



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. : 1562623

अभ्यर्थी का नाम/Name of Student : AJINK

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

27/08/2023

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

केंद्र

Centre

Bhai Joza Singh Public School,
D-4 Faiz Road, Kanoor Bagh, New
Delhi - 110005

निरीक्षक के हस्ताक्षर
Invigilator's Signature

[Signature]

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

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
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 की 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 दृष्टि में
नहीं लिखना
चाहिए
Candidates
must not
write on
this margin

Food Security (FAO) can be defined as the ability to get nutritious, healthy and quality food without any hinderance.

Dimensions of Food Security

- ① Affordability :→ Every section is being able to purchase food.
- ② Accessibility :→ Accessible to even the most marginalised.
- ③ Quality :→ The food must be of a good quality.
- ④ Nutritious :→ Food must contain all the important macro and micro nutrients like Zn, Fe, Co, Mg, Vitamin Protein, fats etc

India's status

- ① Affordability: → Govt. controls the prices through Open Market Sale Scheme, Subsidy under NFSA act (Rice - ₹3/kg, wheat - ₹2/kg, coarse grain ₹1/kg).
- ② Accessibility: → Through PDS and Fair Price Shop and schemes like PM-GaribKalyan Anna Yojana, One Nation - One Ration Card, NFSA Act, Mid-Day Meal etc.
- ③ Nutrition: → Through Rice Fortification scheme providing required micronutrients, Breakfast Scheme of T.N. govt.
- ④ Quality: → Procurement by FCI checking quality standards and MSP to farmers, and FSSAI standards on food products.

Thus, India has achieved food security through its various mission and using technology. SDG 2 is by and large achieved. We are now working on nutrition and quality factors. 7

2.

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

10

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

Blockchain and Chat GPT can transform every sector including agriculture and these are the disruptors.

Use of Chat GPT in Agricultural transformation

- ① Farmer friendly :-> Farmer can ask question through prompt and get the whole answer in a precise format.
- ② Jugalbandi :-> Creating the Chatbots in Vernacular language can help uneducated and illiterate farmers.
- ③ Accessibility :-> Available and easily accessible and also lesser cost. Because most of us have smart phone.

- ④ World View :- Chat GPT can provide a global outlook to the farmers and a farmer can learn from world's Best Practices.

Blockchain usage

- ① Digital and Precision Farming :- It can act as a tool in precision farming so that Optimal utilization of resources.
- ② Secure and :- Blockchain provides secure ledgers which can be beneficial for the farmer to maintain its accounts.

Initiatives

- ① Intel collaboration with GOI to create AI model to help farmers
- ② Jio using its platform to make AI Chatbot for farmers.

The technology can be very beneficial and will improve productivity at large but the real concern is majority of farmers are illiterate and small (86%).

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

De-dollarization means moving away from dollar payment system and using some other currency. More preferably local currency.

Factors - led to de dollarisation

- ① Multilateralism in a crisis as IMF, World Bank and such institutions are unable to cope up with rising geopolitical situation and disruption.
- ② Conflict and Sanctions :- Russia-Ukraine conflict and sanction on Russia (debaring from SWIFT system), Sanctions on Iran.
- ③ Rising Chinese Power in the world's economy.

④ Western hegemony in the multilateral institution and no voice of global South.

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

Dollar loosing its dominance soon

- ① As per IMF, ~~dollar~~ 88% trade is currently done in dollars.
- ② The concept of petrodollars where company pays in dollar on purchasing petroleum.
- ③ The dominance of SWIFT system.
- ④ SDR rights with dollars have the highest weightage.

Recent advancements towards de-dollarisation

- ① BRICS currency :- Talk of brics currency.
- ② Vostro Account and Nostro account to evade western sanction.
- ③ India-VAE to trade in local currency
- ④ BRICS to trade in local currency (negotiation).

Dollar in recent times will not loose its dominance any time soon.

4.

विकसित देशों द्वारा भारत पर खाद्य सस्तिडी 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)

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

10

India MSP and food subsidy regime have attracted criticisms from western world and cases in WTO accusing evading Agreement on Agriculture

Criticism from developed countries

① Agreement on Agriculture :- Deminiimis subsidy of 15% for developing nation and 10% for developed countries at (1986-87) level. India giving more than that.

② MSP regime in India distorting trade.

③ Export subsidy in India to sugar distorting WTO principle.

Merits in India subsidy regime

① India asked for changing the 1986-87 level to current level.

② At current level our subsidy is under the limit.

③ Subsidy regime enabling food security in India.

④ MSP program has led to farmer's income rise and better farming technology investments.

⑤ Subsidy in sugarcane has led to more sugarcane → more ethanol
↓
less crude oil imports

Thus, our concern for our poor and our subsidy regime has enabled us to get food security, technology improvement and SDG 2 achievement.

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 हार्शिए में नहीं लिखना चाहिए
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10

NITI Aayog's 'Composite Water Management

Index highlights the situation of

water stress in the country and also

Day Zero for cities like Delhi, Hyderabad

and Chennai.

Initiatives by the govt. towards water needs

① Jal Jeevan Mission :- Tapped water to all households.

② PM-Sinchayee Yojana

- Command Area Development
- Integrated watershed Management
- Har Khet ko Paani

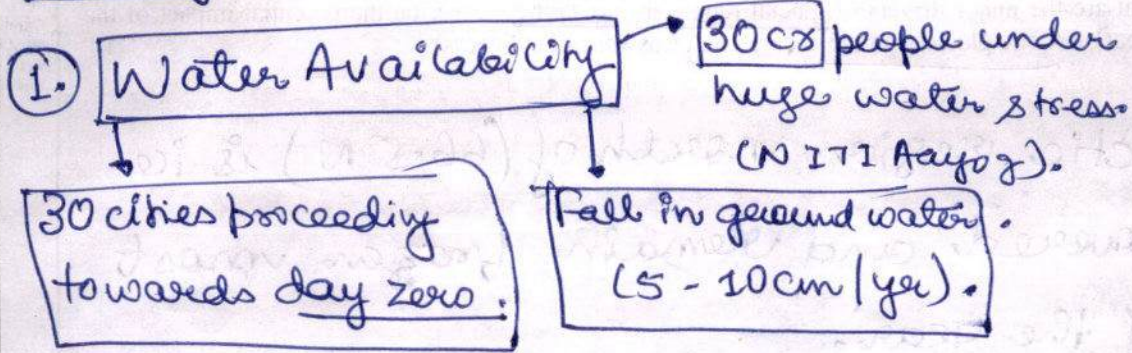
③ Amrit Sarovar Yojana to dug 75,000 ponds in villages.

④ State govt. initiatives

- Sujalam Sufalam
↳ Gujarat
- Neeru Chiru
↳ Andhra Pradesh
- Jal Jeevan Hariyali
↳ Bihar.

⑤ Geo Tagging of wells, Ahar.

Issues of water availability and water quality



② Water Quality

②.1 Prevalence of water borne diseases like Cholera, Diarrhoea.

②.2 ~~Are~~ Arsenic, fluorine heavy metals in several water blocks like Jharkhand - Sahibganj block

②.3 Uranium concentration in Punjab's underground water.

Thus, despite govt. efforts there is more needs to be done. Conservation of water through Rainwater Harvesting, judicious use and ONE WATER approach

6.

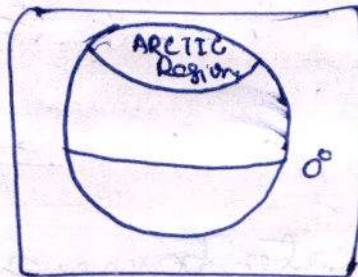
आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

Arctic region north of $(66.5^\circ N)$ is ice covered and remain frozen most of the year.



Major drivers of glacial retreat

- ① Global Warming with increasing avg. earth's temperature. CO₂ PPM - 428
- ② Climate Change : → due to global warming.
- ③ Arctic Amplification as arctic is getting melted at a faster rate than other parts.
- ④ Fossil fuel burning → Global warming → Climate Change.

Potential Impact of the retreat

- ① Rise in sea level :- \rightarrow B/w 1995-2020
4.5mm/year sea rise (WMO).
- ② New virus (Zombie Virus) \rightarrow New pandemic.
- ③ Trade route :- Due to deglacification
new trade routes for future trade.
- ④ New Reserve for oil and gas.
- ⑤ New avenue for fishes and fisheries industries.
- ⑥ Decrease in ~~at~~ albedo thus
acting as a positive feedback
mechanism.

Arctic glaciers are one of the tipping
points of earth and their melting
can have a cascading impact
on our earth. Efforts must be to
protect these glaciers.

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

Space tourism is now becoming a reality and after successful Chandrayan-3 mission, even our PM called "Chandamama ab tour ke".

Challenges associated with space tourism

- ① Space flights and investment are a major hurdle in this regard.
- ② No Outer Space treaty available at global level.
- ③ No global consensus on how to use the outer space.
- ④ Rise in space debris due to Kessler Syndrome.
- ⑤ Nascent Technology and more research and development required.
- ⑥ Space divide as developing nation would suffer.

Measures

- ① Signing of a global Outer Space Treaty.
- ② Creating a solution to decrease space debris.
 - ↳ (eg) - Net Technology by JAXA
 - ELSA-G by ESA.
- ③ More investment in space sector.
 - ↳ (eg) - Artemis Accords.
- ④ Global treaty among big player and technology sharing.
 - ↳ ICET India-USA

Space tourism would be a booming sector.

Space-X, Virgin Galactic are leading

it from the front. However, it is opportunity for India to take the benefit. As per Arthur D Little

Indian Space Industry would become

\$406n by 2030.

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 ब्यास 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)

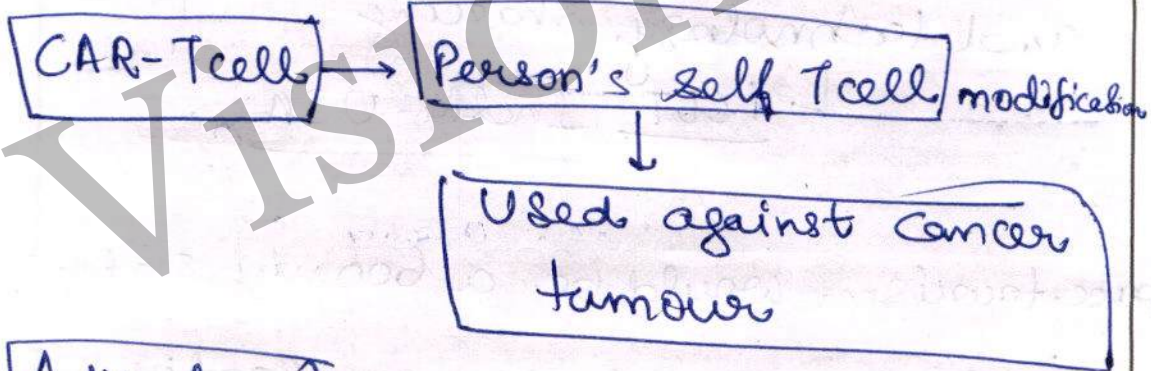
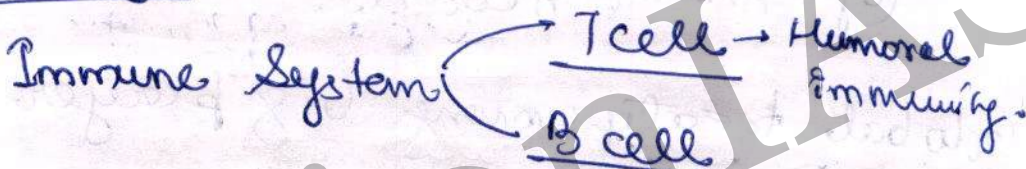
उम्मीदवारों को इस-इतिहास में नहीं लिखना चाहिए
Candidates must not write on this margin

10

Chimeric Antigen Receptor - T cell therapy

is used to treat cancer by using a person's self T cell.

Working



Advantages

- ① No outside invasive techniques
- ② No lesser chances of side effects and reverse immune response.

Better than CRISPR-Cas9

- ① CRISPR-Cas9 requires a vector and Gene of Interest from different species.
- ② Manipulation with the nucleus.
- ③ Can impart secondary genetic defect.
- ④ Can result in side effects.

CAR-T cell is indeed a welcoming development but its efficacy is still to be ensured and its implication on human to be studied at a larger scale.

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

Violent and extremist organisation like ISIS, deT, Jem are using and deploying emerging technologies like drone, Social media, AI etc.

Use of technology

- ① Drones for terror attack and cross border terrorism, drug peddling
 - ↳ Kamikaze Drone.
 - ↳ Drug Peddling in Kashmir valley
- ② AI to create deep fakes and influence people.
- ③ Social media handle for radicalisation
 - ↳ Daqib Module by ISI.

Concerted Global Effort

① Organised Crime with no boundary

like drug trafficking, human trafficking, money laundering.

eg - Zambada Cartel for drug trafficking on dark net.

② All countries are vulnerable to their actions.

Global Actions

① FATF

② UNSC resolution and Delhi Declaration.

③ GAPI on ethical usage of AI.

Thus, a proper global effort is the need of hour.

10.

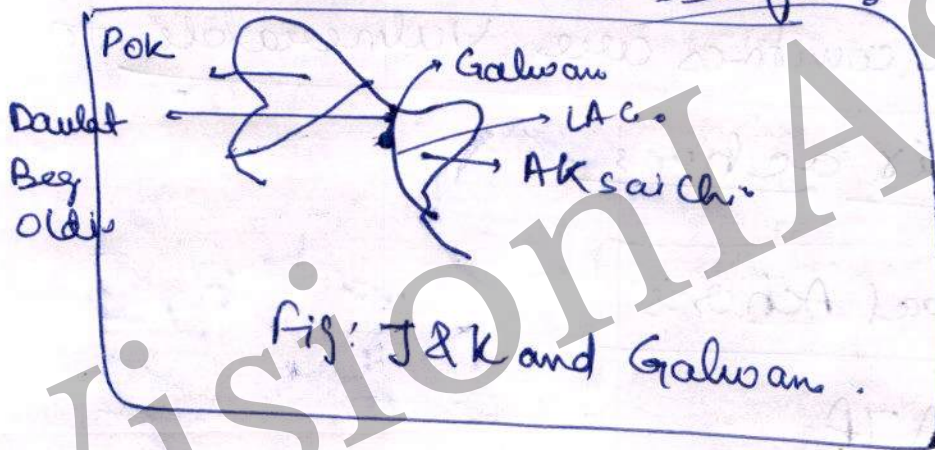
गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

10

Galwan Clash has made our relation with China tense and we have to invest in our infrastructure to make our border safe.



Infrastructure ramp up

- ① BSP and Indian Army made 3000 temp. resilient houses at Western sector of LAC.
- ② Roads by BRO at Daulat Beg Oldie — Tar Road.

③ Chinese army bitumen road on
Aksai Chin near Yardlung
Nala .

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

④. Vibrant Village Programs
Role of ITDP

- ① Secure the region .
- ② Secure our infra.

Thus, concerted effort is required
to protect our border with
Community involvement .

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

15

India has world's (18%) population and world's (4.1%) water resources. As per CGWB over (90%) of groundwater extraction is used for irrigation, which is India extracts (25%) of world's ground water.

Need to shift from land productivity to irrigation water productivity.

- ① Over extraction :-> India extracts world's (25%) groundwater and use it for irrigation.
- ② lesser efficiency :-> India follows flood irrigation system which has a lower efficiency and most of the water gets evaporated.
- ③ land salination :-> Due to over

exploitation of resources land salinity is on rise which further decreases land productivity.

(Eg) - Punjab, Haryana

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

④ Land Subsidence :- → Due to over exploitation aquifers get dried up and our land gets subsided.

Need of land productivity

① Food Security :- → Due to growing population there is a need of food security.

② Climate Change :- → Climate change has hampered productivity due to extreme events like hailstorm, heat waves, torrential rain.

(Eg) - Wheat productivity suffered due to heat waves in 2022.

As per WMO, India is one of the most vulnerable to climate change events.

③ Supply Chain Disruption: - Russia - Ukraine war has mandated us to be self sufficient in food production and food production ↑ achieved land productivity.

④ Virtual Water Trade: → Countries like China are using this tactics to save their resources and import ^{gain} from countries like India.

Thus, need of the hour is to use
> Micro-irrigation technologies like drip irrigation

> Organic farming, ~~through~~

> Natural farming.

Our government is taking steps through PM Sinchayi Program, Zero Budget Natural

farming, Paramparagat Krishi Vikash

Yojana and also Amrit Sarovar.

12.

भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

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

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

15

Green Hydrogen as the name suggests is generated through electrolysis using renewable sources of energy.

India launched Green Hydrogen Mission with an outlay of ₹ 19,000 cr

Role that Green Hydrogen can play in unlocking energy security.

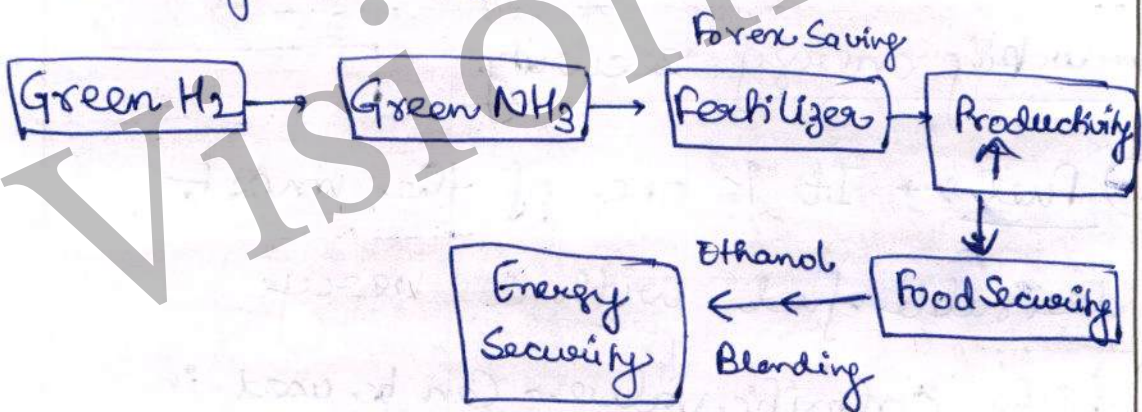
① Fuel: → It is one of the most desirable fuel with a very high calorific value. Can be used in cars.

② Dependence on crude oil: - India imports

80% of its crude oil from foreign nation. Green Hydrogen Mission can help us in saving this and make us

self reliant.

③ Green Ammonia :- Green Hydrogen can be used to manufacture Green Ammonia which is a substituent in Urea and fertilizer manufacture. Currently, India import this constituent from Russia. This can help us in saving our forex and our fertilizer industry can grow.



National Green Hydrogen Mission in achieving energy goals.

- ① Components
- SIGHT → To promote domestic manufacturing.
 - SHIP → For PPP Model to increase R & D

- ② Aim
- 60-100 GW electrolyser installation
 - 5 lakh jobs.
 - India pioneer in Green H_2 exports.

Energy Goals

- ① Clean source of energy :- On combustion only generate (H_2O) and no CO_2 , SO_x , NO_x etc.
- ② Achieving NDC targets of reducing carbon intensity to 45% of 2005 level
- ③ Achieving 500GW of energy through Renewable sources of energy by 2030.
- ④ Reducing dependence on fossil fuel like petrol, diesel by making Hydrogen run cars.

Thus, Green Hydrogen Mission is a commendable step which will make India secure and help in achieving its NDC targets of Panchamrit.

13.

हाल के दिनों में, सरकार न्यूनतम पारिश्रमिक की जगह जीवन निर्वाह पारिश्रमिक को अपनाने पर विचार कर रही है। भारत में जीवन निर्वाह पारिश्रमिक को अपनाने के लाभ और इसमें विद्यमान बाधाएं कौन-सी हैं? (उत्तर 250 शब्दों में दीजिए)

The government has been weighing a transition from minimum wage to living wage in recent times. What are the benefits and constraints in the adoption of living wage in India? (Answer in 250 words)

15

उम्मीदवारों को इस छवि में नहीं लिखना चाहिए
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Minimum Wage can be defined as the wage which is able to sustain basic necessities of food, shelter and clothing.

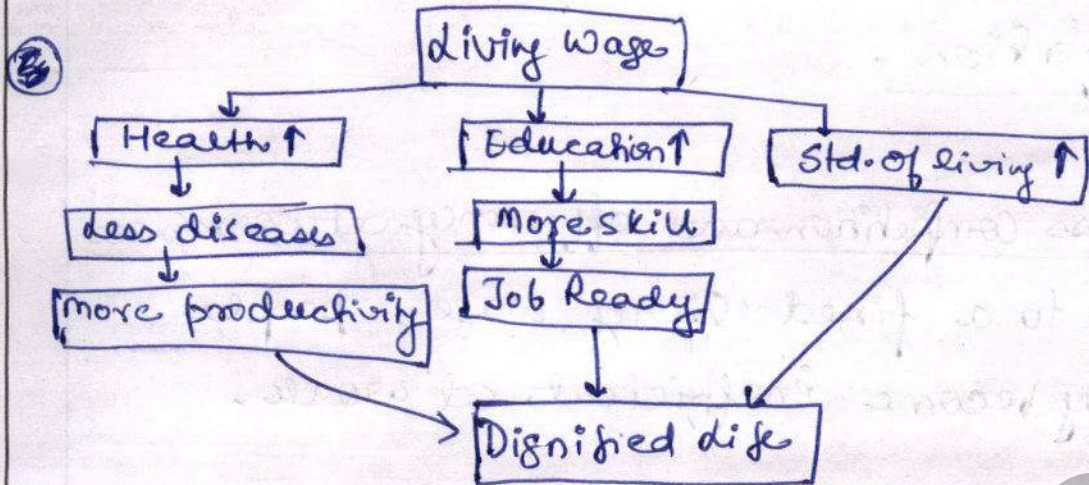
Living wage refers to the wages which can help us to sustain and lead a dignified life (As per OECD).

Benefits of adoption of living wage in India

- ① Dignified life :- People can live a dignified life, ~~with~~ (Art. 21) fulfillment
- ② Education :- It can provide opportunities for better education to the people.
- ③ Health :- The ability to avail a better healthcare opportunities. Less diseases
- ④ Standard of living :- Standard of living

will increase with access to fuel, sanitation, floor, electricity etc.

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



Constraints of adoption of living wage

- ① Fiscal Deficit :- fiscal deficit of our governments will rise. As per FRBM act to be maintained at 2.5% of GDP. Currently, 6.47% of GDP.
- ② Capital Expenditure would suffer :- less funds for capital expenditure on infrastructure etc.
- ③ Incentive of not to work :- can be a detrimental step as some may think of not working at all and reduced competition.

④ Rise in inflation : Living wage \uparrow can push demand and thus rise in inflation.

⑤ Less competition and efficiency at workplace
Due to a fixed living wage, people may become inefficient at work.

⑥ Rise in alcoholism and drug abuse.

To provide minimum wage there is Minimum Wages act. But currently, the concept

of Living Wage is unsuitable for India.

In spite of living wage focus should be on

- Skill development.
- Health care facilities.
- Formalization of economy.
- Social security schemes.

Thus, our govt. is doing and taking steps such as PM-Kaushal Vikas, Ayushman Arogya, BHARAT, Promoting MSME, Atal Pension etc.

14.

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

15

Union Budget announced every year contains all the important policy decision, fund allocation and government's vision for its citizens and nation growth.

Need of Public scrutiny of budgetary process

- ① Participation :-> It will increase public participation and hence concept of people taking their own decision.
- ② Decision Making :- It can help in better decision making and rational use of resources.

③ Targeted approach :- Can help in targeting the most vulnerable section of the society. (Eg) Tribals

④ Inclusive development :- Can be a tool for inclusive development where every people is getting a pie of the cake. Like Gender Budgeting (80%) of fund to only 5 ministries.

Flip Side

① Social Audit :- In India we have a concept of social audit in MGNREGA. MoRD report only (14.26%) of social audit compliance.

② Pressure on the government from every section to accommodate their interest as a priority.
↳ Pressure Group politics.

③ Inefficient and time taking process which may delay the developmental process.

④ People unaware of the nitigities of the process unable to give valuable suggestion.

Way forward

① Different section of society to be invited for discussion.

② Regional centres to discuss with public.

③ Online feedback mechanism on the budget.

Thus, currently a direct involvement of citizen does not seem feasible.

Inspite we should target on increasing our reach to most vulnerables

so that we can achieve our

desire of developed economy by 2047

with inclusive development.

15.

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

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

15

India the world's largest milk producing countries with more than 10 cr Cattles and it contributes 5% to our GDP.

Transition from milk deficient to milk producer

- ① White Revolution :- Vargese Kuriien his vision and governments efforts 'Operation flood' paved the way.
- ② Co-operatives :- Making Dairy Co-operatives like Amul, Mother Dairy, ComFED.
- ③ Collection Centres :- Lakhos of

Collection centres at the hinterlands.

(4) Robust supply chain with chillers, pasteuriser helped us.

Productivity of Dairy Animals

(1) Indigenous breed :- Our indigenous breed produces lesser milk and thus less productive.

only 3-5 lt/day (Gir Cow)
20-30 lt/day (Jersey)

(2) Small farmers :- Small farmers with some animals unable to provide nutritious feeders to their bovines for milk production.

(3) Rise in feeder prices :- Feeder prices on rise, leading to lesser purchasing power leading to lesser productivity.

④ Diseases :- lumpy skin disease, Anthrax reduces the productivity.

⑤ less prevalence of veterinary doctors in villages, unable to detect disease at early level hampering milk production.

⑥ lesser bargaining power of the small dairy cattle owners.

Govt's initiatives

① Rashtriya Gokul Mission for GM bovines.

② Strengthening cooperatives through Multistate Co-operatives Amendment Act

③ Geo-Tagging of Cattles.

④ More recruitment of veterinary doctors.

Thus, productivity of our cattle is a concern that's why our milk products are costlier. This also restricted India from joining RCEP.

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

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

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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As per IMD, with 1°C rise in temperature, there is $7-10\%$ rise in moisture holding capacity leading to torrential rain. No. of Heat Waves days are increasing in India.

Crop Failure Reason due to weather events

- ① Torrential Rainfalls
- ② Droughts \rightarrow 30% India drought prone
- ③ Heat Waves.
- ④ Cold Waves.
- ⑤ Hail Storm.

Agriculture sector responsible for extreme weather events

- ① Over exploitation of ground water leading to land salinity.

② Clearing of forest for agricultural field.

③ Stubble burning → Microclimate^{region} in India and increase in pollution level.

④ GM crops leading to adverse impact on pollinator, less in biodiversity which ultimately impacts our climate.

National Agriculture Disaster Management Plan Strategies

① Zonation Mapping :-> Through ISRO satellites, Zonation of flood prone, drought prone area and making an atlas.

② Managing hazards through governance measures like funds, functions and functionaries.

Paramparagat Krishi Vikas Yojna, Nation Mission

3.1) Disaster Risk Reduction

3.1) Structural Measures :→ PUSA decomposer,
Happy Seeder for stubble problem,
PM Sinchayi Yojana for irrigation.

3.2) Non-Structural Measures :→ Policy formulation
and awareness through Panchayat
Chaupal ; Kisan TV; Youtube
Channels.

4.1) Preparedness through early warning
system and capacity building.

• Early Warning System :→ Kisan Sathi App,

Befikr app in Bihar for flood.

IMD Doppler Radar.

• Capacity Building :→ Co-operatives, FPO

↳ Sapling Solidarity in Punjab during
recent flood where saplings were
sent by farmers of Haryana worth
Crores

Thus, agriculture being a mainstay of
our country needs resilience and thus
to achieve SDG 2 and SDG 13.

17.

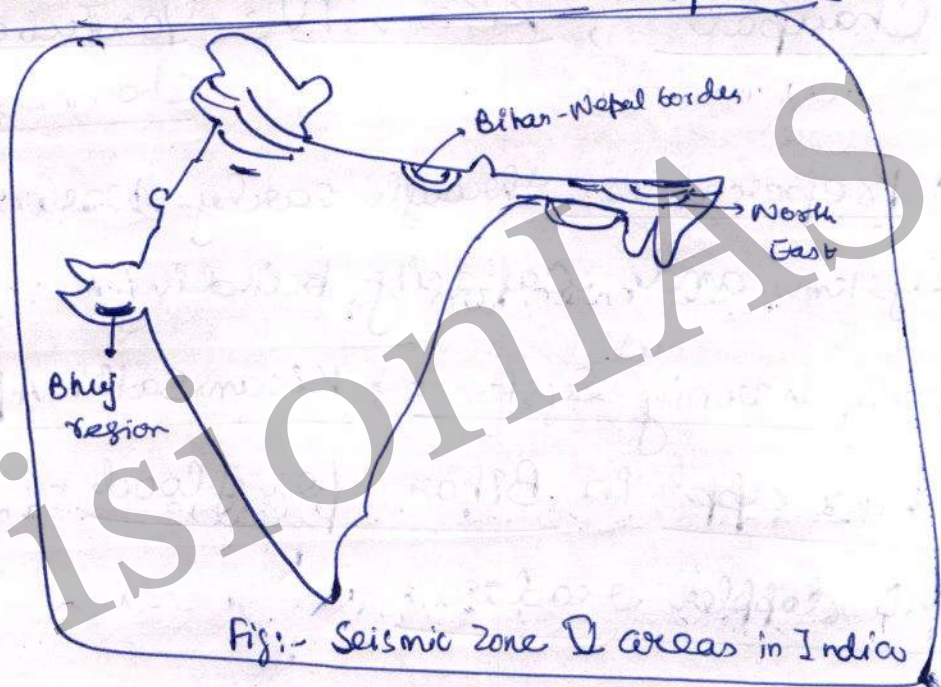
दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

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

15.

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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India's himalayan region, some region in Gujarat are under seismic zone V i.e. most vulnerable to earthquakes.



Himalayas were formed due to subduction of Indian plate under Eurasian plate and have major fault lines (HPT) etc. This thus is a seismically active zone.

Delhi being nearer to Himalayas comes under seismic zone V.

Institutional Measures to mitigate earthquake

Losses: →

उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए
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- ① Creation Hazard Zonation and Mapping
thru by GSI and Categorising India into various seismic zone.
- ② Creation of National Disaster Response Force and SDRF.
- ③ NDMA, SDMA, DDMA 3 tier structure to work in cohesion for earthquake mitigation.
- ④ National Institute of Disaster Management to research and frame guidelines.
- ⑤ Building by laws modified in such areas by the municipalities and state government.
- ⑥ Non ~~str~~ Structural Measures like building disaster resilient infra using traditional knowledge like Bhugra in Bhey.

⑦ Formation of GDR1 by India for technology transfer, knowledge sharing and funds.

⑧ Creation of G-20 working group on disaster reduction.

Significant Gap existing

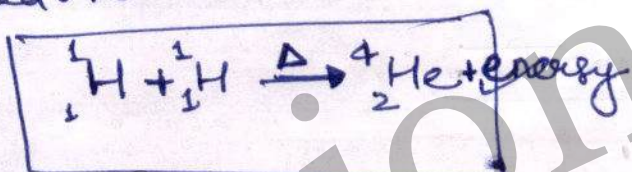
- ① Building by laws are not strictly followed.
- ② Rapid Urbanisation has deviated our efforts.
- ③ Lack of resources at NDRF, SDRF for capacity building. Only 20% for capacity building. Finance Commission recommended 30% for capacity building.
- ④ Laxity on the part of Urban Local Bodies to check earthquake resilient infra.

Thus, being in seismic zone we need an efficient mechanism and resilient infra otherwise the result could be catastrophic

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

Recently, scientist at a USA National laboratory announced a net gain from Nuclear fusion ^{reaction} energy. Fusion reaction is joining of 2 lighter atoms to make a heavier atoms.



Advantages of nuclear fusion energy

- ① Great source of energy :- Sun is powered through fusion reaction.
- ② Clean source of energy :- With no pollutants like CO_2 , CO , NO_x , SO_x , $\text{PM}_{2.5}$, PM_{10} etc.
- ③ Sustainable :- Once reaction gets started it can be sustained for a ~~get~~ longer time.

④ Energy Security: → Can provide energy security to our population and can satisfy the energy needs.

⑤ Alternative to fossil fuels: → Fossil fuels responsible for climate change can be replaced through this reaction.

⑥ Abundance of H_2 : → Can be produced combining (H_2) which is the most abundant elements.

Limitations

① Energy requirement: → Energy is required at a larger scale to initiate the reaction.

② Higher Temperature: → Temperature requirement is worth thousands of kelvin which is tougher to achieve.

③ Smaller net production :- With current technology, production can be at very small scale - Very expensive to harness.

Initiatives

- ① ITER → Tokamak reactor; India is also a part; 35 nation facility in France.
- ② China's Sun :- China has achieved Sun's surface temperature and trying to get nuclear fusion energy.
- ③ USA Livermore National Laboratory

Thus, nuclear fusion can be an energy for future and can help in achieving SDG 13, SDG 7.

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

Prevention of Money Laundering Act, 2002 (PMLA) is a ~~central~~ central act to deal with money laundering through drug trafficking, terrorism and other organised crime. Enforcement Directorate is the nodal agency and GVC has a oversight.

Recent Amendment

- ① NGOs getting foreign funding to be registered on DARPAAN portal of NITI Aayog.
- ② Burden of proof of innocence on the accused.
- ③ Money laundering through drug trafficking, cross border terrorism

also under its ambit.

④ Only if 10% share then also a case of money laundering against the accused.

⑤ Accused personal property can also be confiscated.

Efficacy in Tackling the menace of ML

① More than 5800 cases registered under PMLA.

② Seizure of property worth ₹ 1000 crore by the ED.

③ Deterrence before doing any illegal work.

④ Drug trafficking and cross border terrorism decreased.

As per NCB, money laundering through drug trafficking and cross border terrorism cost 2-4% of GDP and

loss of jobs.

Flip Side

- ① Conviction Rate is very low in those 5800 cases as per an answer in the parliament.
- ② Political Vendetta :- Accusation of using PMCA and EP against political opponents
- ③ ECIR :-> ED is not bound to file ECIR in such cases. So, an accused is unaware of the charges against him.
- ④ Amendment through money bills rule as opposed by some scholars.

PMCA is indeed a very stringent law and has created a deterrence in the minds of people. Money laundering has become a major menace which must be controlled through concerted efforts of global institution like

FATF

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 very long coast line of 7500km and India considers Indian Ocean Region (IOR) as its backyard.

Security threats in IOR

① Border disputes :-> with countries like Sri Lanka and Pakistan (Sir Creek).

② Piracy :-> Piracy is the major threat to security as India's 80% trade by volume through sea routes.
Solⁿ -> Anti Piracy Act, 2022.

③ China's growing role :- China with its Seeweilance Sea Voyage (Yan Wang-5).

• It's String of Pearls with Hambantota Port, Djibouti Naval base.

• Dark shipping by Chinese vessels.

उम्मीदवारों को इस हार्जिन में नहीं लिखना चाहिए
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• IUU fishing by Chinese vessels in Indian Ocean region.

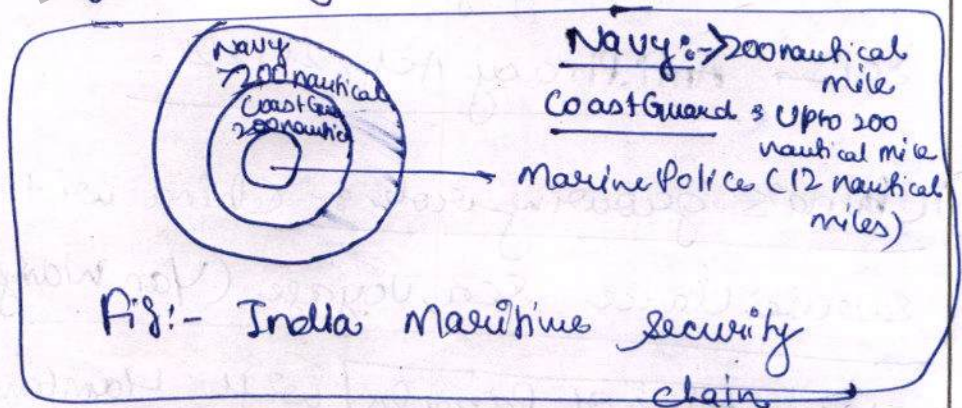
• China's growing foreign diplomacy with ~~China~~ IOR countries and India not invited.

④ Illegal Migrants : → Illegal migrants may enter through our maritime borders like from Sri Lanka during financial crisis.

Robust Strategy

① Institutional

①.① Maritime Police, Coast Guards, Indian Navy working in cohesion.



②

② Financial

②.① Capex expenditure in navy

Nuclear Triad.

2.2. Coast Guard provided Dornier Aircraft for surveillance.

2.3. TAPAS (CAV) drone for surveillance.

3. Political

3.1. SAGAR (Success and Growth for all in the Region).

3.2. Project Mausam by Ministry of Culture - Soft Power

3.3. Indian Naval Symposium by Indian Navy ~~through~~ to co-ordinate with littoral states.

3.4. Naval exercises like SIMTEX, Malabar exercise etc.

3.5. Changi Air base at Singapore.

3.6. Signing of AMBOA, COMCASA, BECA with USA using Deigo Garcia base in Indian Ocean.

3.7. Developing Chabahar Port.

3.8. Agreement with Indonesia for refuelling of submarine, ship.

