



VISIONIAS
INSPIRING INNOVATION
ABHYAAS MAINS

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

निर्धारित समय: तीन घंटे

Time Allowed: Three Hours

अधिकतम अंक: 250

Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

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

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

General Instructions

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

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

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

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

पंजीकरण सं./Registration No. : 0364680

अभ्यर्थी का नाम/Name of Student : RAJIV ASARWAL

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

27.08.2023

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

केंद्र
Centre

DELHI

निरीक्षक के हस्ताक्षर
Invigilator's Signature

महत्वपूर्ण अनुदेश उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।	Important Instructions Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.
1 (क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet
2 अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3 परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4 उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं 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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अधिकतम अंक: 250
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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.

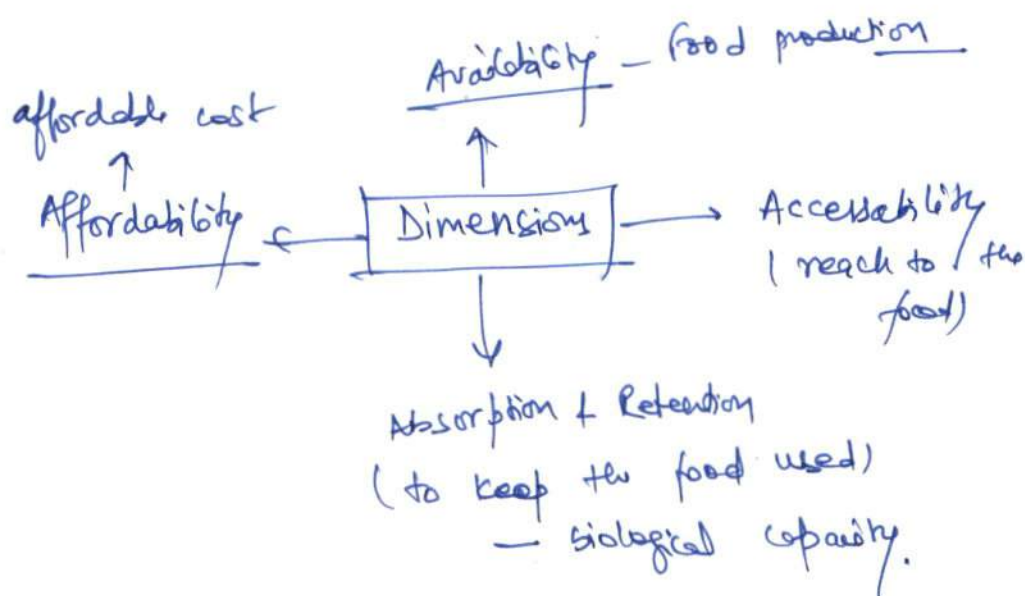
खाद्य सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

As Food & Agricultural Organisation,
Food security refers to - All people, at all times having physical & economic access to the sufficient and nutritious food to meet their dietary needs with cultural preferences.



India's food security

① Availability: India produces 315 Million Tonnes of food grains a year. (2021-22)
(ES 2022)

② Affordability: the NFA, 2013 Act provides

for the access of food to people 267%

↳ Pradhanmantri Gasib Kalyan Anna Yojna
— free ration up to December 2022

उम्मीदवारों को
इस खण्ड में
नहीं लिखना
चाहिए
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Affordability: the Public distribution system offers
food grains at subsidised rate of Rs.
3/2 for rice & wheat respectively.

Nutrition: two schemes like PM-Poshan, ICDS
etc. cater to nutrition need through
regular check up & additional food.

however, there are challenges

- ① Access — Gender disparity due to patriarchy.
- ② Undernutrition:- Underweight - 32%, Wasting - 18%,
Stunting - 35%. (NFHS-5)
- ③ the problem of Hidden Hunger prevalent

India need to achieve SDG goal 1
for healthier & inclusive society.



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

Modern technology like Blockchain which is a centralised distributed ledger and chat-GPT which is Generative Artificial Intelligence mechanism with their core-benefits can transform Indian Agriculture.

Role of Block chain Technology

- ① The Indian Agriculture is mired with different issues in its lifecycle, blockchain can help through several stage.
- ① Proper & Conclusive land Record: Blockchain can be used to prepare land-titles for effective policy making.
- ② supply chains:- the blockchain technology can be used to move food products through supply chains without fear of adulteration. Ex. Export of organic products
- ③ Credit: In India, more than 50% farmers

are not able to take institutional credit, Block chain can offer efficient loans in the popular & decentralised manner.

उम्मीदवारों को
इस हॉशिए में
नहीं लिखना
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④ Record maintenance: on the basis of real-time data, government can alter its policies proactively.

Role of chat-GPT in Agriculture

① Agricultural Extension: chat-GPT can provide tailor-made advices to the farmers for alternative sustainable inputs to farmers along with methods.

② Increased Awareness: the chat-GPT in an interactive mode can provide mass agricultural education.

* AI for All is NITI Aayog mission to implement benefits of Technology benefits to all sectors of Indian economy including Agriculture.

3.

वैश्विक अर्थव्यवस्था में वि-डॉलरीकरण की प्रवृत्ति में हालिया तेजी के लिए कौन-से कारक उत्तरदायी हैं? क्या आपको लगता है कि डॉलर का प्रभुत्व जल्द ही समाप्त हो जाएगा? (उत्तर 150 शब्दों में दीजिए)

What factors have led to the recent acceleration in the trend towards de-dollarization of the global economy? Do you think the dollar will lose its dominance anytime soon? (Answer in 150 words)

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

De-dollarization refers to the recent trend of the voice of reducing uses of dollar as medium of exchange with alternate economies.

Reasons/ factors for the de-dollarisation

- ① the changing geo-economics after Russia Ukraine - war.
- ② changing world order with greater Asian powers & economies.
- ③ Weaponisation of Finance & Trade through sanctions by US & West Ex Russia, Iran
- ④ Diversification: need to diversify the currencies
- ⑤ Increased bilateral Trade: Indian Rupee Rubal
Rupee - Dollar
Rubal - Yuan
- ⑥ efforts by china for Renminbi internationalisation
- ⑦ Global financial architecture change/Reform

demande by global south.

Dollar losing its dominance

उम्मीदवारों को
इस हाथिए में
नहीं लिखना
चाहिए
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write on
this margin

- ① The new financial Architecture —
 - ↳ Rising bilateral trade
 - ↳ currency swap agreements
 - ↳ demande by global south
 - ② Rating decline of credit by Moody's
 - ③ Rising china as economic power
 - ④ Higher liquidity in market
- Dollar — will not go anywhere soon
- ① Resilience of US Market
 - ② Trust in the US Economy
 - ③ Lack of capability in any other country
 - ④ Lack of credibility of china.

The world is moving towards new
geo-economic order where dollarisation may
not be outcome but Dollar-Denial will
be.



4.

विकसित देशों द्वारा भारत पर खाद्य सस्बिडी 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

उम्मीदवारों को इस खांश में नहीं लिखना चाहिए
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According to Economic Survey 2022-23, India provided for more than ₹.5 lakh crore food subsidy during FY 2022-23.

The need of India due to its poor people (still 22.89 crore - MPI by UNDP), and its food security with providing sufficient remuneration to the producers, compels it to provide high subsidy.

WTO Mechanism

- ↳ As Public stockholding comes under Amber-box subsidies, countries are only allowed 10% of GDP on subsidy. (Developing countries)
- ↳ that is too under least clause
- ↳ India demands finalisation of it under Doha round.
- ↳ As it distorts the free market competition,

in food grain / commodity market, developed countries demand ban on this.

Merits in Retaining food subsidy

- ① It ensures enough production due to assured price (MSP) + Assured Market (FCI)
— M.S. Swaminathan.
- ② It also leads to affordable distribution to provide economic access.
- ③ Indian Agriculture is highly fragmented and can not sustain without govt support.
- ④ It ensures sovereignty of India.
- ⑤ Lead India from Food Help to Food Bond.

Demerits of food subsidy

- ① High subsidy burden → fiscal deficit high
- ② Less state capacity to spend on Agricultural infrastructure.
- ③ Market distortion.

there precision / regenerative Agriculture
is need of hour.

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)

उम्मीदवादी को इस खंड में नहीं लिखना चाहिए
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The indiscriminate unsustainable use of water with rising population of India has led to increasing water needs of India. The contamination of water due to green revolution, Aquaculture, mining etc. has led to water quality.

Government steps

↳ steps like Drought Area development program, National watershed development program, River-linking project, Jal Jeevan mission have addressed the water needs but problems still continue.

Water Quality - before

↳ Contamination due to

- ↳ Agriculture → Nitrogen
- ↳ Aquaculture → Nitrogen
- ↳ Heavy metals due to mining
- ↳ Ex. Arsenic
- ↳ multiple waste due to landfills
- ↳ land mining

B/w Bacteria (Pond)

Hence there is need of provide safe water.

Water Availability

India receives More than 1100 BCM water every year out of which only 690 BCM is used & rest is run off.

② India is becoming water-scarce country with per capita water availability is less than $1700 \text{ m}^3/\text{cap}$

Way forward

- ↳ schemes like sponge cities for water retention
- ↳ Rain water harvesting in homes
- ↳ best traditional practices like Pani Panchayat, Tanka, Neeer, Meer
- ↳ Regulation of water in whole as per Mishra Shah committee → CGWB + CWC

Water is needed to be managed in ~~the~~ holistic & sustainable manner.

—*—

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

Arctic is losing its ice-cover at very fast rate than ever and is expected to get ice-free by 2040 in summer.

Major drivers of glacial retreat in Arctic

① the effects of global warming due to climate change is affecting Arctic disproportionately than rest of the world.

② The reduced Albedo works as positive feedback mechanism which retains the most heat and further led to glacial retreat.

③ Enhanced use of ice-breaker ships which led to fragmentation of ice-blocks.

④ All the anthropogenic activities like fossil fuel energy, unsustainable industrial practices are drivers of Arctic glacial retreat.

Effect on Potential Impact on Ecosystems.

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- ① Will act as feedback loop to climate change at world level due to reduced Albedo.
- ② Biodiversity decline of marine animals
Ex. penguins + polar bears
- ③ Habitat destruction + fragmentation for species.
- ④ Ice / Cryosphere ecosystem itself is danger.
- ⑤ Will in turn affect lower marine animals
as opening of northern sea route will lead to negative effects on marine animals.

Arctic deglaciation recently evident
by doomsday glacier is becoming reality
affecting the ecology for ever.

—X—

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 हार्शिए में नहीं लिखना चाहिए
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Space Tourism, the commercial use of space, where an organisation provides visits to ~~lower~~ lower levels of space in lieu of money.

ex. Virgin Galactic flights

Emergence of Space Tourism

- ↳ the advancement in space science + cost reduction due to private enterprises has led to low costs making sci-fi a reality
- ↳ the investment by the private sectors has opened the sectors beyond research & exploration.

Space Tourism challenges

- ① Regulatory challenges — paying dilemma
- ② private use of global common for private
- ③ gains.

- ④ Technology of space shuttle is still not for
proof
Ex Columbia spacecraft of NASA exploded.

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Measures to address challenges

- ① global regulations on commercial use of
space & revenue distribution
- ② safety standards of private space-shuttles
to be established.
- ③ Research & technology enhancement.
- ④ reduction in the costs

space Tourism & commercial ~~star~~
exploitation will further strengthen the
space research.

—*—

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 हार्डिंग में नहीं लिखना चाहिए।
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In CAR-T therapy, the protein is added to the ~~CAR cells~~ T-cells which binds with ~~protein~~ cancer cells to destroy them.

Role of CAR T

- ① It can bind defective cancer cells and stop them.
- ② Simple method + non-invasive
- ③ No side effects.
- ④ low cost treatment.

Overcome CRISPR-Cas9

- ① low cost than CRISPR-Cas9
- ② No gene-editing required on specific places → issue of accuracy

③ No change in genetic makeup.

④ more accessible to all.

CAR-T cell therapy has revolutionary
potential to fight cancer.

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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 हाथिए में नहीं लिखना चाहिए
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The technological advancement of terrorist and non-legal organizations have imposed new threats to the global security.

Use of Technology by Extreme organizations

- ① Social Media: Used for radicalisation of youth for recruitment
- ② Cryptocurrency & deep-internet - for currency transfer, terror funding and communication
- ③ Drone Technology: to transfer the weapons & logistical material around borders
- ④ Financial System - Black money use.

As all of these technologies are have global implications and only global efforts can be effective against these trans-national crimes, Global concerted efforts

are needed.

Global efforts

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इस क्राफ्ट में
नहीं लिखना
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- ① collaboration for the standards in develop-
ment.
- ② Incorporating security mechanisms & counter-
capabilities to detect illegal activities.
- ③ Global enforcement of the laid down
procedures & punish the perpetrator of
crimes.
↳ Ex. increased action under 1262 Committee
of UNSC, Interpol
- ④ Capital building and counter-capability building
of vulnerable and poor countries.

Global efforts like extension of
Palermo Convention to fight international crime
as needed.

— x —

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

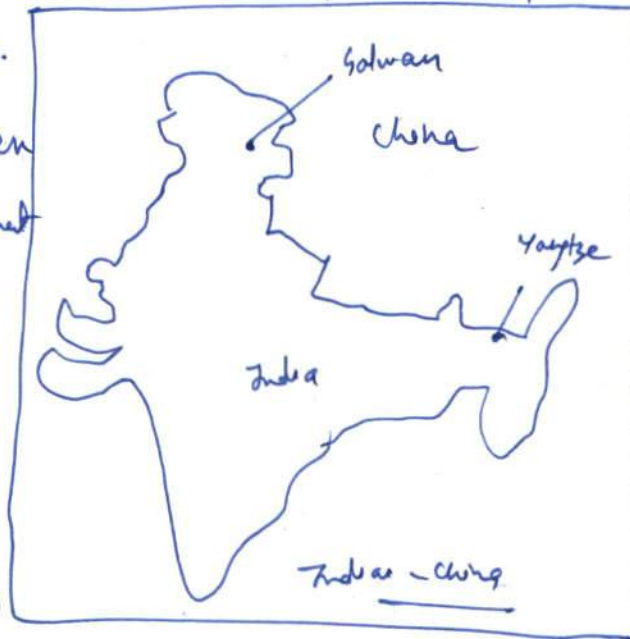
उम्मीदवारों को इस स्थिति में नहीं लिखना चाहिए
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Two tragic Galwan and Yangtze clash between India & China has led to tense situation on border specially increasing after 2017 Doklam crisis.

↳ the incursion of Chinese side ~~has~~ with establishment of Xiaokang (double use villages) in

border areas, has led to concern in

Indian establishment



China Border Infrastructure Upgrade

- ① Roads built in Tibet & Arunachal Pradesh
- ② Modification of Airport & airstrip
- ③ dual use villages on border

Indian border Infrastructure Upgrade

↳ Vibrant village program — ramps up border infrastructure

↳ Roads & other infra outside 100 km

(Amendment in Forest Conservation Act, 1980)

- ↳ All weather roads by BRO
- ↳ tunnels etc.

Ex Sela Tunnel, ~~Ratal~~ Tunnel

while Indian Army is main force to coordinate security of border - It is

Indo - Tibetan Border Police which plays important role

ITBP Role

- ① Borders whole Indo - Chinese border.
- ② Raised as Mountain warfare force after 1965 war for this theater.
- ③ Under dual control of MHA & MoD, it protects Indian borders & work as 1st line of defense.
- ④ It also undertakes reconnaissance activities in Border Area.

India need to take proactive actions as per ~~Madhukar~~ Shelatkar committee & Madhukar Gupta committee to strengthen border defense & infrastructure.

————— ✍ —————

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 कक्ष में नहीं लिखना चाहिए
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Indian Agriculture is presently undergoing challenges of reducing productivity of land and issue of water availability to crops among other factors.

The uses of HYV seeds & resultant need of guzzling water for irrigation has affected both land productivity and water availability in India. (Green Revolution)

Need from land productivity to Irrigation water productivity

① The excessive use of Groundwater has led to decline in ground water tables & land salinization issues.

② The water application to crops like rice

is 3-4 times more than other countries like China & Bangladesh (due to faulty floodings irrigation system).

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③ Virtual Water Trade: India exports the water in the form of food grains & other commodities. ($\approx \$50 Bn$)

④ The reducing availability of water: the vagaries of climate change & monsoon goldstock's dilemma of Indian Agriculture

- Too plenty
- Sometimes
- Too little

ex. rainfall

⑤ the water quality also declining with contamination like Arsenic, Nitrogen etc.

hence to ensure sustainability of the water there is need for irrigation water productivity.

① methods like direct seeding of Rice (DSR) like Bangladesh,

② Micro-irrigation: the techniques like drip irrigation

sprinkler, rain guns will decrease the ground-water uses which is leading to more than 89% of total usage.

ex. Netaphan (Israel) tech

③ Agronomic measures to preserve soil moisture.

ex. Mulching, crop cover.

however the shift is full of challenges

- ① High initial costs of micro-irrigation technique.
- ② small land holdings - farmers have not sufficient means for transformation
- ③ the free electricity to farmers is a challenge in promoting the shift.
- ④ The government's policy of populism stops taking drastic measures.

Water is ~~now~~ most important commodity in today's world hence behavioural nudge with adequate government support is needed from unproductive to irrigation water productivity in India.

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 कॉलम में नहीं लिखना चाहिए
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Energy security refers to the ^{adequate} ~~the~~ availability of the energy at all times to provide for the needs of country.

It includes Availability, Affordability and access to sufficient energy.

India is going through ~~the~~ energy Dilemma of Adequate and access to energy & sustainable energy.

State of Energy security of India

presently India produces 416.94 energy out of which renewable share is 41%

↳ Green Hydrogen can play an important role in providing sustainable renewable energy and achieve Panchamurti goal of more than

56% energy from non-fossil fuels.

Green Hydrogen: It is the ~~new~~ hydrogen produced through the electrolysis of water molecules which uses renewable energy unlike grey hydrogen which uses fossil fuel energy.

India has targeted 5 MMT production of green hydrogen under National Green Hydrogen mission by 2030.

Role of Green Hydrogen in achieving Energy Goals

- ① It will solve the energy dilemma by providing sustainable means of energy.
- ② Abundant availability of water as raw material for producing green hydrogen.
- ③ Green hydrogen will also solve the grid stability issue of other renewables as other renewables energy like solar & wind can be used to produce green hydrogen.

④ the long transportation of energy through pipelines.

⑤ Decentralised power: can be produced in decentralised manner in even remote areas.

however challenges remain

- ① high costs involved in initial setup.
- ② electrolytic is energy-intensive.
- ③ limited technological capacity of India.
- ④ cost of green hydrogen is more than Rs. 200/kg higher than other.

India needs to adequately invest, commercialise and bring down the cost of production of green hydrogen - to solve Energy security issues of India to make green economy.

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)

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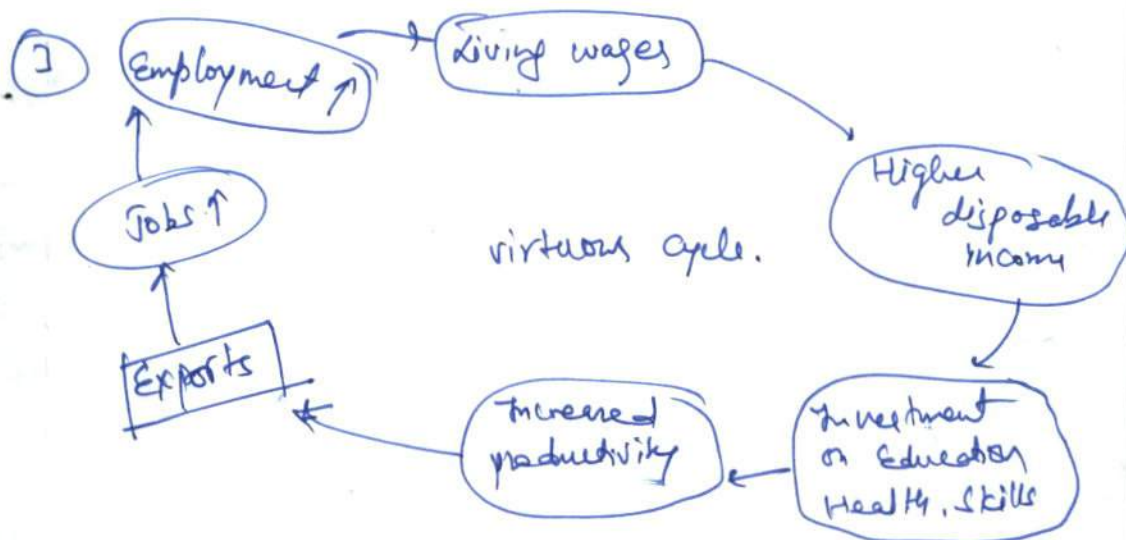
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Indian constitution as welfare state provides for the adequate wages under DPSP 4 as well as fair distribution of material resources. To realise this, government has contemplating transition from minimum wage to living wage.

Minimum wages is the remuneration for work which provides for the basic necessities of food, shelter & clothes while living wage provides opportunity & dignity through ease of living.

Benefits of living wage

- ① Better standard of living of people.
- ② Better expenditure on the children education & health.

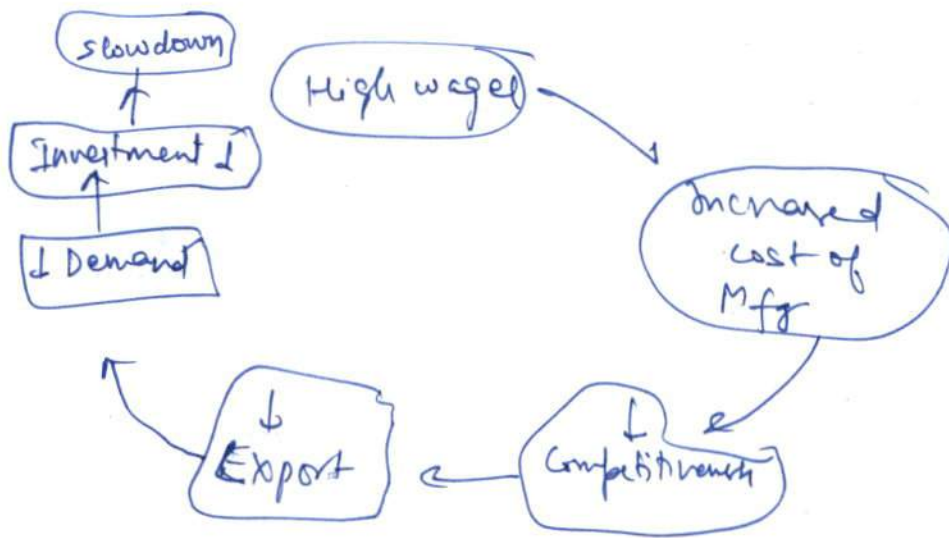


④ the demand will increase in the economy leading to achievement of high economic growth

⑤ It will complete vision of inclusive growth translating to overall growth.

Constraints in living wage

- ① high unemployed population ready to work for minimum wages or below minimum wages
- ② informal sector > 90%, enforcement issue
- ③ Increase in the cost of supply & production
- ④ Reduction in competitiveness and export



उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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hence there is need to balance the needs of workers & Industries collectively.

the skillig, Reskillig & upskillig is need to achieve the dream of empowered & inclusive economy in Amritkaal.



14.

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

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

15

Union Budget passed under Art 112 of Indian Constitution provides fiscal roadmap of receipts & expenditure of government in upcoming financial year & status of past financial year.

Effect of Budget on Every sector

Agriculture / primary sector: It encompasses various policy interventions for the Agriculture infrastructure and schemes.
Ex Agriculture Infrastructure fund.

Industry: the taxation grants and new schemes like tax reduction on new manufacturing units to 15%.

Services:- policies for export support, SEZ policies & incentives.

the taxation, fiscal deficit, spending pattern of the budget affect the every sector & individuals in the country.

However the scrutiny of budgetary process & budget policies is not substantial.

- ① The discussion in the parliament of budget 2023-24 happened for 12% part only
- ② the public scrutiny is limited to trivial announcements of tax concessions & tax slabs specially in salaried & middle class
- ③ the lack of effective literacy among people to understand complex budget and less government efforts to sensitize public towards it, is one of the reasons.
- ④ The less sitting of parliament and less involvement of civil society organisations makes it further difficult to scrutinise.

however it is not so public representative scrutinise the budget through parliamentary committees - like department related committees.

There is need of Brigpy budget

- processes and ~~diso~~ policies in public discourse so as to effectively ensure accountability of government towards public.

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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)

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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15

India with 221 Mu Tonnes of milk production in 2021-22 (83% word output) is the biggest producer of milk in the world, transforming itself from milk-deficit to largest milk producer.

Transformation

① the operation flood led to the transformation through

↳ Cooperative model of milk producing

↳ Sufficient benefits to the producers.

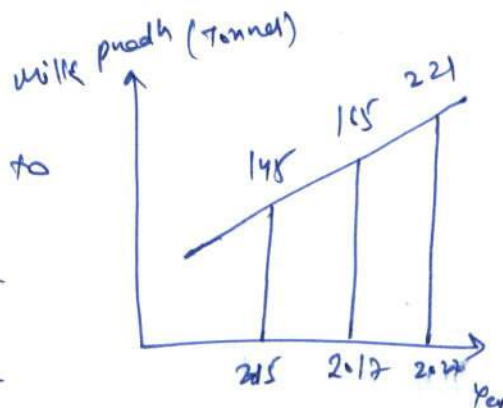
↳ High milk processing (upto 35%)

↳ Care of livestock through veterinary services.

② Government's schemes like National Animal Mission, programmes on Foot & Mouth disease,

Artificial insemination programmes have helped

India becoming largest milk producer.



④ the largest bovine population of the world is also the factor

however despite producing 23% milk of world productivity of milk sector remains a concern —

Reasons

① the indigenous breeds of bovine gives less milk /day compared to foreign breeds like in Belgium and Netherlands.

ex India: Average 4-5 kg/day
Netherlands: ≈ 30 kg/day

② The prevalence of diseases and lack of sufficient trained veterinarians is challenge.

③ Diseases like Lumpy is challenge.

④ concern of Nutrition of food — fodder cost of more than 50% proportion with high fodder inflation of over 30% (March 2023)

⑤ climate change & global warming is also affecting the fields.

Solution to Increase milk productivity

- ① Increase the research & development.
- ② Hybrid quality of Buffaloes to increase milk production.
- ③ promotion of indigenous breeds like Manda Buffaloes resistant to many diseases.
- ④ Technology upgradation in dairies.
- ⑤ better feed & fodder management.

the government support through animal husbandry infrastructure mission, e-Gopals, will go long in assuring milk productivity increase and ensuring protein security.

It will also be helpful in increasing growth with aim of reaching the last mile.



6.

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

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

15

the climate change leading to global warming has affected the agricultural productivity threatening the world food security.

climate change responsible for crop failure

① High climate change & global warming are leading to high frequency & intensity of extreme weather events threatening agriculture.

Ex. loss of 5 ^{lakh} ~~million~~ Hectare crop of wheat due to Heat waves (2022)

② Increasing the ambient temperature requirements leading to short availability of favourable condition
Ex. small growing period for wheat

③ Low rainfall — low water availability and irrigation

④ Pests — increased temperature leading to

higher growth of insects & worms affecting yield
Ex. Yellow Bollworm on cotton

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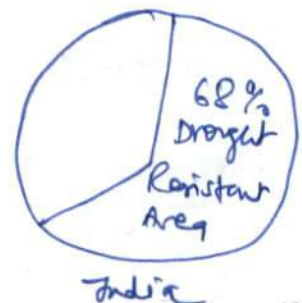
Agriculture responsible for extreme weather events

- ① Rice monoculture: Increase emissions of methane due to unsustainable floodings pattern
- ② stubble burning: leads to global warming
- ③ High use of pesticides & fertilisers — leads to higher water demand — creating agricultural drought
↓
Reduce moisture in soil

As Agriculture with its other component like livestock is also contributes to global warming
Enforcing the extreme weather events like heat waves, rainfall & droughts affecting Agriculture.

Plan to strengthen resilience of farming community

- ① Multi-pronged strategy has been adopted to increase the resilience.
- ② Efforts are undertaken to change



the cropping pattern as per Agro-ecological/
Agro-climatic zones.

② the focus on millet production which are
heat & stress resilient and require limited
resources.

③ focus on livestock oriented integrated farming
system.

④ focus on zero budget natural farming/
regenerative Agriculture.

⑤ Increasing food processing to reduce waste
Ex. PM SAMPADA scheme, PM FME

⑥ provision of storage infra under MJDH

⑦ Soil Health Management & Urea - integrated
nutrient management
Ex. Soil Health card & Neem coated Urea,

⑧ Use of technology in Agriculture
↳ Ex. AI based applications Ex. Plantix (Karnataka)
Kisan Drone
Custom Hiring Centres - Kisan Samruddhi
Kendra,

two schemes like Agricultural Infrastructure
Investment fund aims to Indian Agriculture
climate resistant.

17.

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

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

15

Earthquakes is the release of energy from earth's interiors which leads to devastating impacts of disaster on human & physical infrastructures.

India being in tectonic activity zones of Himalayas and Reservoir induced seismicity due to large hydro power projects faced high vulnerability to earthquakes.

Vulnerability of India to Earthquakes

- ① the mountainous areas of Himalayas like Himachal Pradesh, Uttaranchal, northern parts of UP & Bihar, parts of Gujarat & Delhi come under Zone 4 & 5



4. vulnerability map of India.

- ② High population density of northern plains including Delhi poses greater hazard.
- ③ Indiscriminate urbanization and infrastructure not adequately resistant exacerbates the vulnerability.
- ④ The awareness of precautionary measures is still not sufficient.

Institutional measures to mitigate earthquakes

- ① Disaster Management Act, 2005 has been enacted.
- ② It forms National, State & District disaster management authority under PM, CM, DMs.
- ③ Hazard - zone mapping of the entire country has been done with classification.
- ④ Awareness campaigns through schools & other popular channels.
- ⑤ The National building code to enforce resilient commercial & residential constructions.

however the efforts does not

mitigate the issue. significant gaps still
remaining as

- ① Enforcement of National Building Codes is not sufficient
- ② Hazard zone regulation not enforced in mountainous areas.
- ③ Lack of awareness.
- ④ Lack of investment on mitigation measures i.e. disaster resilient infrastructure.

Earthquake is very difficult to predict and Early warning systems give very less time to evacuate, hence proper enforcement of institutional guidelines is way forward.

—————→

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)

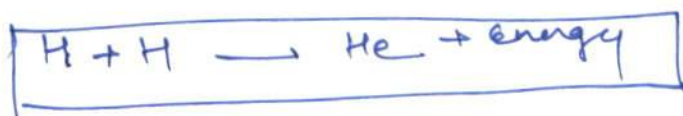
Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial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

15

उम्मीदवारों को इस खंड में नही लिखना चाहिए
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Nuclear fusion reaction is nuclear reaction in which ~~nucleus~~ particles of small atomic numbers fuse together to make bigger particle releasing enormous energy in the process.

Ex.



Scientific breakthroughs for clean energy

- ① Nuclear fusion is clean process without any harmful effects on Global warmup
- ② Net energy gain is very high
- ③ Large abundance of hydrogen atoms in Atmosphere makes it almost inexhaustible
- ④ the fusion reaction is challenging itself, hence breakthrough is important for humankind.

Advantages of Nuclear fusion based power

- ① clean energy
- ② solves energy trilemma ← Acceptability
→ Sustainability
→ Availability
- ③ High abundance of raw material.
- ④ small size of reactor will not need other resources.

however there are challenges Limitation
in harnessing it on commercial scale,

- ① the initial cost of fusion reactor is high.
- ② the setup is still in nascent phase not ready for commercial adoption.
- ③ the fusion reaction has been achieved but not sustained for long time.
- ④ It is still on small scale.
- ⑤ safety requirements are high.
- ⑥ Management of high energy with specialised materials like heat shields etc. required.

• on large scale.

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Hence there is need of further research
to make ~~com~~ technology commercially viable.
efforts of India in ITER project of 9-20
are also commendable in this regard.



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, (PMLA)

2002 is the most fundamental law to regulate the Money Laundering activities in country.

Recent Amendment in ~~PMCA~~ PMCA, 2022

- ① Bribe-giver is also now offender
- ② prior permission to take action against public servant.
- ③ stringent punishment & power to ED.

Efficacy of Money Laundering Act

- ① It is strong legislation to address money laundering in India.
- ② Extensive powers to ED to investigate & prosecute the offenders.
- ③ Act as deterrent to money laundering.

Criticism

- ① Black money / parallel economy still running.
- ② Terrorist financing / drug money prevalent
- ③ Action against political rivals less
conviction rate $\leq 3\%$
- ④ recovery of money & conviction have been low.
- ⑤ extension powers to ED to arrest.
- ⑥ Undermines citizen's right to liberty,

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

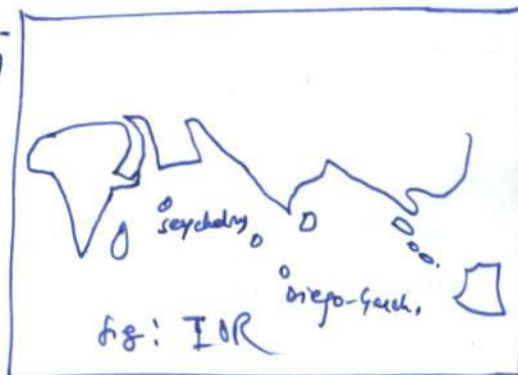
Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Indian Ocean region is increasingly become most coveted security theater in the world. It extends from east coast of Africa to Indonesia ^{Australia} in the East.

present threats in Indian Ocean



① Increasing maritime - piracy -

the zone of piracy from Somalian coast is increasing towards Indian EEZ.

② Increased maritime organised crime: the organised crime like human trafficking, drugs & arms trade endangers Indian security.

Ex operation Samudragupta seized Rs. 5000 crore worth drugs off the coast of Odisha.

③ Increased border surveillance - leads to terrorist activities through ocean.
Ex. 26/11 Attack in Mumbai

④ Two international power contestation: the rising presence of Chinese military / Navy in Indian ocean threatening India's role as Net security provider in region & affecting national security.

Ex. Chinese submarines
spy vessels.

Naval bases at Djibouti

⑤ the threat of rivalry between US-China

Considering these threats, India has taken numerous efforts to strengthen its maritime security.

① Coastal security infrastructure has been strengthened.
↳ position of Maritime security coordinator
↳ comprehensive management of Border by Coast guard with NAVY

③ Mechanism like information fusion center - Indian ocean region. for quick collection & dissemination of information

④ Increased ratio & collaboration with other navies. Under Potosamo convention to stop trans-national crimes)

Robust strategy to be adopted

- ① unified command for maritime security, with various stakeholders.
- ② Increase in intelligence capabilities.
- ③ Modernisation of state police of coastal areas.
- ④ Collaboration with other ISRA countries.
- ⑤ Technical innovation in surveillance technologies.

Maritime security is most important for ^{Indian} ~~its~~ interests due to long coastline of 7516.6 km & large EEZ.



SPACE FOR ROUGH WORK

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