

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 भरना चाहिए/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 0532747

अभ्यर्थी का नाम/Name of Student : shree krishna

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27/08/23

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

केंद्र

Centre

Bhai Toga School.
Delhi.

निरीक्षक के हस्ताक्षर
Invigilator's Signature

Mikky

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

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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 means
food is available to all at all
times of the year. (according
to FAO)

Dimensions of food security

- 1) Availability: Available to all at any time
- 2) Affordability - should be at reasonable price
- 3) Accessibility: → should be within reach
- 4) Quality: → to be to fulfill dietary requirements (micronutrients)
- 5) Quantity: → fulfill calorie requirements

[Status of India]

- 1) Availability: India produces 315 mt of food grains each year and have surplus budget

2) Affordability - under NFSA 2013,
to poor & BPL food grains
are allotted at subsidised rate

3) Accessability: under schemes like
one nation one ration card, &

e) quality: to tackle stunting (39%)
wasting (25%) underweight (25%)
- govt has launched mid day
meal and Poshan abhiyan 2.0

f) quantity: India allots 45kg/per
person/per month to each individual
under NFSA.

- Also storage capacity of 146 mt
is there.

However, India needs to
tackle hidden hunger as well as
other nutritional aspects to achieve
goal of zero hunger under
SDG goals!

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)

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

10

Blockchain & ChatGPT
are transforming every sector with their varied use and can be beneficial to transform agriculture.

Potential of Blockchain & ChatGPT in Agriculture

➤ Blockchain :

➤ → storage of agri produce information

➤ → Hassle free marketing experience

➤ → Blockchain based smart metering for water use

➤ → sensor & Blockchain based irrigation facility

➤ Financial inclusion of farmers using blockchain for accessibility,

② ChatGPT:

- Agro extension services to farmers
- information on crop diseases, nutrient management
 - Best practices to follow in irrigation, fertiliser etc
 - ~~it~~ will improve knowledge base of farmer.

Challenges:

- ↳ illiteracy of farmer
- ↳ Digital divide
- ↳ lack of availability in vernacular language
- ↳ limited use till now in other sector

Government should set up a task force and explore Block chain & chatgpt in agriculture on pilot basis then should extend it.

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

De-dollarization is the recent phenomenon in global economic order which uses other currencies like renimbi, yuan, or rupee for settlement of international transaction than dollar.

Factors responsible

1) Russia-Ukraine war:

→ Sanction on Russia and expulsion from SWIFT mechanism led Russia to deal countries with its rouble currency.

2) Rising aspirations of China:

→ Rise of yuan (internationalization) and its debt trap diplomacy.

3) currency swap agreements (eg India Japan CSA, etc.)

4) settling trade in bilateral currency
 eg. Ind-Pak trade settlement deal.

→ cross border transactions using digital mechanisms

eg: rupee via UPI — with Singapore pay now.

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

Dominance of Dollar:

- Nearly 85% of world transactions are still done via dollar as currency
- stable and reliable to market fluctuations
- market share of dollar is huge.
- more than 80% countries use dollar for international settlement
- fore Dollar contributes the most to foreign reserve of many countries

Hence, it is evident that though there is push for dedollarization, but dollar losing its dominance in recent future is not a possibility

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

Australia, USA have dragged India to WTO over its food subsidy regime calling it a market distorting practice

Problems with Indian food subsidy regime

- input subsidy based
- violates 10% limit on Agreement on agriculture
- market distorting as influences production
- disadvantageous for international market

still there is merit to retain its policy support

- ① offers security to farmers in adverse conditions
- ② Indian food subsidy despite breaching 10% limit, is still less than the subsidy budget of USA

- ③ 46% of Indian workforce is agri-dependent
- ④ per capita income of farmer is very low compared to developed nations ($\approx 10518/\text{yr}$)
- ⑤ Art 32 of Indian constitution obliges it to be a welfare state
- ⑥ Agri sector needs support in form of MSP, harvest based subsidy & in order to influence the cropping pattern.

However,
challenges { High fiscal burden (1.2% of GDP)
Distorted cropping pattern (cereal based)
Hinders market economy in agriculture

Hence, instead of complete phase out India should seek gradual phase out as suggested in Bali peace clause

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)

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

10

As per composite water management index of NITI Aayog, around 20 cities will become waterless by end of 2023.

water scenario of India

- per capita availability reduced to 1518 litre.
- water contamination with fluoride & arsenic
- 50% ground water goes to agriculture

Initiatives taken

1) Jal Jeevan mission : to provide tapped water to each household by 2024

2) Atal Bhujal Yojana - rejuvenation of water table

3) rainwater harvesting programme

4) integrated watershed management

5) ministry of Jal Shakti

however, issue of water availability & quality still needs attention

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

① availability:

- still not every household have tap connection
- women has to travel avg, 1.7 km for water in rural area
- adequate supply of water in urban region

② quality:

- fluoride pollution in gangetic plain
- Arsenic pollution in godavari basin
- Rural area does not has purified water access

way forward:

- ① initiatives by civil society like Pani Foundation in maharashtra
- ② policy coordination & integration
- ③ use traditional water harvesting methods
- ④ integrated river basin based water shed management

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)

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

The arctic glaciers
are retreating at double pace
due to the phenomenon of
arctic amplification

Major drivers of glacial retreat

① Arctic amplification:

↳ rate of temperature increase
is 2x than rest world

② Global warming due to green house
gases

③ Climate change due to phenomenon
like atlantic meridional ocean circulation
weakening is

④ Increased anthropogenic activities
in arctic region like port, mineral
exploration

⑤ Impact of ozone depletion

Impact on Arctic ecosystems

उम्मीदवारों को
इस हार्डिग में
नहीं लिखना
चाहिए
Candidates
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this margin

- ① Rise in extreme events?
eg, Glacial lake outburst flood.
- ② Risk of extinction to fauna like polar bear
- ③ can lead to emergence of new.
pathogens after melting
- ④ will lead to reduced liveability for
fauna & flora
- ⑤ will disturb the balance of ecosystem
leading to decline in its productivity

Hence urgent measures
are required to curb the harmful
effect of glacial retreat and
a pledge towards carbon neutrality
is a good step in that direction

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

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

Space tourism is the new area of tourism where, individuals can go to space on a rocket and experience a whole fascinating saga of astronomy.

Space tourism — companies like Space X ~~stand~~ making it reality
Gaganyaan mission of India is a step in that direction
Asterix mission of NASA will give boost to space tourism

Challenges associated

- 1) safety of travellers: ionic radiations from space can be damaging
- 2) creating earth like environment in propulsion module.
- 3) to deal with space debris due to increased rate for space
- 4) Health impact after returning from space

- 4) can increase inequality as it is very expensive
- 5) can increase carbon footprint

Measures needed to be taken

- 1) Global Policy on peaceful space tourism
- 2) Invest in research on impact on health
- 3) should deal with space debris in coordinated manner. eg. NETRA of India
- 4) ~~must~~ should ensure that it does not increase inequality
- 5) peaceful declassification from private agencies for using it for humanity

space tourism is a new fascinating chapter in world history and ISRO with its track record has a major role to take a leap in it

8.

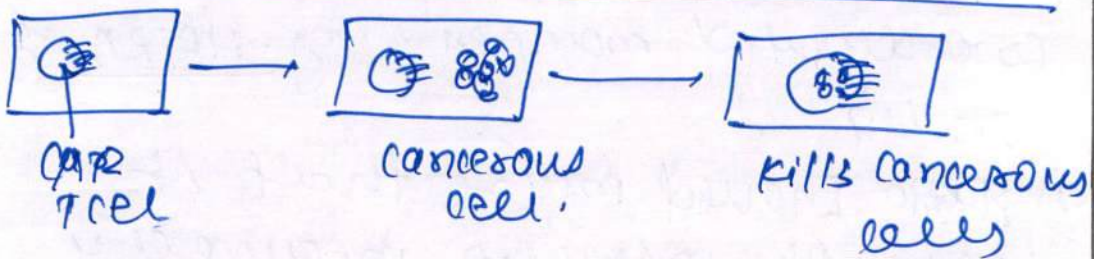
वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी, CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

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)

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

10

CAR-T cell therapy is a therapy in which modified chimeric antigen receptor T cells are injected in patients body to kill the targetted cancer cells.



CAR-T cell therapy can overcome limitations of CRISPER-cas-9 techno.

1) CAR-T cell is targetted therapy attacks only cancerous cells.

2) CRISPER cas-9 requires genetic modification by foreign genetic material

3) CRISPER-cas-9 does not kill

the targeted cell. It only modifies its genome

4) CAR-T cell is more precision oriented than CRISPR-cas-9.

5) CART cell is less expensive than CRISPR

6) It is stable at room temperature

7) for cancer treatments therapy should have ability to kill the target cell.

however,

CART-cell has limitations

→ New technology + hence not much info information about adverse effects

→ high initial cost

→ however, CAR-T cell

therapy. has a potential to overcome the limitations of

CRISPR-cas-9

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 हार्शिए में नहीं लिखना चाहिए
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New and emerging technologies like artificial intelligence, generative AI, machine learning pose great threat to non-state actors like violent extremist groups for whole globe.

Demand Global concerted effort

Reason:

- 1) Increase grey operations - hard to track the location
- 2) ~~an~~ increase anonymity due to dark web, deep net
- 3) Borderless nature of incidents
- 4) multiple attacks at same time
- 5) Threats from multiple domains at one time eg. maritime / land etc
- 6) use of technology like drone attacks, → lead to reduced

ground presence of violent extremists
7) huge loss of lives & property

उम्मीदवारों को
इस कश्चिप में
नहीं लिखना
चाहिए
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way forward

1) co-ordinated action to deal
with cyber threat

2) under united nations, need to
adopt wider definition of
terrorism

3) multigrouping co-ordinated
efforts like RATS under SCO.

4) use tech capabilities of other
nations to reduce vulnerability

Thus, with increased
integration of & due to globalisation,
threats also become connected
and needs global concerted
effort

10.

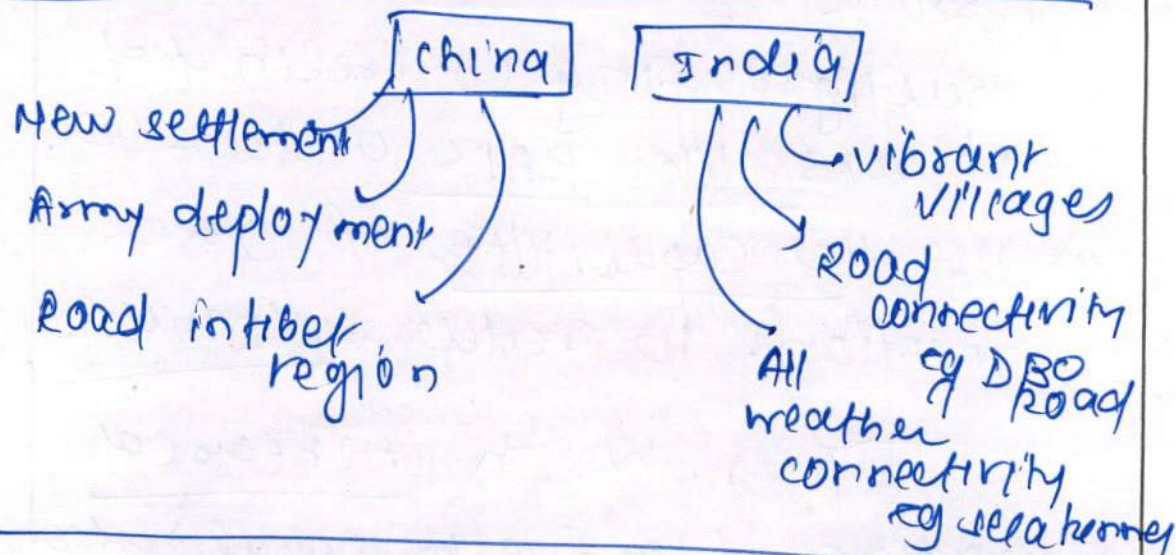
गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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)

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

10

Both India and China
are trying to put their assertiveness
through building infrastructure in
border areas eg. India via vibrant
villages programme.



Role of Indo-Tibetan Border Protection force:

→ major guardian of the border.

→ watchdog and defender of
India-China border in Northern
& central region

- 1) check posts & forward posts at
for locations to make its presence felt
- 2) regular patrolling of LAC
- 3) Regular visits with the Chinese PLA
army
- 4) trying to maintain dialogue with
PLA
- 5) observing and safeguarding infra
structure in border region
- 6) keeping close eye on the activities
on other side of LAC
- 7) Regular drills to make assertive
ness

Thus ITBP has a
multipronged role to defend border,
protect infrastructure and make
assertiveness in border region

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)

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

15

The irrigation efficiency of Indian agriculture is around 39.1 which is much lower than other advanced agriculture countries.

Need to shift from land productivity to irrigation water productivity

→ Land is a finite resource →

can't increase the area under cultivation beyond certain limit

2) population pressure is rising.

will demand more food requirements

3) agri productivity is low compared to other nations.

4) yield per hectre can be increased if focused on irrigation productivity

5) water scarcity, more than 80%.

of water is used for agriculture
yet efficiency is low.

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

- 1) Irrigation productivity will increase
judicious use of water
- 2) will help to boost agri income
of farmers (currently only ₹10518/yr)
- 3) As suggested by [Ashok Dalwai]
Committee will help to double
farmers income

Challenges associated

- 1) Infrastructure :- drip irrigation
requires high initial cost for setup.
- 2) Distorted cropping pattern : water
intensive crops in water stressed
regions (eg. sugarcane in m/c)
- 3) cereal dominated punjab-haryana
belt → major region of water
exploitation
- 4) poor capacity of farmers to shift-
to micro irrigation.
- 5) majority (2/3rd) agriculture dependent.

on monsoon.

Initiatives taken

- 1) 'Khas Khet ko Pani'
- 2) Per drop more crop.
- 3) Kusthiya Krishi shi sikhayojana
- 4) Micro irrigation development fund by MGNREGS

Way forward :

- 1) Co-operative / FPO Based micro irrigation project
- 2) complement micro irrigation with river interlinking.
- 3) diversify crop pattern - eg. millet

Indian agriculture must need to focus on increasing yield from the land with sustainable solutions and land irrigation water productivity will help in that.

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 शीट में नहीं लिखना चाहिए
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Green Hydrogen is the fuel which is obtained by the electrolysis of water using renewable energy source.

Role of Green Hydrogen in energy security of India

1) sustainable energy source:

↳ high abundance will help in energy security

2) Reduce carbon footprint of economy

3) will help to reduce import dependency of India. (currently - 85% of oil is imported)

4) will reduce current account deficit of India

5) High energy density than traditional fossil fuels.

6) Reliable and all weather
source of energy

7) Comparatively cheaper to
produce

Potential of nation green hydrogen mission

- Aim: is to produce around 500 mt of energy using green hydrogen.
- The mission aims to give impetus to hydrogen exploration in India.
- will help to hydrogen extraction and its use in transport and other sectors
- Blending hydrogen with CNG (HCNG) to reduce carbon footprint of transport
- will aid India's commitment to be carbon-neutral by 2070.

challenges ahead

- 1) Hydrogen exploration is water intensive
- 2) High initial cost for setup for hydrogen extraction.
- 3) Hydrogen storages are mainly located offshore → Hence difficult to build reliable operations.
- 4) 73% energy comes from fossil fuel.
→ Hard to replace soon.

Way ahead

- Explore with PPP model.
- can ~~the~~ interlink with other sectors like earth sciences
- International collaboration eg. USA.

Green hydrogen has the potential to become new oil and hence should be explored with great zeal.

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)

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

15

~~Minimum~~ Minimum wage Labour code Bills

(Code on wages) 2019 mentions to weigh a transition from minimum wage to living wage

<u>minimum wage</u>	<u>living wage</u>
→ minimum requirement → rent like <u>food</u>, <u>cloth</u>, <u>house</u> are <u>fulfilled</u>.	→ emphasizes on <u>basic standard of living</u> along with <u>health & education</u> to develop <u>capabilities of individual</u>

Benefits of adopting living wage

1) To individual:

- ↳ 1) increase disposable income in hand
- 2) improve purchasing power
- 3) can improve his standard

of living

e) will help to access services like
health, education, sanitation.

उम्मीदवारों को
इस हद्दिए में
नहीं लिखना
चाहिए
Candidates
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(i) to society:

1) Reduce poverty

2) improve capabilities and skill level
(Amartya Sen approach)

3) Reduce crime rate.

(ii) to government:

1) will need not to spend much on
welfare schemes.

2) will lead to increase savings and
in turn investment in economy.

Constraints

1) Accurate calculation of living wage
will be huge task

2) can lead to more informalisation
-on of economy by employers.

3) Employers will not keep workers
on payroll of company.

4) ~~It~~ can lead to increase vulnerability
-ity of workers.

5) consensus on living wage is
hard to obtain

6) will reduce ease of doing business

उम्मीदवारों को
इस हार्डिप में
नहीं लिखना
चाहिए
Candidates
must not
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way forward :

- consultation with businesses,
labour union, public consultation
- explore option of enhancing
capabilities
- gradual shift from minimum to
basic to living wage

Hence, the transition
from minimum to living wage
has to be smooth and should
not distort the employee-employer
relationship

केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्रक 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 हिसाब में नहीं लिखना चाहिए
Candidates must not write on this margin

15

Article 112 of Indian constitution talks about annual financial statement (Budget). It is a document having income & expenditure expenses of government

Budget affects every sector of economy yet it lacks substantial public scrutiny

- ① Budget is mostly passed without discussion (eg. recent 2022-23 budget - ₹17. was passed without discussion)
- ② Not Reports of departmental standing committee are not taken seriously
- ③ majoritarian government uses its numerical power to pass any Bill

④ money bills are not subjected to vote of Layasabha

⑤ Budget is placed in public domain only after budget speech

⑥ NO consultation from public is taken into account

⑦ Policies:

→ eg. Recently MGNREGS Budget was squashed and explanation was given that Pro-Ay COB budget was increased

→ This lacks public scrutiny

⑧ Using of outlay, output based model that outcome model

wayforward:

→ public consultation prior to Budget should be meaningful.

→ public expectation from new

budget should be taken more seriously

- 3) Having a forum before budget to discuss priorities
- 4) every demand to grant should be discussed duly and voted.
- 5) use of devices like policy at, economy ut to make it more effective
- 6) scrutiny by estimates committee & public account committee should be given more weightage

Budget is the representative of everyone's aspirational and demands hence proper public scrutiny is utmost impor-

15.

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

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

15

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

India produces around 180 mt litres of milk every year which is highest in the world. Operation Flood made India milk surplus country from a deficit one.

But the productivity of dairy animals is ~~around~~ less than 50% compared to a major dairy countries like New Zealand and Australia.

Reasons for low productivity

- 1) Desi Breed dominated production
↳ they have low productivity.
- 2) Lack of Fodder and nutrition.
- 3) diseases like Brucellosis & redwater
fever and mouth disease reduce productivity.

- 4) Subsidised Animal rearing is treated as 2^o occupation after agriculture
- 5) poor research & development in animal husbandary.
- 6) Lack of forward and backward linkages
- 7) low value addition leading to wastage.
- 8) Artificial insemination by high yield breed is not much prevalent.

Initiatives taken.

- 1) Hybrid varieties at subsidised rate to farmers eg. Jersey cows, Holstein cows.
- 2) Artificial insemination programme.
- 3) R & D under ministry of Agri-animal husbandary.
- 4) Operation Flood in 1990's to increase production.
- 5) Food processing fodder related information via extension services.

way forward :

- need for operation Flood 2.0 to improve productivity
- use of local breeds and their cross breeds to improve production
eg. Sahiwal, cross; Murrah buffaloes.
- invest in value addition to reduce wastage and better price discovery.

As stated by M. S. Swaminathan
an Committee, the productivity
of dairy animals can be increased
if we invest ~~in~~ right from interna-
nation to production of milk &
products

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)

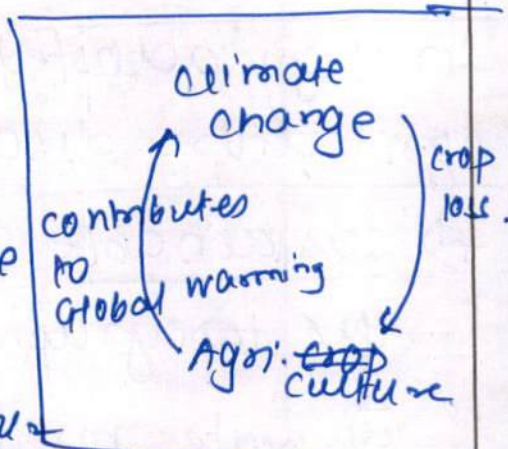
15

Agriculture is responsible for around 25% of methane gas emission which is a major global warming gas.

Agriculture responsible for extreme weather events

1) Methane emission

→ paddy cultivation and other crops release methane leading to increase in temperature



2) Stubble burning

→ leads to air pollution

and fog smog around Punjab - Haryana - NCR region

Fig. relation between agriculture and climate change

3) Water intensive crops

→ extreme ground water extraction

in gangetic belt leads to drought
incidences in western up and punjab

4) Agriculture in hilly region

Cash & Burn agri leads to events
like landslide or floods in himalaya
on region

5) Agriculture runoff → to oceans leads
to eutrophication and acidification
of water bodies

Strategy adopted by ~~National disaster~~
agriculture disaster management plan

→ sustainable agriculture and through
~~the~~ topography Based cropping :

① water resilient crops in water
stress region eg millets

2) Diversification of crops : to reduce
impact of climate change

3) new methods like systemic rice
~~with~~ implantation for paddy
cultivation to reduce methane

4) use of precision agriculture methods
to reduce overuse of fertilizers &
water.

5) investment in microirrigation
to improve water efficiency

6) secure agri allied activities like
anidairy to increase resilience of
agri farmers.

7) Invest on Nature based solutions,
zero budget natural farming, organic
farming.

Way forward:

- + Improve cropping pattern from ~~the~~
cereal based to multicrop based
- + Agriculture extension services to
farmers
- + social security in terms of
costs

Resilience of farming
community can only be increased
if their agriculture income is
diversified & doubled as suggested
by Athole Dalwai committee

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

15

59% of India's land
is vulnerable to the impact
of earthquakes as per NDMA
report

High vulnerability to
earthquake in regions
surrounding Himalayas

Reasons:

1) Himalaya is tectonically
active

2) It is on convergent
boundary b/w Indo-
Australian plate and
Eurasian plate

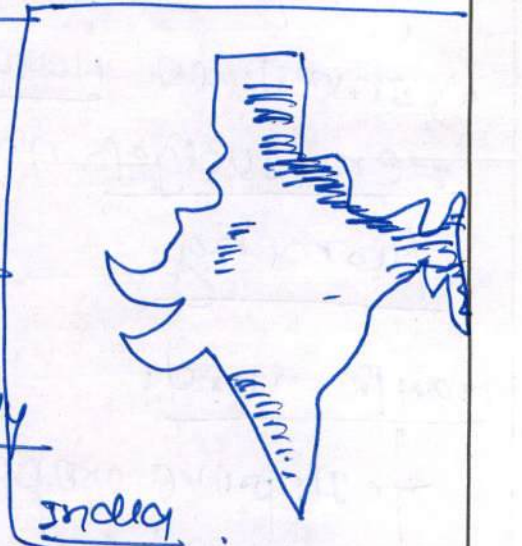


fig. high risk
zone of
earthquake
proneness.

3) This region comes under zone ⑤
of NDMA vulnerability map of
earthquakes in India

4) Recently Delhi experienced some
seismic which had epicentre

in Afghanistan.

4) The fragile topography of Himalaya also leads to its vulnerability eg. glacial lake outburst flood.

5) Anthropogenic activities in Himalayas roadcuts or utaraachand leads to high incidences of earthquake.

Institutional measures taken

1) Himalayan institute for seismic activities → it records the seismic activities of region and gives early warning

2) NDMA has stationed one of its batalion in northern region.

3) NDMA has issued hazard zone map & guidelines for earthquake

4) Disaster administration of Himalayan states has made disaster action plan

5) Private institutes in this region also cooperate with state to

give information

Gaps exist

- Need co-ordinated bottom-up approach
- ~~in~~ Focus more on mitigation than pre-preparedness.
- inter-agency co-ordination is missing
- Disaster administration and NDMT co-ordination.

way forward:

- improved & dedicated funding
- interagency co-ordination
- involve civil society, NGO.
- focus more on pre-preparedness

TO deal with earthquakes in himalayan region we need multipronged approach.

18.

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

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

15

scientists around the world are focusing on fusion reaction via initiatives like ITER, Tokamak (China) etc

Advantages of fusion based power generation

- 1) leads to very high energy generation due to its high explosive nature.
- 2) Exothermic reaction can be used to power generation
- 3) Absence of radioactive material can lead to sustainable source of energy.
- 4) cheap and can be produced at low cost
- 5) ~~it~~ it regenerates the raw material in the process

6) can become a reliable source of energy for present & future

Limitations to generate electricity at commercial scale

- 1) Difficult extremely difficult to obtain fusion reaction
- 2) sustaining the fusion reaction for long time is a challenge
- 3) highly exothermic, ~~can~~ → challenging to manage it.
- 4) high initial cost for investment
- 5) criticality of temperature

way forward:

- 1) co-ordinated effort at international level like ITER by European countries, USA & India
- 2) invest in research & development centres

3) can explore alternative sources of energy like hydrogen, etc.

4) dedicated platform at international level to discuss future of tokamak reaction

Nuclear fusion reaction
if, got success at commercial electricity generation can be a game changer because the tokamak can act like artificial sun

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

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 कॉपी में नहीं लिखना चाहिए
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Money laundering is defined as making the illegal money look legal through various methods multilevel layering methods

Money laundering

Placing

Layering

Integration

back into economy

Recent Amendments to PMLA act 2002

1) Definition: wider definition of terms like 'proceeds of crime'

2) power to search and seize the property under investigation

3) ~~can~~ gives power to investigating officers to interrogate without warrant

4) investigation can be done by a officer of inspector rank with permission of senior

7) increased punishment for acts of money laundering.

उम्मीदवारों को इस कसिफ ने नही लिखना चाहिए
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Efficacy in tackling menace of money laundering

1) wider definition will help in investigating wider acts of suspicion
It will act as deterrence for criminals

2) cashless economy combined with FOIA amendment will certainly reduce money laundering

3) stringent norms on tax avoidance & tax evasion

lacunae:

1) Does not explicitly define all acts which come under proceeds of crime

2) long investigation period & complex process

3) once seized property gets stuck in legal hurdles.

way forward :

- 1) — streamline along with other acts like FEMA act, IT act 1987
- 2) speedy trial & adjudication of cases via FTC
- 3) should focus more on cashless economy and laundering via net

PMCA amendments

are a good move in order to tighten the grip on money laundering.

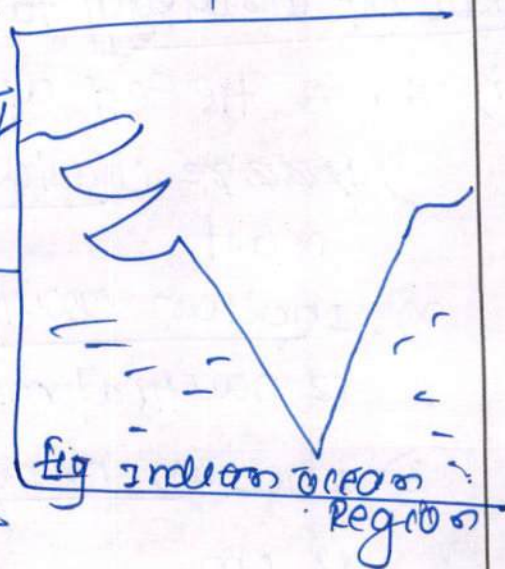
हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

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

15

India has a long coastline of more than 7500 km adjoining Indian Ocean on both sides, hence maritime security is important for India.

Security threats present in IOR



1) Maritime piracy :
→ along the regions like strait of Hormuz or horn of Africa

2) presence of China : in stations like Dibouti, Hambantota help China to keep its presence in the region.

3) Terrorism : → 26/11 incident culprits used maritime route to reach Mumbai

4) Smuggling :- recent gold smuggling case of Kerala was done via

Arabian sea.

- 4) ~~human~~ Drug trafficking: the marine border used for it. @ operation samudra guptha by indian navy seized 15000 worth drugs recently.
- 5) illegal fishing and related threats of trespassing.

Robust strategy to deal with them

- 1) Three tiered approach of
- 1) marine coastal police for area around coast
 - 2) indian coast guard for area upto 12 nautical miles
 - 3) indian navy for areas beyond 12 nm
- 2) integrated marine security plan with interagency co-ordination
- 3) operation SAGAR: providing security for all in the region
- 4) Regular patrolling in all the piracy dominated region eg. Horn of Africa
- 5) Joint military exercises like

Andamans to showcase skill

1) Defence modernisation of Indian Navy

2) Digital technology use like MAVIC for navigation & IFC-IOR for data fusion on maritime security

way forward :

- Interagency coordination
- Focus more on regional coordination
- Use of Andaman Nicobar as strategic base

Indian ocean region is the place where India is stationed as a ship and it should keep eye on the ocean from India to Indonesia

उम्मीदवारों को इस इतिहास में नहीं लिखना चाहिए
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SPACE FOR ROUGH WORK

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