



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 उपरान्त अपने साथ ले जा सकते हैं।

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

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

General Instructions

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

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

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

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

पंजीकरण सं./Registration No. : 1136753

अभ्यर्थी का नाम/Name of Student : Survi Pathak

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

Eny

तारीख
Date

27/8/23

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

केंद्र
Centre

Dehradun

निरीक्षक के हस्ताक्षर
Invigilator's Signature

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

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
परीक्षक के हस्ताक्षर Signature of Examiner(s)	

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

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



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

Food Security refers to adequate availability of food as per the body requirements of different people

Dimensions of Food Security

1) Availability of food as per calorie requirement

2) Health status showing food security

a) <u>stunting under 5 year</u>	→ 35%	} Global Hunger Index 21-22
b) <u>underweight " "</u>	→ 32.9%	
c) <u>wasting " "</u>	→ 19%	
d) <u>Anaemia</u>	→ 51% of women	

— NFHS-5

3) Availability of nutritious food that will help hunger problem

Prevalence of rice, wheat and other cereal crop in diet over high nutritious crops like millet, pulses

4) Absorption of food by body leading to actual benefits of food security

→ High prevalence of anaemia, diabetes, under-nourishment reduces absorption by body

Steps needed to ensure food security

- 1) Promotion of high allocation of food to poor and vulnerable under NFSA, 2013
 - 2) Provide supplementary food fortification with B12, D, Iron, folic acid in mid day meal
 - 3) ensuring safe water and hygiene to reduce risk from diseases and ensure immunity
 - 4) Fibre based diets, millet, in mid day meal
 - 5) Health focus to ensure nutrients are adequately absorbed reduction of anaemia
- India needs to move from Food Security to nutrition security to achieve healthy demography and economic growth (SDG 3 - Good Health & well being)

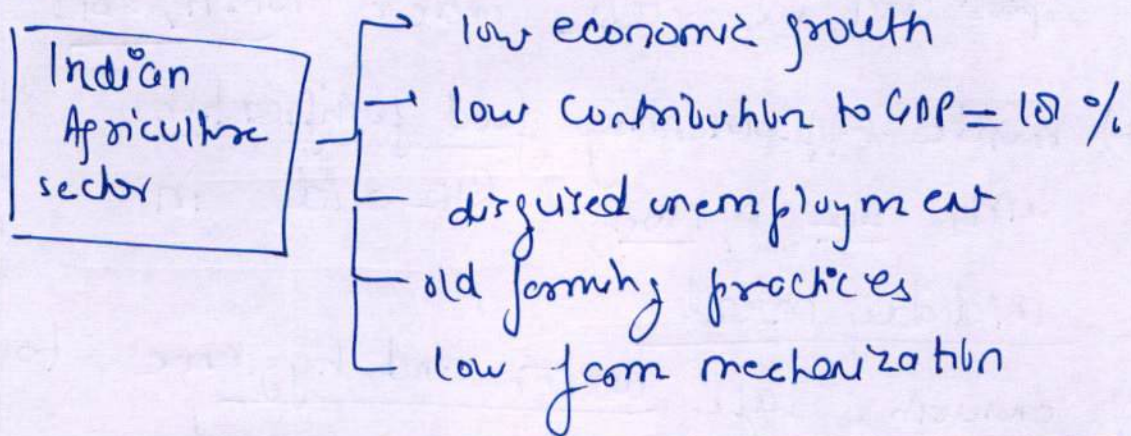
2.

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

10

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

4th Industrial Revolution has led to increased penetration of technology like Blockchain chatGPT that can promote growth of every sector.



Potential of Blockchain and ChatGPT to transform agriculture into more efficient and sustainable sector

① Provide farm productivity

1.1 Blockchain can provide information on water and nutrient use efficiency

1.2 efficient application of fertilizer and pesticides to best generate crop

② Improve water productivity through
information on sustainable agri practices

③ It can ensure farmer have adequate
information on market prices

④ ITC eChoupal can be integrated with
chatGPT where sanchalak can connect
multiple farmers and boost information

⑤ It can lead to improved agriculture
research and development of

improvement of
high quality
nanoscale
development
fertilizers

leading to better crop fertility

⑥ They can be integrated with farmer
apps like Kisan Seva — to boost
information on crop pattern, climate, soil
health
by linking with satellites

⑦ It can augment supply chain and transportation
to link with GPS and ensure farm product
shelf-life

Agriculture can gain significantly from
technologies through better linking and
integration to achieve doubling of
farmer income by 2025

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 क्राशिए में नहीं लिखना चाहिए
Candidates not write on this margin

De-dollarization of global economy

refers to increasing usage of non-dollar currencies in international transactions like Ruble, Rupie, Pand etc

Factors leading to de-dollarization

- 1) Russia-Ukraine war led to banning of SWIFT transaction to deal with Ruble leading to many ~~currencies~~ countries adopting own currencies
eg India - Russia Rupie settlement
- 2) Imported inflation due to weakening of supply chains in pandemic
- 3) Strengthening of dollar vis-a-vis other currencies due to
 - heavy printing of dollar to shield US economy
 - increased oil prices due to conflict

4) Impact on local economies due to dollar fluctuations amongst huge inflation in USA

eg Indian economy maintained inflation rate in 2-6% range. Yet over 10% inflation led to price in India increasing

Dollar losing dominance?

1) Dollar transactions constitute over 80% of global transaction → It will take significant amount of time to reduce dollar dependency

2) Dollar is backed by gold and a developed economy which makes it relatively stable among other currencies

3) For local currency trade, a significant and balanced amount of import and export has to happen

eg India - Russia Rupia trade - But India is a major importer → settling trade becomes an issue

Strengthening of bilateral relations to cause local currency trade needs to be enhanced to reduce dependence on dollars

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 provides 67% of people with assured monthly food to support the poor and marginalized under national food security Act, 2013.

This has been criticized by many developed countries and WTO due to

- 1) Inflationary impact
- 2) High low cost of Indian exports leading to trade surplus of India
- 3) supply-demand mismatch
- 4) harm on domestic producers of other countries
- 1) unfair trade practices as held by WTO

Net, there is a merit in retaining food subsidy Regime

- 1) promotes basic livelihood and food needs to poor — India has over 16% of multidimensionally poor people

- 2) ensure people are lifted out of poverty
Food constitutes over 70% of household
Income
- 3) India has lifted over 215 million people
out of poverty in 2010-2020.
- 4) Pran Kalyan Anna Yojana benefitted
poor, marginalized and migrant population
in pandemic
- 5) India being a welfare state, promotes
development and upliftment of
Ashodaya with 35% of extra
food grain
- 6) It promotes cognitive development of
children through mid day meal
- 7) Promotes social security where poor
can spend rest of income on health
benefits.

Food Policy and subsidy needs to
be continued yet rationalized to
provide a balance benefit to poor as well
as maintain fiscal balance

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)

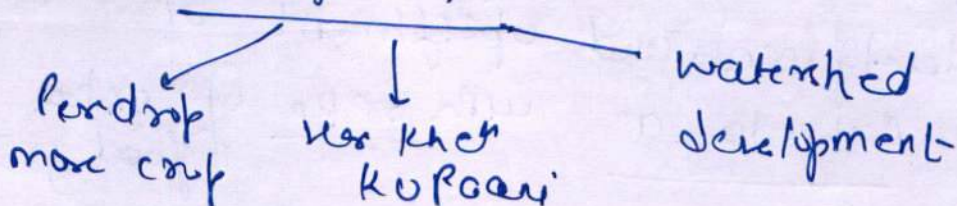
10

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

India has become a virtual
water exporter with over 25% of India's
groundwater exported through crops like rice

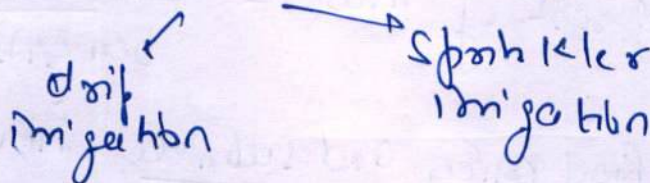
Initiatives towards addressing India's water needs

1) PM Kisan Sinchayee Yojana



2) Awareness campaigns like
"catch the rain wherever it falls"

3) efficient water use technologies like

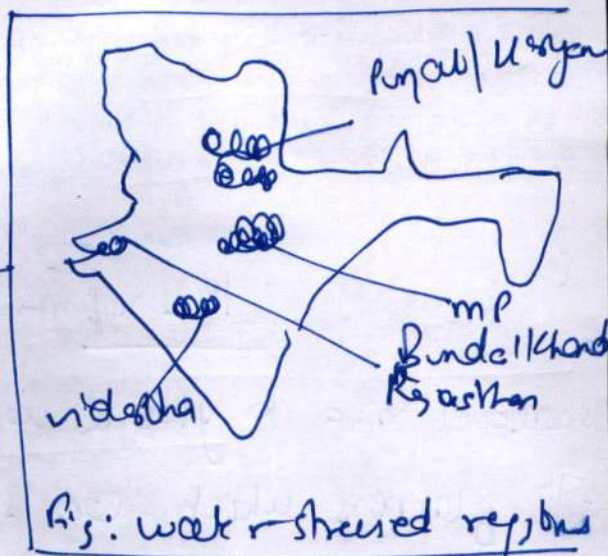


4) Interlinking of rivers
in Ken-Betwa Project

5) Jal Jeevan mission for efficient home
allocation

Issue of water availability and water quality

1) Promotion of water guzzling crops in water stressed region
e.g. Paddy in Punjab



2) Use of power subsidy, groundwater usage for crops leading to indiscriminate extraction

3) Lack of water use efficiency in usage of crops or overuse of fertilizers leading to surface runoff and water pollution

4) Promotion of evergreen revolution to shift water intensive crops to eastern areas

Intervention

Traditional water storage practices like Talaab, Ahar, lynies

Promoting sprinkler, drip irrigation

water is an important resource for human survival and agricultural growth. An integrated approach is needed for better utilization

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

IPCC report warns of increasing sea-level rise to global warming and melting of glaciers which can severely impact life on earth.

major drivers of glacial retreat of Arctic

- 1) Global warming - leading to high temperature and melting of glaciers of Arctic
- 2) warming of ocean temperature causing further glaciers
- 3) Atlantic Meridional Circulation (AMOC) has weakened leading to warm Atlantic water into Arctic ocean
- 4) Increased human activities like exposure of trade route via Arctic
- 5) Russia's Academic Lomonosov uses nuclear technology to cut ice

3) Increased impact of hurricane on the Arctic leading to glacial impact

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

Impact of Arctic glacial retreat on ecosystem

① Sea level rise leading to submergence of

Key coastal cities

☞ BARC reports says Mumbai is submerging 2mm/year

② unhabitable conditions in cities

☞ Indonesia shifted capital from Jakarta to east Kalimantan

③ Biodiversity will be severely impacted
☞ Polar bears are expected to be extinct by 2050 by melting

④ water circulation in ocean will be severely impacted leading to erratic weather pattern like Tsunami; cyclone

Wedge Forward → Increased Arctic council collaboration
→ Non drilling of permafrost
→ Reduced human activity

Arctic ocean serves as a

Global common and needs to be protected for human and ecological sustenance

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 has become a fancy activity due to expansion of companies like Space X, Blue Origin who can provide ~~human~~ facilities in space
Virgin Air has people to experience sub-optimal gravity

Challenges associated with space Tourism

- 1) Lead to race to colonization of space
Space X, Amazon are contributing to fight for winning space race
- 2) Leads to Kessler Syndrome where too many objects in space can create problems
- 3) Can damage satellites and space missions due to low orbital availability

- 4) Reduce the actual purpose of space research to know the origins of universe
- 5) can lead to weaponization of space and hazards from multiple rockets
- 6) Impact on life on earth
e.g. China's long march B parts fell in Indonesia

measures to address these challenges

- 1) collaboration among countries to promote safe use of space
- 2) can boost efforts like Arms in Space in space tourism
- 3) ethical guidelines for companies to follow.

Space is a vast expanse of knowledge of human & universe origin. Its peaceful and safe usage needs to be ensured for collective security of all

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

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

Chimeric Antigen Receptor Test

(CAR-T) cell therapy has become an important ~~to~~ process in the treatment of cancer, with modern and advanced techniques.

Limitations of CRISPR-Cas9

- 1) Invasive technique leading to addition of an extra gene through protein insertion
↓
can cause side effect
- 2) The efficiency is low as the protein insertion may not happen at the right place.
- 3) It can cause long healing time
- 4) cost associated with it is very high

Benefits of CAR-T over CRISPR-CAS9

- 1) Non-invasive technology leading to fewer medical complications
- 2) Improved efficiency has been witnessed due to targeted impact of technique
- 3) It promotes healthy growth of existing cells rather than insertion of an external protein

↓
Reduce side effects

CAR-T needs more research and development to be able to utilize its benefits. Treatment of cancer needs to be made affordable, accessible to all and CAR-T can contribute effectively

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

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

Extremist organisations have benefited from the rise of modern technology and 4th Industrial Revolution leading to expanded threats.

Use of New and Emerging Technology

- 1) use of drones, unmanned aerial vehicles (UAV) by Taliban
- 2) Cyber-attacks have become common use by Terrorists.
- 3) They deploy DDoS (Direct Denial of Service) botnet and malware, ransomware.
- 4) Ransomware & botnets to increase online internet penetration.

~~Rise~~ Rise of new and emerging tech. by
viblen / extreme org. demand global
effort

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

- 1) Blurring of geographies, borders in
the era of globalization where these
organizations are attacking all
country equally
- 2) Rise of wolf of attack
- 3) Radicalization of youth through social
media channels
- 4) Promotion of insurgency and extremist
in other countries
- 5) Collaboration among different extremist
organizations and organized crime
network
↓
This nexus leads to double damage
- 6) Cyber attack on critical infrastructure

India MCA has created New and
Emerging strategies (NEST) Christchurch

call of action and global coordination is
the need of hour to deal with viblen &
organization delet is needed

delety  delet

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 हार्डिग में नहीं लिखना चाहिए
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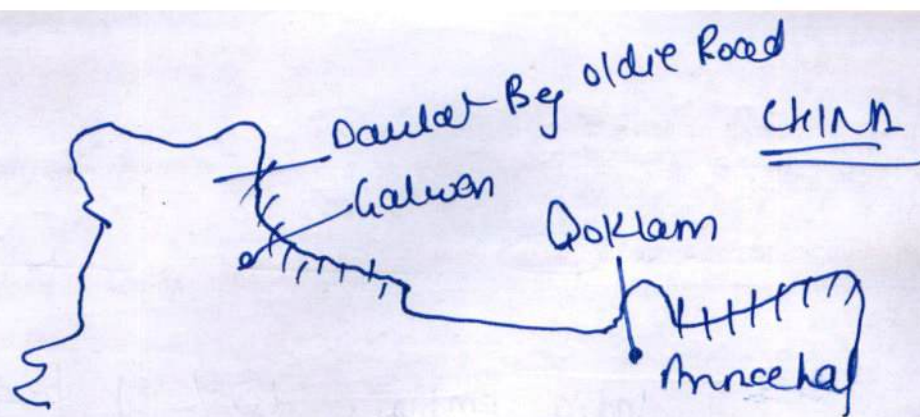
India's border with China has remained a hotbed of tense incidents due to non acceptance and non mutual recognition of LAC.

Post Galwan and Yangste, India and China have ramped up infrastructure

- 1) India — creating road infrastructure
— Atal Tunnel as all weather connecting road
— largest rail link in Jammu.

Role of Indo Tibetan Border Police near LAC

- 1) Promotion of security and guarding the border
- 2) Ramping up of infrastructure along with Border Road Organization



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

- 3) Connecting with locals and their involvement
- 4) Collaborating with government to promote Vibrant villages Program in Ladakh, Arunachal, Uttarakhand, Sikkim and Annochal
- 5) Daily reconnaissance to detect illegal migration and smuggling
- 6) Relief measures in event of a disaster
or involvement with NDRF in 2013 Kedarnath flood

ITBF plays a Key role in securing our borders and providing strategic autonomy to India in ensuring its national 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)

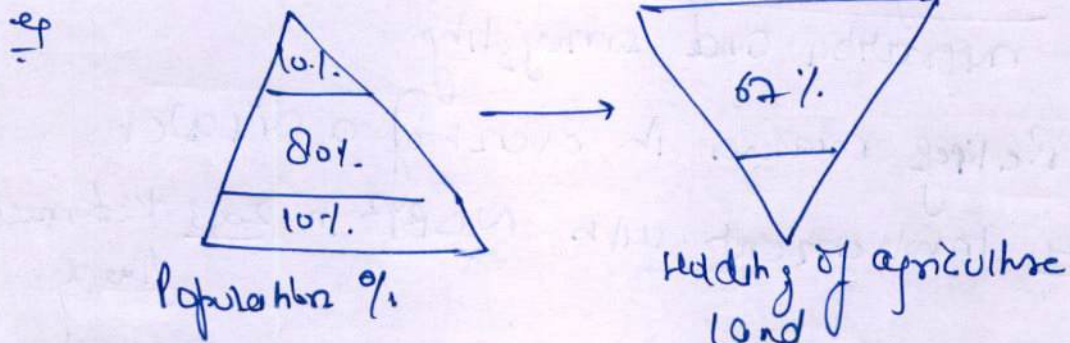
15

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

India employs 48% of people in agriculture yet the contribution of agriculture to Indian economy is only 10%. This shows the dismal state of productivity and issues with land.

Issues in Land Productivity

- 1) Land fragmentation doesn't allow proper agriculture growth



→ Top 10% → hold 67% of land

→ Average landholding of 85% of small and medium farmers is just 1.08 ha

- 2) It discourages investment in agriculture as farmers do not produce on a large scale.

- 3) excess usage of water, pesticides lead to crop damage, reduces soil fertility

Benefit of irrigation water productivity

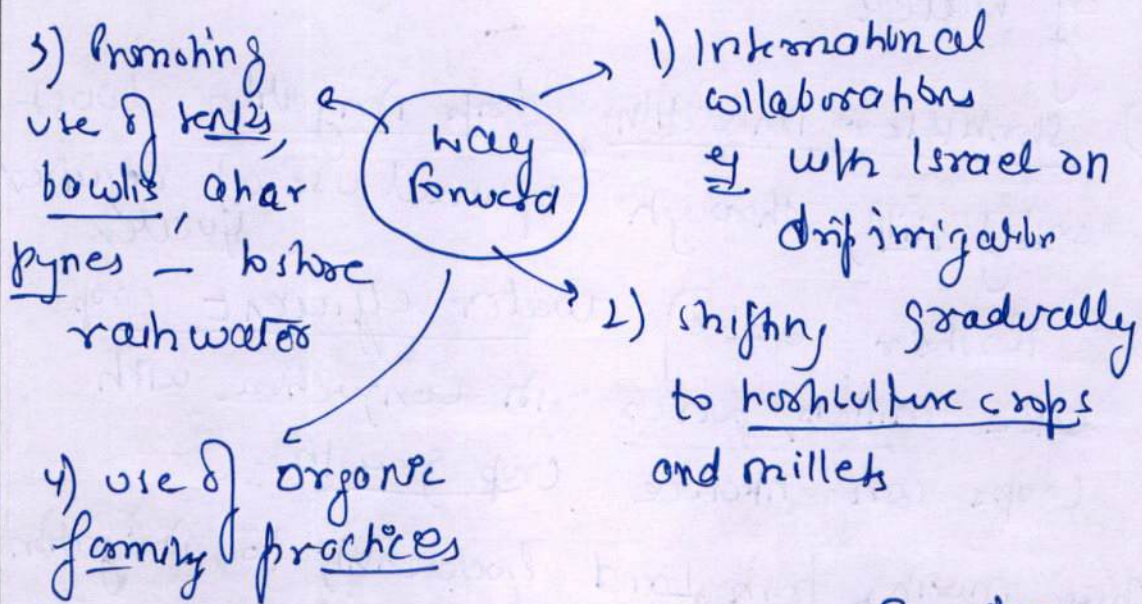
- ① Promotes efficient utilization of water especially in water guzzling crops
→ Enhances nutrient use efficiency
Reduce surface water contamination
- ② It will promote groundwater recharge
- ③ Promoting construction of tanks, rainwater harvesting ponds help in better utilization of water.
- ④ Sprinkler irrigation, drop irrigation boost soil fertility through optimal use of required fertilizer
- ⑤ Further, use of water efficient crops like millet, pulses in conjunction with crop growth.
crops can enhance crop growth.

Thus, moving from Low productivity to irrigation water productivity is a good step.

Challenges in making the shift

- ① Lack of adequate water as per the crop requirement

- e) Rice, wheat are primarily grown in Punjab, Haryana which are water stored
- 2) use of technology needs financial and infrastructure push
- 3) It will enhance the need of farm power subsidies leading to GHG emissions
- 4) Incentive for farmers for using efficient irrigation technique is lacking



Zero Budget natural farming promotes limited water usage and enhanced water utilization. Better technology and investment is needed to promote irrigation water efficiency and resilient 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)

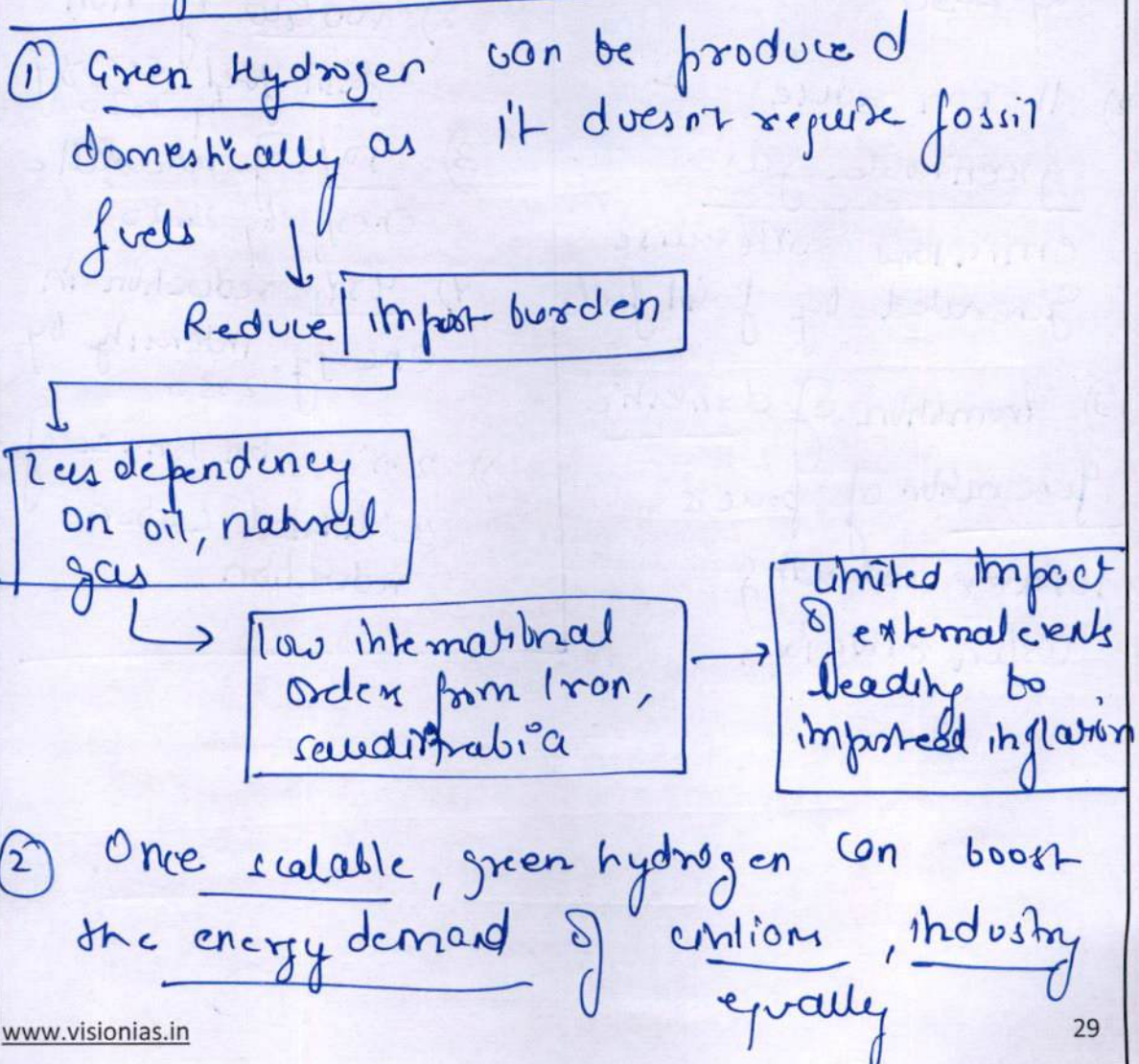
Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

15

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

Budget 23-24 launched the historic National Green Hydrogen mission with allocation of 19,000 crores to push for Green Energy.

Role of Green Hydrogen in unlocking energy security



3) It can be converted into multiple forms
to be used on a wider scale

eg use in electric vehicles, chemical
plants, power sector

Use of National Green Hydrogen mission
in achieving energy goals

1) Achievement of
Panchsankshat Targets

by 2030

2) It can reduce
greenhouse gas
emissions otherwise
generated by fossil fuels

3) Promotion of domestic
generation of power
further reducing
carbon emissions

India's Panchsankshat

Energy Goals

1) Climate zero 2070

2) 500 GW of non
fossil fuel energy
by 2030

3) 50% of renewable
energy by 2030

4) 45% reduction in
energy intensity by
2030

5) 2.5-3 bn tonnes of
additional carbon
reduction

Yet, Green Hydrogen faces certain challenges

- 1) safety issues as it generates high temperature, high volume in a small space
↓
highly energy intensive
- 2) Difficult to transform into multiple forms leading to inefficiency
- 3) Low Resource utilization efficiency $\eta =$
conversion from Plant $\rightarrow$ (Petro) pump $\rightarrow$ vehicle
↓
loses about 40% of energy
- 4) Generation Period is large due to high Technology Requirement
- 5) Huge Costs make it uneconomical

National Green Hydrogen mission can bring a new paradigm of energy security and energy independence India needs to enhance collaboration and address R&D issues to ensure climate related benefits

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

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

Minimum wage involves the basic minimum remuneration needed for a family of food, water, clothing, shelter etc. Living wages encompasses wider set of inclusions that promote a dignified life e.g. — Health Benefits
Income Benefits
Recreation etc

Benefits of adopting a living wage

- 1) Improve quality of life and Better standard of living
- 2) Promote healthy living through adequate social security norms
- 3) Improve inclusivity by expanding the scope of inclusion of every marginalized life

- 4) Improve education facilities for the children in family
- 5) Promote female employment, empowerment and labour force participation (32% RA 22-23)
- 6) Promote household income to be able to deal effectively with crisis diseases etc
- 7) ensure right to dignified life as per article 21
- 8) Boost last mile service delivery and promotion of justice

Constraints in adopting of living wage

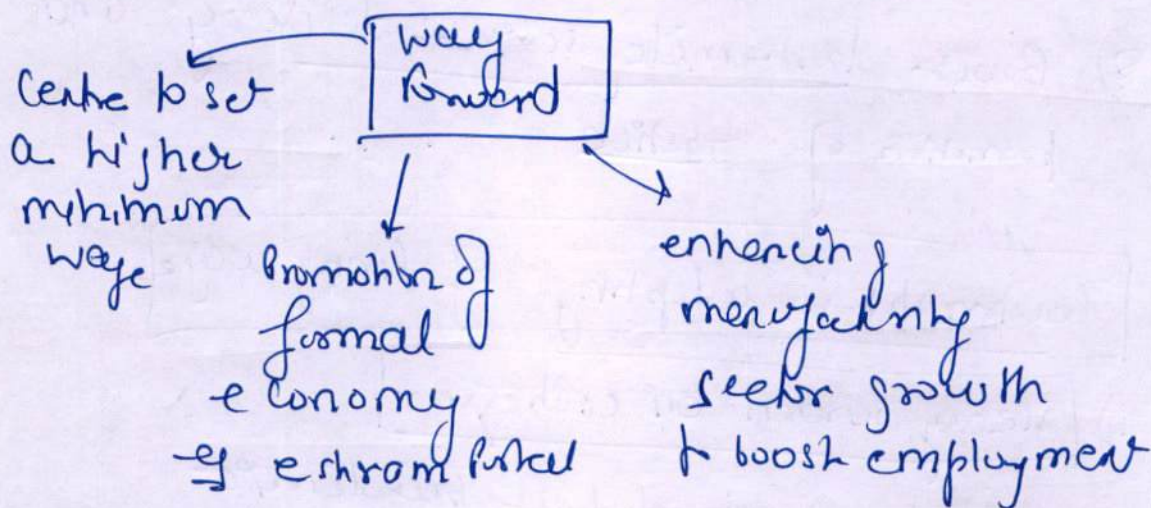
1) Heavy burden on employer

- 1.1 already strained post pandemic
- 1.2 states do not have a capacity to expand benefit

2) Centre-state coordination

~~State~~ Centre can set a minimum wage but state specific policies need to be expanded

- 3) Large population of India make it unfeasible
- 4) Informalization of economy — only 57%
work in formal sectors
↓
leading to lack of identification of actual beneficiaries
- 5) make people lazy and underperforming
- 6) Threat of diversion of resources to unethical practices like drinking, smoking



Living wages need to be a reality to deal with modern day challenges. They can be started on a pilot basis with a calibrated approach to achieve
Sabka Saath Sabka Vikas

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

15

Union Budget under Article 112

lays down the expenditure and resource mobilization targets for the upcoming financial year

Union Budget affects every sector of Indian economy

1) 2023-24 Budget talks of 'saptarishi'
impacting all sectors

- Green Sector = Green Hydrogen mission
- Youth
- Inclusive Development
- Financial Inclusion
- Last mile services

2) It promotes infrastructure push through emphasis on capital expenditure

= 33% increase in capital expenditure in this year's Budget

3) It promotes inclusive development through food, fuel and fertilizers subsidy

4th, Budgetary Processes and Budget Policies do not come under substantial public scrutiny

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

- ① Lack of discussion on budgetary provisions for informed citizenry
- ② Constant use of guillotine to pass the budget without due deliberation
- ③ Closed door budget making leaving public largely unknown of the processes
- ④ Lack of adequate Parliamentary Committee discussion and meeting minutes available in public
- ⑤ The effectiveness of past year policies and their impact is largely unknown
- ⑥ Usage of Technical terms further discourage public
- ⑦ Often, Budget speech and document are very long for people to understand and make opinions

ways to boost Budget writing

- 1) Promotion of discussion, debate and deliberation on the budget proceedings
 - 2) Promotion of outcome based Budgeting to measure the impact generated by policies in last year
 - 3) Provision of gender based budgeting to include women equally
 - 4) Use simpler and shorter budget for quick understanding of public
- ∴ This year's budget speech was shorter

- 5) Showing policy allocation and actual ground work done in mid year quarterly reviews — can be started on a pilot basis

Budget is an important document outlining the agenda of a democratically elected government. It needs to be robust, user friendly and simple to be able to pass public scrutiny to ensure saath saath saath vikas saath saath vikas

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's cooperative movement has largely contributed to India becoming the largest milk producing country in the world.

Transformation from a milk deficit to a milk surplus nation

① Boost to cooperatives

⇒ Amul has paved the way of expanding the scale of dairy productivity

② Boost to farmer livestock holding

③ Improving backward and forward linkages of dairy industry leading to an efficient supply chain

↳ Reduce milk wastage

④ Improved dairy animals health

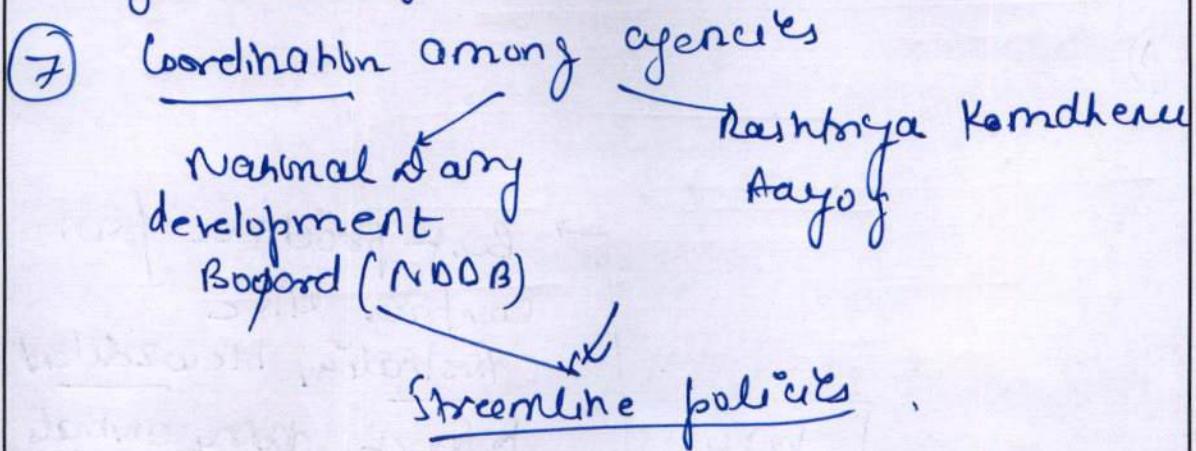
⇒ Focus on elimination of farm animals diseases like foot and mouth disease

⑧ Improved quality of farm feed and fodders

- Promotes livestock health
- Improves the quality of milk produced

⑥ Boost to insemination of dairy animals

⇒ Artificial insemination program promotes good quality dairy animals



Yet, productivity of dairy animals remain low

① Regulate disease and animal health issues

e.g. Footy virus affecting cattle

② Old technology of insemination, milk collection further reduce output of milk.

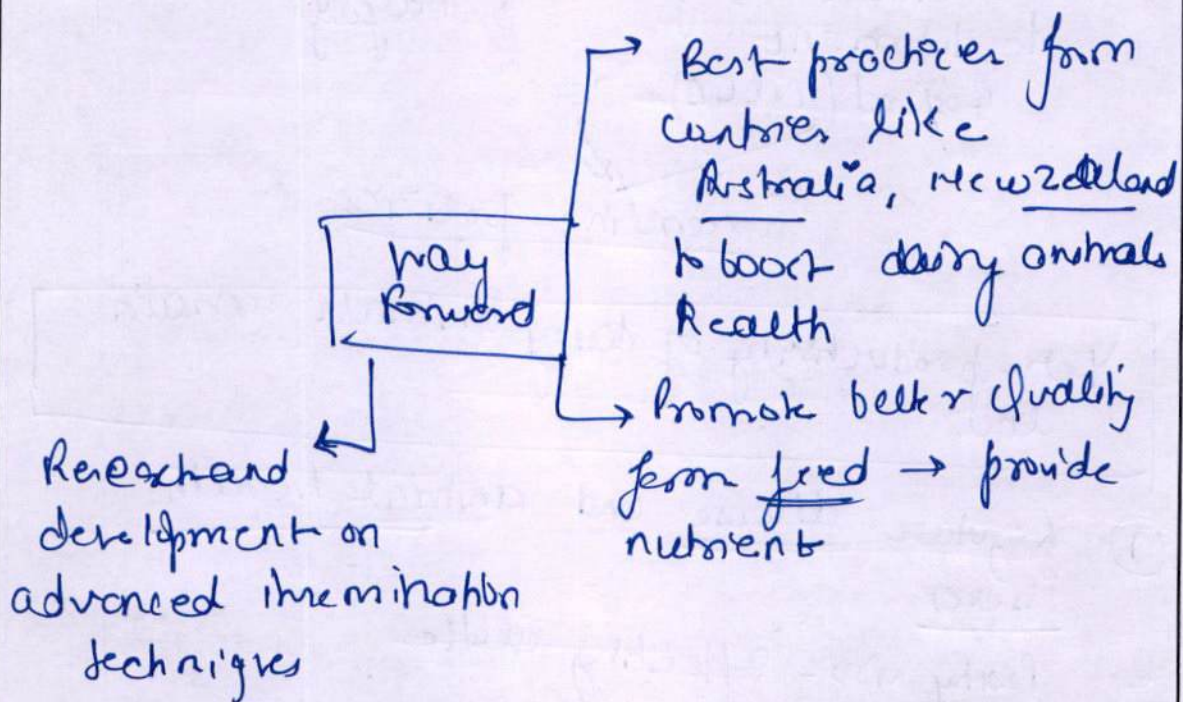
3) often, feed provided to animals is
subpar

± covisporandemic → lack of fodder

↓
not allowed import of animal fodder

1) Farmers often lack awareness on best
use of dairy animals.

2)



India has the capacity to augment
farmer income and boost farm animal
productivity to ~~become~~ enhance milk
production and promote economic growth.

16.

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)

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

15

IPCC recent 6th assessment report has highlighted that we have already crossed 1.2°C rise in temperature above pre-industrial level. This has led to extra burden on agriculture sector.

Climate change → leads to crop failure

(1) erratic weather pattern impact crop production and harvest
e.g. monsoon and western disturbance impact Rabi crop in North India

↓
low production of wheat lead to ban on exports and droughts reduce

(2) heat waves reduce water supply, starving the crops of water

(3) extreme heat in Arab Peninsula leads to locust attack in western India which damage the crops

- ④ Disasters caused by climate change and sea level rise impact coastal farming practices
⇒ Growing seaweed plantation

Agriculture sector responsible for extreme weather events

- ① Agriculture produce greenhouse emissions leading to climate temperature rise
⇒ Agriculture in India → 3rd largest emitter of GHGs
- ② Livestock further produce methane which exacerbate climate change
- ③ Use of pesticides / fertilizers cause soil erosion and pollution of water
↓
promote water shortage
- ④ Power subsidy / water subsidy expand the usage of fossil-fuels at reduced cost leading to high emissions
- ⑤ Burning of crops lead to increased temperature and air pollution
⇒ stubble burning in Punjab/Haryana

strategy adopted under National Agriculture Disaster management Plan

- ① Promote agroclimatic based crop to
reduce threat of crop damage
eg mixed cropping, relay cropping
- ② Reduce usage of water guzzling crops
like wheat, rice in water shortage
regions
 - ↳ diversify to eastern areas
 - ↳ Reduce use of power, electricity
- ③ Climate friendly techniques like
 - ↳ drip irrigation
 - ↳ sprinkler irrigation
 - ↳ efficient use of water tanks
rainwater harvesting
- ④ Promotion of organic farming to reduce
pest attacks and damage
- ⑤

Agriculture and climate are inter linked
Robust farm practices along with financial
boost to farming community needs to be
promoted for resilient climate smart
Agriculture to achieve climate action
(SAG 13)

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)

3

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Himalayan region is prone to earthquakes due to the confluence of Eurasian and Indian plates leaving it highly unstable and seismic

High vulnerability to earthquake impact

1) Impact on geography

1.1 seismic movements leave the terrain highly susceptible to damage

1.2 changing river course further amplify the impact of earthquakes

2) Impact on humans

2.1 earthquake leads to loss of lives and livelihoods

e.g. 2015 Nepal earthquake

2.2 local economy is hampered due to large scale destructions

2.3 many earthquakes leads to landslides,
floods which further impact the
lives

2.4 prevalence of glacial lake outburst flood
(GLOF) exacerbated by earthquake

Institutional measures to mitigate earthquake
losses

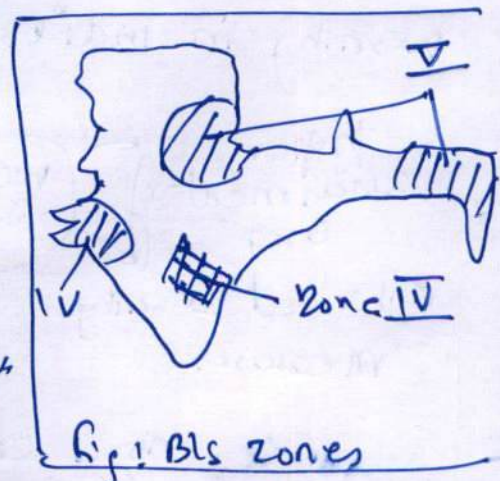
1) National disaster management Authority
(NDMA) guidelines provide for
hazard zoning and vulnerability mapping
to reduce the damage

2) Creation of earthquake zones by
Bureau of Indian Standards (BIS)

→ demarcates different
zones to better
assess damage
potential

3) National Building Code

2016 provides for
regular checks, using strong material



4) environment impact assessment to be able to judge the seismicity of area

But some gaps still exist

1) Lax implementation of Building code guidelines and frequent violations

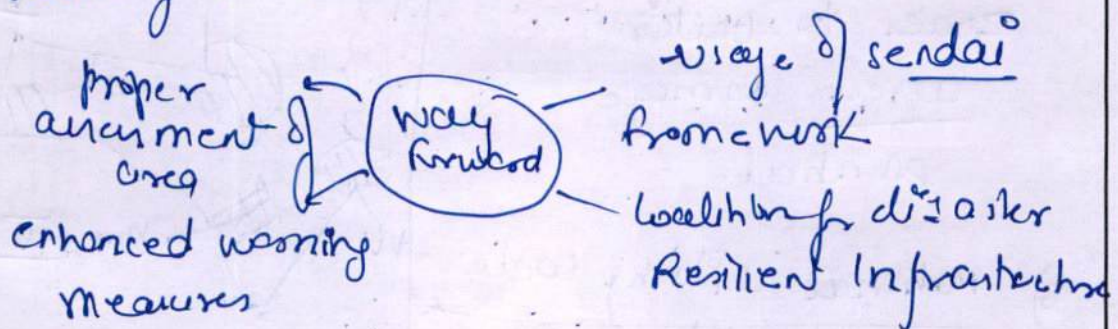
e.g. Recent collapse of a building in Gurgaon showed violations during construction

2) Breach of environment assessments

e.g. EA not done for many projects especially across Himalayas

3) unawareness among people on how to protect themselves in case of an earthquake

4) more surveillance to be able to provide warning in India.



more collaborative steps are needed to protect lives and reduce damage through better disaster response, creating resilience

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)

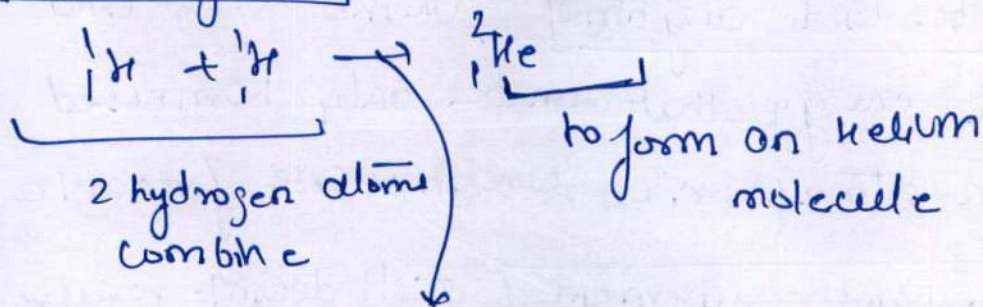
Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial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

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

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Scientists in USA have demonstrated successful energy gain using nuclear fusion reaction. This opens wide range of opportunities especially for ITER - International Thermo Electric Reactor which is a joint collaboration of multiple countries for fusion.

Nuclear fusion



This reaction is extremely energy intensive and requires high temp.

↓
Leads to endothermic reaction causing energy gain

Advantages of nuclear fusion based power generation

- 1) Huge energy gain per fuel material
This is very efficient in energy production
- 2) Clean energy fuel leading to lower greenhouse gas emissions
↓
Addressing to climate neutrality by 2070
(India's Target)
- 3) Renewable fuel with continuous supply once initiality is achieved
- 4) Can be used anytime, unlike solar and wind energy that can be only harnessed when atmospheric conditions are favorable
- 5) Low Land requirement - It doesn't require large land acquisition compared to other sources

Limitations in using nuclear fuel to generate electricity at a commercial scale

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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- 1) High cost associated with nuclear fuel render it non expordable
- 2) Temperature needed to achieve fusion is in 1000°C and above
- 3) Technology needed to run nuclear fusion on a large scale is yet to be expanded on a commercial scale.
- 4) Threat of safety - If nuclear reaction gone wrong can create a disaster

⇒ Fukushima, Chernobyl

- 5) Protests from Locals due to environmental concerns → release of certain radioactive gases.

Way forward

- international collaborations
- Better research into reducing cost
- Raising awareness among people about benefits

India's Panchsheel targets of net zero

of renewable fuel and net zero by 2070 can be achieved by effectively utilizing and expanding nuclear fusion.

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 हाशिए में नहीं लिखना चाहिए
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Prevention of money laundering
Act 2002 has been amended to enhance institutional measures and curb the illegal practices

Amendments Proposed in PMLA, 2002

- 1) Inclusion of cryptocurrency, digital ~~and~~ blockchain usage to trade in currencies to expand the scope of money laundering

2)

Benefits of PMLA, 2002 - efficacy

- 1) Increased awareness and strong agency steps leading to curb in money laundering
- 2) Acts as a deterrence against laundering
- 3) Legislative setup brings institutional strengthening

• Yet, PMMLA has largely been ineffective

Menace of money Laundering in India
still persists

- ① It leads to creation of a parallel block economy causing significant damage to economic growth
- ② It leads to hawala transaction and nexus with organized crime
- ③ usage of counterfeit currency notes further lead to black money flowing in economy
- ④ It aids in illegal practices like arms trafficking, drugs trafficking and human trafficking
- ⑤ Entry of illegal migrants through money laundering cause security threat
- ⑥ Investment in real estate through money illegally transferred from abroad further leads to economic losses

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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measures to deal with money laundering

National measures

- 1) Prevention of money Laundering Act, 2002
- 2) Finance Intelligence Unit
- 3) Use of CBI, ED to break nexus
- 4) Narcotics Control Bureau

International measures

- 1) Vienna Convention to enhance coordination
- 2) Basel Principles
- 3) Financial Action Task Force
- 4) Global money laundering Principles (GMLP)

How to boost PMLA, 2002

- 1) Promotion of inter-agency coordination among CBI, ED,
- 2) enhance financial measures to restrict usage of KYC norms, Cheque truncation system
- 3) Regular audit of various aspects
- 4) Partnership with international agencies for increased research and techniques

Black money and Money Laundering leads to economic losses and hampers development
It needs to be cracked with zero tolerance
and strong Policy framework

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)

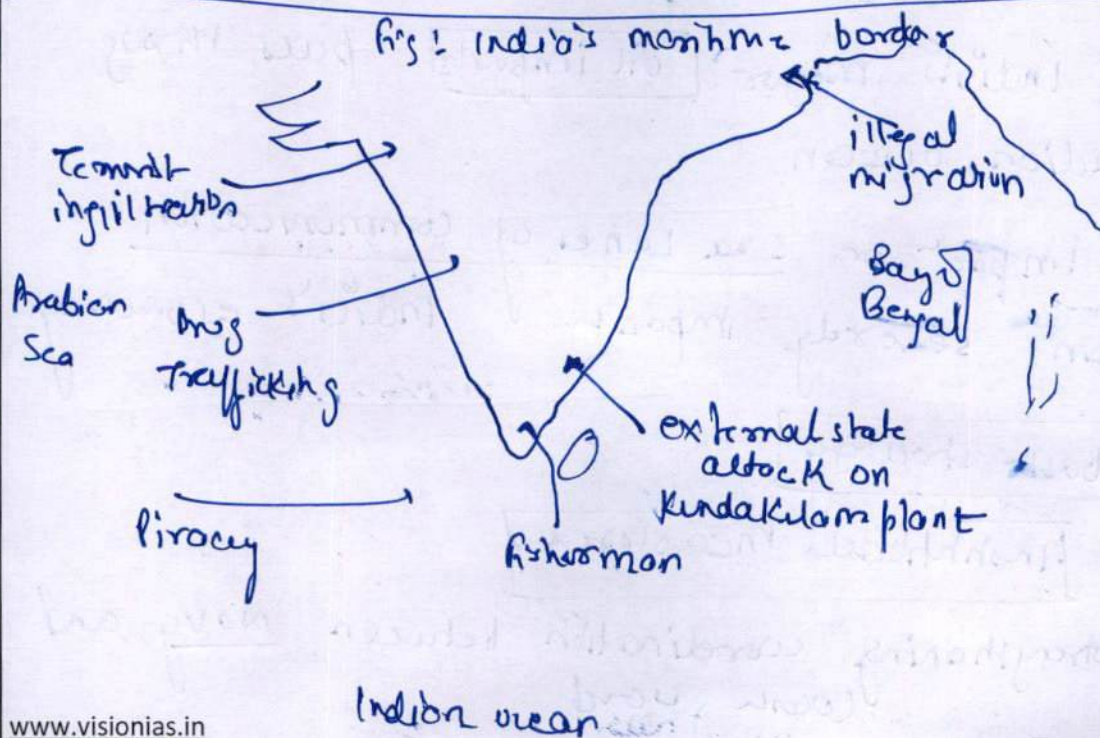
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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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India has 7500km coastline that provides vast avenue for maritime trade. Yet it poses significant security threat

Factors that pose security threat in Indian Ocean Region

- ① Terrorist Infiltration from maritime borders
e.g. 26/11 attackers from Pakistan came from Arabian sea
- ② China's string of pearls → overcircling India through multiple strategic points



eg Dibauli, Srilanka base of Srilanka

3) Drug trafficking

eg Regular seizing of drugs at Indian ports of Kerala

4) Human trafficking is common

5) Piracy from Persian Gulf / Red sea pose a threat to India's borders

6) Illegal migration across the borders create management of refugees difficult

eg Rohingya refugees

7) External state attack eg = alleged China's nuclear plant attack on Kudankulam

8) Pirateries free movement in Palk Strait also create security issue

9) India's major oil imports pass through Indian ocean

C) Impact on sea lanes of communication can severely impact India's economy

Robust strategy

1) Institutional measures

—strengthening coordination between Navy and Coast guard

— Strengthening India's intelligence to detect any movement of threat

2) Providing technological aids to security agencies to better manage threats

3) Increased surveillance and border security

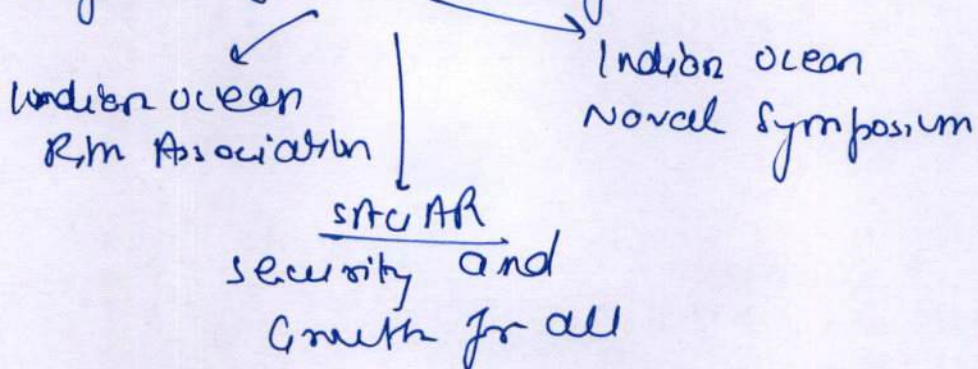
4) Involvement of local support to aid the security

eg 26/11 attack — many fishermen informed police of on illegal fishing vehicle

5) Promotion of international cooperation

eg SLINEX — India — Sri Lanka training

eg Better relations with neighbouring countries to jointly manage security of IOR



India's maritime security is essential to ensure safe borders, enhanced economic cooperation and freedom of navigation in Indian ocean

SPACE FOR ROUGH WORK

1) Involvement of local support to aid the process of security

2) Soft attack - many fishermen informed police of an illegal fishing vehicle

3) Formation of International Task Force

4) STIRAX - India - Somalia fishing boats - return with high speed cameras

5) Daily marine security of lot

6) India ocean naval information

7) India ocean naval information

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