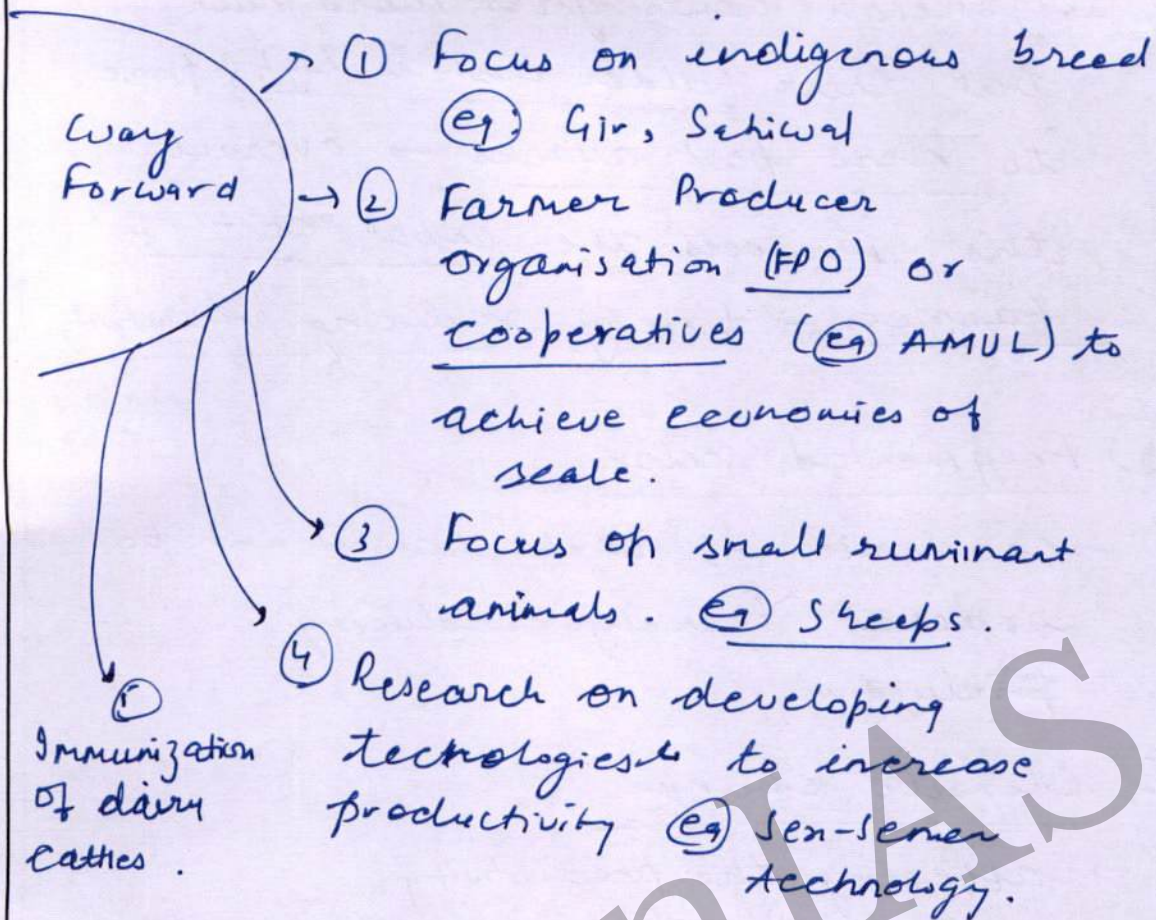
eg) Heat waves in plain (UP, Haryana)
areas.

⑥ Quality of fodder is reduced.

→ Rapid concretization is eliminating
green pasture lands, acting as a
good fodder.

⑦ Diversification of dairy animals is limited to bovine animals.

eg) Goats, lambs, sheep generally
neglected or by only few communities.



Animal husbandry holds lot of potential to double farmer's income. Hence, these concerns required timely addressal.

16.

जहाँ 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)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Korinivisa joint declaration on Agriculture
in Kunming-Montreal Protocol of Biodiversity
2022 highlighted the need to turn
agriculture into a sustainable way.

Agriculture Sector responsible for extreme weather events as :-

① Methane Emission.

→ poultry industry is responsible for more than 50% of emission.

② NO₂, N₂O emission. (Greenhouse gases)

→ Cereals like Rice are responsible for emission of potent GHGs.

③ Requires clearing of forest for agriculture.

④ Excessive use of fertiliser → contaminates soil & water

⑤ Excessive withdrawal of water for irrigation causes water stress.

⑥ Encroaching agricultural land into natural ecosystems (eg) Floodplains.
→ leads to flooding as the course of river gets disturb.

Policies of National Agriculture Disaster Management Plan :

① Climate Smart Agriculture.

(eg) Soil moisture, soil condition, monsoon predictability etc. before sowing of crop.

② Precision farming

③ Natural & Organic farming

④ Diversification of crops.

⑤ Mixed & Integrated farming practices

(eg) Agroforestry, horticulture; bee keeping etc.

⑥ Developed capabilities of vertical farming
→ could ensure food security.

⑦ GM crops introduction.

⑧ Cold storage to store produce.

⑨ R & D to innovate seed varieties to be climate resistant.

eg) Heat tolerant variety of ICAR.

Climate change has the potential to impact agriculture hence food security.
This plan holds the way to develop agriculture and make it disaster resilient.

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)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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India's more than 30% area is prone to high seismic activity. Delhi is at the extent of Aravalli range and situated on Yamuna flood plain, thereby increasing its vulnerability.
(Great Boundary fault passes through Delhi)

Vulnerable regions to Earthquakes :-

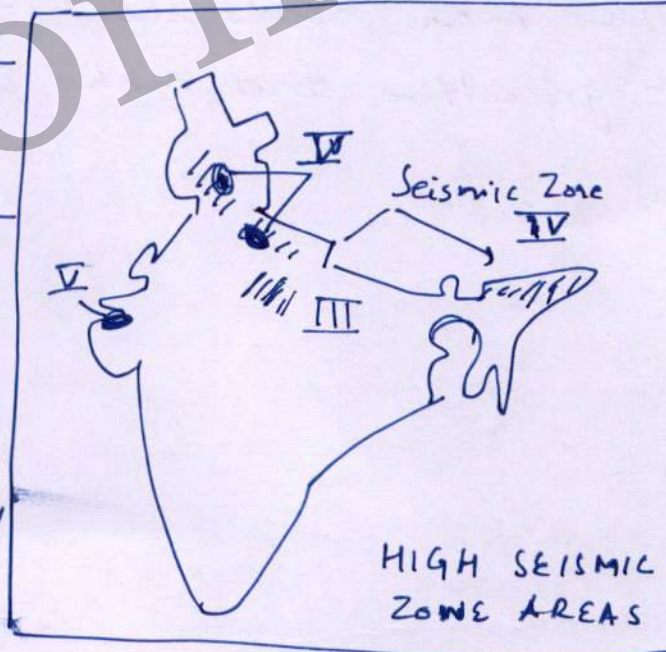
FACTORS | :

(1) Himalayas are seismically active.

→ has not achieved isostatic equilibrium yet.

(2) Situation near faults, active plane of shear.

(a) Delhi.



③ Hydropower projects

① Koyne dam caused Reservoir
Induced seismicity.

④ Anthropogenic activities

① happens in less soil where tremors,
blow outs can cause seismicity.

Institutional Measures

① Model Building codes, 2016

→ Construction according to
geomorphology & geology of area.

② Hazard zonation map.

→ India divided into II, III, IV & V
zone according to vulnerability
of earthquake.

③ Capacity building of NDRF & SDRF forces.

→ for preparedness and mitigation
of earthquake risk.

④ Research on preparing Early warning system for earthquake.

However, gaps exists :-

① Rapid construction in Himalayan Ranges.

② BRO constructing road in Himalayan. Char dam project.

③ Corruption in allocation of project floating building codes.

④ Capacity of Municipalities is subpar to stop the illegal construction activities.

Way Forward

- ① Home insurance to be mandatory
- ② Mapping at fine scale to check out earthquake prone areas.
- ③ Capacity building of locals.

Hence, Earthquake may be natural phenomenon but its destruction is purely anthropological phenomenon.

Efforts needed to save lives during Earthquake disaster.

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)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Nuclear fusion is the process of colliding two H-atom and converting into He atom. Similar, reaction happens on Sun. giving a lot of energy.

Advantages of fusion based power

① No waste (radioactive) is generated.

→ Nuclear fission generates radioactive wastes

→ Here, the waste is water Energy Nothing.

② Self sustaining reaction.

→ Unlike, fuel is provided to have nuclear fission.

③ Holds the potential to solve energy problem of humanity

→ produces sufficient energy for whole life.

④ Cost on other sources of energy could be neglected.

Limitations

- ① Has not achieved criticality :-
could not able to self sustain
a reaction.
- ② Cost and time is involved.
 - eg) ITER project ← Multiple
countries working on it.
- ③ Difficult to replicate reaction inside
sun on Earth.
- ④ Difficult to achieve high temperature
on Earth.
- ⑤ Requires collective effort. However,
China's effort has yielded result.
 - eg) China's EAST-Tokamak.
- ⑥ Research and Development is
required to achieve nuclear fusion
in a profitable way.

Hence, efforts are required by multistakeholder
approach to ~~state~~ generate electricity at
commercial scale through Nuclear fusion.

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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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PMLA, 2002 deals with the cases of money laundering which is a menace and harms the macro-economic framework / stability of India.

Efficacy of PMLA

- ① ED, CBI investigative agencies can attach assets under the act.
- ② Gives power of seizure of assets to investigative agencies.
- ③ Help in curbing counter-biting currency.
- ④ See cases of Hawala transfer of money.
- ⑤ Examines the loopholes under bilateral pacts.
⑥ Double taxation avoidance agreement. (DTAA) for round tripping.

⑥ convergence of PMLA with other acts.

⑦ Benami transaction act → where assets are taken/bought in other person's name.

⑧

Recent amendment

① Inclusion of digital crimes

i) Crypto currency → usage in transferring money for illicit activities.

② Global cooperation to tackle this menace.

③ Blockchain technology to trace trail of money in digital currency.

④ Enlarging the scope of PMLA jurisdiction.

Money laundering acts as force to terrorist and organised crimes. Hence, it is prevented by upgrading the powers of Enforcement Directorate (ED)

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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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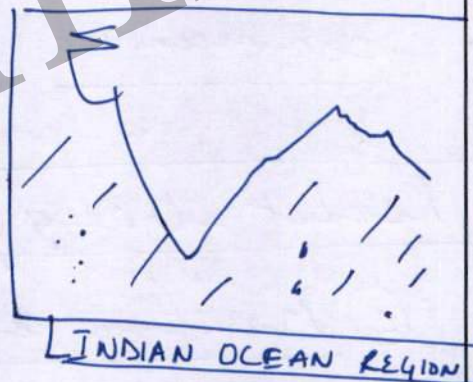
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India has a long coastline of 7,516 km and island territories. It becomes necessity to safeguard our sea lanes of communication for trade, hence protecting our maritime borders.

Security Threats in IOR

- ① Piracy prevalence near Strait of Hormuz (Oman) & Strait of Bab-el-Mandeb.

→ threat to trade via Suez canal.



- ② Presence of China.

① Hambantota port on lease for 100 years (Sri Lanka)

- ③ China's presence in South China Sea.

→ Strait of Malacca acts as passage to trade for India.

- 4) Anti-India governments in Maldives
- e.g. Earlier, government slogan 'India-out' campaign.
- 5) Threat of radicalisation of youth.
- 6) Mumbai terror attack, via sea lanes. (2008)
- 7) Narco-drug trafficking; also human trafficking.
- 8) Threat to lives of coastal communities & fisherman communities.

Robust Strategy

- 1) Maritime surveillance network.
 - e.g. TRISHNA - Indo-france.
- 2) Colombo Security Conclave: Deliberations on countering all effects (security threat in IOR).
- 3) India's power as 'Net Security Provider' → by CRI, IRIS etc.

④ Anti Maritime Piracy Act, 2012 to deal with piracy incidents.

⑤ Capacity building of coastal & fisherman communities.

⑥ P-75 scorpene submarine. (From

France)

• INS Vindhyashakti, VIKRANT
capacity building of NAVY.

India needs to protect its maritime borders. Development of Great Nicobar Project & Maritime Security Command is the right step in this direction.

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