



**VISIONIAS**  
INSPIRING INNOVATION  
**ABHYAAS MAINS**

**सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2033)**

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. : 998375

अभ्यर्थी का नाम/Name of Student : NITISHA THAKWANI

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

ENG

तारीख  
Date

19-12-21

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

केंद्र  
Centre

Rajendra Nagar

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

Test Code: 2033

	<p style="text-align: center;"><b>महत्वपूर्ण अनुदेश</b></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;"><b>Important Instructions</b></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 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 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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निर्धारित समय: तीन घंटे  
Time Allowed: Three Hours

अधिकतम अंक: 250  
Maximum Marks: 250

**प्रश्न-पत्र संबंधी विशेष अनुदेश**

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

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

सभी प्रश्न अनिवार्य हैं।

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

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

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

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

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

**QUESTION PAPER SPECIFIC INSTRUCTIONS**

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

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

*All questions are compulsory.*

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

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

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

*Keep the word limit indicated in the questions in mind.*

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

## EVALUATION INDICATORS

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

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

**All the Best**

1. भारत में कृषि प्रसार से सम्बद्ध मुद्दों का उल्लेख करते हुए, राष्ट्रीय कृषि अनुसंधान प्रसार प्रणाली को सुदृढ़ बनाने में कृषि विज्ञान केंद्रों (KVKs) की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

Stating the issues associated with agricultural extension in India, discuss the role of Krishi Vigyan Kendras (KVKs) in strengthening the national agricultural research extension system. (Answer in 150 words)

10

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

Agricultural extension services refer to the end-to-end support provided to farmers from the stage of pre-production like soil health, demands to post production like marketing services etc.

Issues associated with agri-extension

I) Infrastructure Issues

i) limited technological progress : leading to ~~to~~ limited coverage of farmers

ii) limited internet penetration : causing the small and ~~for~~ marginal farmers being left behind

ii) Digital divide : between rich and poor farmers

II) Digital Illiteracy

Lack of use of digital knowledge among farmers

↳ limited benefits due to lack of availability

- III) Policy issues → Farmer not provided adequate legislative support  
Focus on certain crops procurement leads to production skewedness

### Role of Krishi Vigyan Kendra (KVK)

- i) Mission mode ~~invest~~ investment in research and development → Currently only 0.67% of investment is made ~~of~~ on agriculture
- ii) Support to small and marginal farmer  
Over 85% of farmer are small & marginal
- iii) Demand centric approach - According to the needs of the farmer.
- iv) Technological advancement : Agri-IDEA  
(Indian digital ecosystem for agriculture)  
Funds which AGRISTAR will provide end to end services

As agriculture employs 50% of the population the need to support them through agri-extension service will help in provid

'doubling farmer's income' by 2022

2.

भारत में, खाद्य प्रसंस्करण क्षेत्रक मूल्य संबर्द्धन की अपार संभावनाओं के कारण एक उच्च संवृद्धि और उच्च लाभ के क्षेत्रक के रूप में उभर रहा है। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

In India, the food processing sector is emerging as a high-growth and high-profit sector due to its immense potential for value addition. Discuss. (Answer in 150 words)

10

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
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Food processing sector (FPS) is known as the Sunrise sector, as it employs around 1.93 mn people, annual growth rate is 10% and contribute to total 10% of India's export by volume

FPS - High growth & high profit sector

i) Potential for value addition →

> Processing of food → attract higher

revenue : Ex: price of tomato vs tomato ketchup

ii) Nutritional security : Ex: fortification of

rice with vitamin A

iii) Increase the shelf life of products

reduces the cases of food wastage. According

to UN - 40% of food is wasted due to

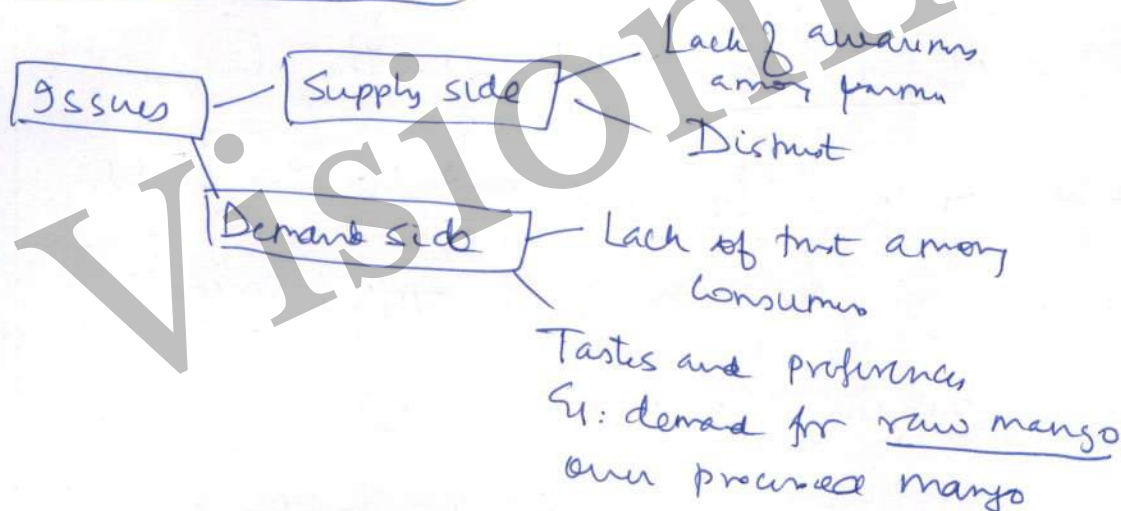
lack of transportation

(iv) Double farmer's income - According to Dalwai Committee, investment in food processing will enhance income and achieve the target of doubling farm income by 2022.

(v) Right Price and right market → According to MS Swaminathan, farmers need right market achieved through FPS

(vi) Diversification of production: will reduce distress sale, glut in the market, Eg:

tomato over production



Thus, to realize full potential of FPS, need to increase awareness, along with schemes like PM-Kisan Sampade - Mega Food Parks will aid in enhancing making agri more economically.

3. पशुधन आधारित एकीकृत कृषि प्रणाली (IFS) की अवधारणा की व्याख्या करते हुए, इसके लाभों पर चर्चा कीजिए। (उत्तर 150 शब्दों में दें)  
Explaining the concept of livestock-based Integrated Farming System (IFS), discuss its benefits. (Answer in 150 words)

10

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

Livestock-based Integrated Farming System (IFS) refers to the end-to-end integration of farming with the use of livestock ~~for~~ along with a traditional mode of crop cultivation.

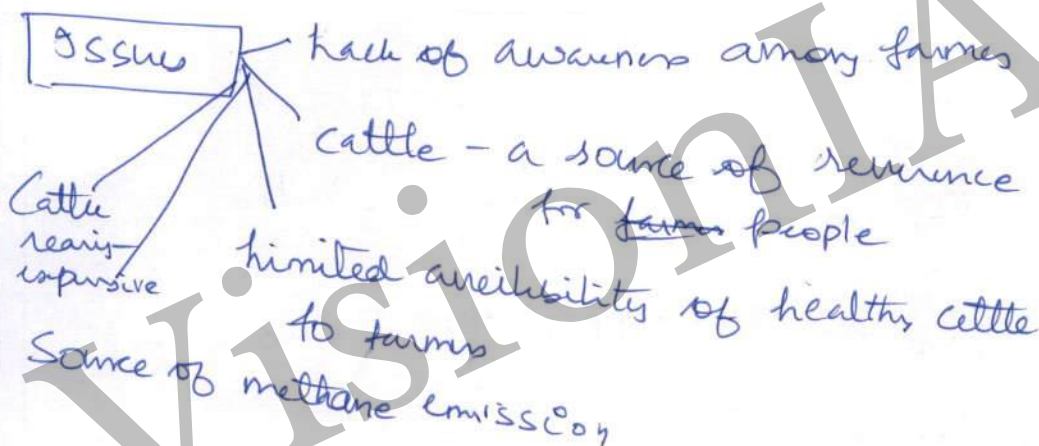
Characteristics of livestock based IFS

- i) Use of livestock — India has the largest population of cattle and goat in the world. Indian use kind make it agri farming more remunerative.
- ii) Reduce drayng : with the use of livestock
- iii) Aid to small and ~~poor~~ marginal farmers  
Around 86% of farms are small & marginal, who cannot utilize big machines

(iv) Reduce methane emission → cattle are the largest source of methane emission, a green house gas, though green fodder

v) Nature fertilizer - Cow dung & manure can reduce dependency on fertilizers

vi) Push to Zero Budget Natural Farming - advocated by PM Modi at a summit in Gujrat in Dec 2021



With government support and community participation, the livestock-based integrated farming can achieve NITI Aayog's vision of making agriculture more remunerative, increase productivity, increase rural means and land reform.

4. जहाँ भारतीय मूल के व्यक्ति (PIO) विश्व भर में उद्यमिता का नेतृत्व कर रहे हैं, वहीं भारत में अभी भी उद्यमिता दर सबसे कम है। चर्चा कीजिए। साथ ही, भारत में उद्यमिता की गति को बढ़ाने के लिए उठाए गए नीतिगत उपायों का भी उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

While Persons of Indian Origin (PIO) are spearheading entrepreneurship across the world, India still has one of the lowest entrepreneurship rates. Discuss. Also, state the policy measures that have been taken to increase the pace of entrepreneurship in India. (Answer in 150 words) 10

PIO are individuals who have connecti parents or grandparents of Indian citizenship, but ~~are~~ stays have not opted for Indian citizenship.

PIOs like Parag Agarwal, the CEO of Twitter, Satya Nadella of Microsoft, Sunder Pichai of Google have made India proud, however, highlighted the issue of 'brain drain'.

India - low rate of entrepreneurship

- i) Gaps in education and skill development  
Higher education institutions continue to remain obscure. and have not featured in global rank under top 10.

- (ii) Rigid education system : With limited scope for interdisciplinary ~~ed~~ education
- (iii) Gap between demand and supply : With limited interaction with the industry requirement
- iv) Lack of risk taking appetite - and more focus on stable income job
- v) limited support to those who wish to start a venture → no income or security for risk taking behavior

### Steps taken

- i) Start up India Seed fund scheme - to provide support to entrepreneurs.
- ii) Delhi govt initiative of Business blockers to support budding entrepreneurs
- iii) Reform in National Education Policy to provide for multidisciplinary course
- iv) Focus on higher education enrolment ratio = to be 50% by 2035
- v) Establishment of IOE (Institute of Eminence)  
These steps will make India a global hub of entrepreneurs.

5. 'भूमि बैंक' अर्थव्यवस्था को प्रोत्साहन देने और भारत में व्यापार सुगमता (ईज ऑफ डूइंग बिज़नेस) को बढ़ावा देने में महत्वपूर्ण भूमिका निभा सकते हैं। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)
- 'Land banks' can play a critical role in boosting the economy and promoting ease of doing business in India. Discuss. (Answer in 150 words)

10

उम्मीदवारों को  
इस हार्जिन में  
नहीं लिखना  
चाहिए  
Candidates  
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write on  
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Land Banks refer to banks that  
acquire unclaimed land and  
redirect it for useful purpose  
like pasture, cultivation, etc

Role in economy

i) Improve cultivation: As 59% of

land is under agriculture

ii) Provide green fields to  
pastures

iii) Increase yield of agriculture

Case of dairy business

i) Quick clearance for activities  
like construction

(ii) Decrease red tapism

(iii) Incentivize private players

Thus, as advocated by NITI@75,  
land and banks will help in  
FOODS and boost the economy  
to become \$5tn economy by 2022

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6.

वन संरक्षण अधिनियम (FCA) में प्रस्तावित संशोधन, न केवल वन अधिकार अधिनियम (FRA) के विपरीत हैं, बल्कि इनके कारण भारत को जलवायु परिवर्तन पर अपनी प्रतिबद्धताओं को प्राप्त करने में देरी होने की भी संभावना है। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

The proposed amendments to the Forest Conservation Act (FCA) are not only antithetical to the Forest Rights Act (FRA), but are also likely to delay India achieving its commitments on climate change. Discuss. (Answer in 150 words)

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FCA, 1980 was formulated to put the subject of forests under the concurrent list to provide power to the centres to make laws for international commitments

Proposed amendments

i) land clearance to be provided for strategically important development projects

ii) No consultation with the local tribes / government before getting the clearance

iii) Post facto clearance if a revised document is provided

## (iv) Law of Stakeholder Consultation

### Antithetical to FRA

- > Rights of livelihood violated
- > No grievance redressal
- > limited voice to tribes, etc

India's commitment to become  
Carbon neutral by 2070 was  
announced at COP26 will be  
delayed due to this.

7.

शहरी क्षेत्रों में बाढ़ की समस्या न केवल नदियों के उफान के कारण है, बल्कि उन अनियोजित तरीकों के कारण भी है जो हमारे नगर, शहरीकरण की प्रक्रिया में अपना रहे हैं। चर्चा कीजिए। इस संदर्भ में, शहरी बाढ़ पर राष्ट्रीय आपदा प्रबंधन प्राधिकरण के दिशा-निर्देशों का उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

The problem of flooding in urban areas is not only due to overflowing rivers, but also the uninformed ways in which our cities are coping with urbanisation. Discuss. In this context, mention the National Disaster Management Authority guidelines on urban floods. (Answer in 150 words)

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इस हार्जिन में  
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Urban flood refers to the  
water accumulation in urban  
areas due to blockage of  
river flow on account of  
unsustainable planning. Ex. Chennai  
floods, Mumbai flood

Causes

i) Unsustainable construction without

proper planning

ii) Poor environment impact

Assessment

iii) Lack of stakeholder discussion

iv) Non-empowerment of local bodies.

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इस हार्गिफ में  
नहीं लिखना  
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### NDMA guidelines

i) Proper Planning

ii) Early warning system

iii) Mitigation funds

iv) Relocation

v) GIS mapping of areas

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8.

इसरो अब केवल उपग्रहों के प्रक्षेपण तक ही सीमित नहीं है, बल्कि यह वर्षों से विकास गतिविधियों में अपनी भूमिका को लगातार बढ़ा रहा है। विवेचना कीजिए। (उत्तर 150 शब्दों में दें)

ISRO is no longer confined only to the launching of satellites, but it has been constantly enlarging its role in development activities over the years. Discuss. (Answer in 150 words)

10

उम्मीदवारों को इस दृष्टि में नही लिखना चाहिए  
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ISRO is the Indian space agency

that aims to create satellite

and regulate space infrastructure

Enlarged role in development

i) GIS mapping & G: Swarnajayanti Scheme

ii) Gaganyaan mission with

Airport Authority of India

iii) Remote technology to provide

security information to Central

armed police force

(iv) ~~Form~~ Private player involvement

through INSPACE, etc

उम्मीदवारों को  
इस हार्जिन में  
नहीं लिखना  
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VisionIAS

9.

राज्य और गैर-राज्य अभिकर्ताओं द्वारा महत्वपूर्ण सूचना अवसंरचना (CII) को लक्षित करने के पीछे उत्तरदायी कारणों को बताइए। साथ ही, भारत सरकार द्वारा अपने CII को सुरक्षित करने के लिए उठाए गए कदमों पर भी चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

State the reasons behind targeting of Critical Information Infrastructure (CII) by state and non-state actors. Also, discuss the steps taken by the Indian government to secure its CII. (Answer in 150 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
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## Critical Information Infrastructure (CII)

Refer to the physical infrastructure whose

dysfunctions may cause social,

economic political issues

Reasons for target

i) 6.5th dimension of warfare

Cyber space

ii) More effective than traditional

warfare. Ex: Stuxnet in Iran

nuclear power plant

iii) Cost effective

iv) No traceability keeps the attackers

identity anonymous

## Steps taken

### I) Institutional steps

CERT-In      NCIIPC      Swachh Centers

### II) Policies

Ban on  
Chinese APPS  
under IT Rules

Hardware  
~~hardware~~ ban  
Ex: Huawei.

### III) Awareness generation

by to community through campaigns, etc

उम्मीदवारों को  
इस क्राशिए में  
नहीं लिखना  
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10.

पूर्वोत्तर भारत के रणनीतिक महत्व के बावजूद, इस क्षेत्र को कई सुरक्षा खतरों का सामना करना पड़ता है। चर्चा कीजिए। साथ ही, क्षेत्र में शांति और स्थिरता सुनिश्चित करने के लिए सरकार द्वारा उठाए गए कदमों का भी उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

Despite the strategic significance of North-East India, the region faces several security threats. Discuss. Also, state the measures taken by the government to ensure peace and stability in the region. (Answer in 150 words)

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

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The North-East India is the 'door' to Connectivity to the South East

Asia, thus makes it strategically significant

Security threats

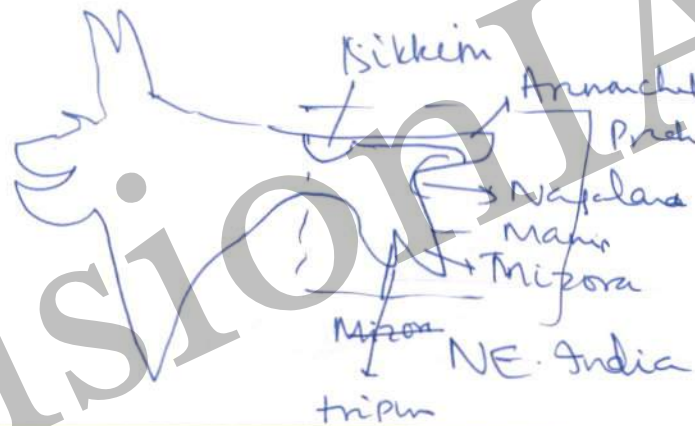


FIG: Map of NE India

- i) Porous borders: like Bangladesh: leads to migrants enter → illegally
- ii) Chinese incursions in Arunachal Pradesh
- iii) Insurgency like in Nagaland by NSCN, etc

(iv) Issues related to transboundary rivers

↳ Dry trafficking : from golden triangle of  
Myanmar-Thailand and Laos

Steps by govt

i) SMART border under Comprehensive  
integrated border mgmt system (CIBMS)

ii) Used of technology like LIDAR  
to prevent illegal migration

iii) Diplomatic level talks like with  
Nayland insurgent groups

iv) Use of AFSPA in extreme cases to  
maintain peace & territorial security.

Thus, to protect NE region these  
steps will help in ensuring peace  
and stability in region

11.

भारतीय रेलवे को लंबे समय से अल्प निवेश की समस्या का सामना करना पड़ा है, जिसने इसके परिचालन के प्रमुख क्षेत्रों पर प्रतिकूल प्रभाव डाला है। इस संदर्भ में, बुनियादी ढांचे के तीव्र निर्माण में रेलवे के समक्ष आने वाली चुनौतियों पर चर्चा कीजिए। साथ ही, इस संबंध में सरकार द्वारा उठाए गए कदमों का भी उल्लेख कीजिए। (उत्तर 250 शब्दों में दें)

Indian Railways has suffered from chronic under-investment, which has adversely impacted key areas of its operations. In this context, discuss the challenges faced by the railways in speedy creation of infrastructure. Also, mention the steps taken by the government in this regard. (Answer in 250 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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Railways is considered to be the backbone on Indian economy due to its role in interconnecting the markets passenger travels, freight transport and provide last mile connectivity in multi modal transportation

Challenges faced by railways

- i) Chronic underinvestment: leads to huge losses
- ii) Cross subsidization: Making freight transport not remunerative
- iii) Passenger transport: Indian Railways is the largest mode of passenger transport however is marked by poor service

(iv) Dependence on coal makes it climate non-friendly

v) Not limited capacity to deal with high burden of freight

vi) Land acquisition issue to lay down tracks

vii) Displacement issue and resettlement of the displaced population

Steps by Government

1) Biswak Debroy Committee to merge all Indian Railway services for centralized planning

2) Electrification of railway tracks to reduce dependency on coal

3) Invitation to private players in passenger-segment to operate on public rails

4) Reduce the issue of cross  
subsidization

5) Dedicated freight corridors (DFCC)  
and Industrial Corridors

All these steps will help  
in making railways more efficient  
& create infrastructure

VisionIAS

12.

किसानों की आय को दोगुना करने के भारत के उद्देश्य को साकार करने हेतु कृषि प्रणाली के अंतिम बिंदु तक के दायित्वों पर ध्यान देने के साथ अनुसंधान और विकास (R&D) के लिए एक परिवर्तनकारी दृष्टिकोण आवश्यक है। विवेचना कीजिए। (उत्तर 250 शब्दों में दें)

A disruptive approach to research & development (R&D), with a focus on last mile obligations of the agricultural system is necessary to realize India's objective of doubling farmer's income. Discuss. (Answer in 250 words) 15

उम्मीदवारों को इस हार्फ में नहीं लिखना चाहिए  
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To double the farmer's income by 2022  
the government has set up Ashok Daluwarai Committee, which has suggested focus on R&D and last mile obligation of agriculture system to double farmer's income

Disruptive approach to R&D

i) Enhance productivity : thereby making increasing yield and thereby income.

Ex: use of soil health card to plant those crops that have high yield according to the suitability of crop.

ii) AI-based agriculture - ~~to lead to~~ Ex: precision use of irrigation according to the needs of the soil & crop

iii) Apps like PM-Sukshma will provide information related to best practices on the basis of climate, soil condition etc.

iv) AGRISTACK under the umbrella of IDEA will help in integrated farming through support from pre-production & post production.

v) Agri-insurance like PM Fasal Bima Yojna to calculate the premium through technological support.

vi) Climate smart agriculture: to deal with various of climate. As 48% of agriculture is rainfed dependent.

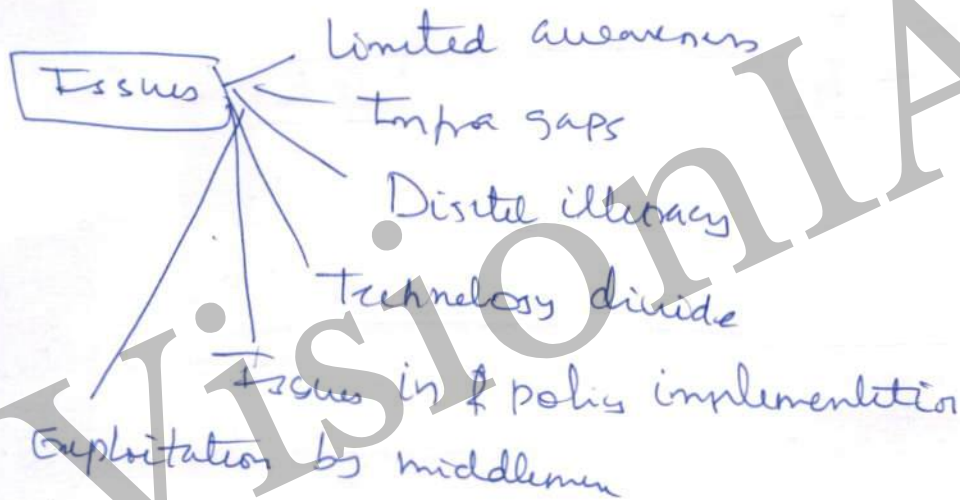
Last mile connectivity

1) According to Ms Swaminathan, farmers need two things — Price right and Market right.

2) Support like e-NAM help in reduction of information asymmetry

3) Prevent agri distress sale due to supply shut

4) Smart contracts through blockchain technology will help in providing assurance to farmers



As agriculture supports 48% of Indian population, need to increase R&D and last mile connectivity will

fulfill mandate of FAO — Better income  
Better products  
Better life  
Better standards

13.

भारत की विद्युत वितरण कंपनियों और विद्युत ग्रिड को जीवाश्म ईंधन से अक्षय ऊर्जा के अधिक संधारणीय रूपों में संक्रमण हेतु सुधारों से गुजरना होगा। चर्चा कीजिए। (उत्तर 250 शब्दों में दें)

India's power distribution companies and electrical grids must undergo reforms to transition from fossil fuels to more sustainable forms of renewable energy. Discuss. (Answer in 250 words) 15

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

According to Ministry of power, out of total electricity installed capacity of 380 GW, 51% is from coal and other fossil fuel, making India the 3rd largest emitter of green house gas.

Transition from fossil fuel - Need

i) High green house gas emissions - leading to climate change and deleterious impact like melted glaciers, rise in sea level thus increasing the vulnerability

ii) International commitment: India's

5 commitments at Glasgow-26:

- > Renewable enrg = 50% by 2030
- > Non Fossil fuel enrg = 500GW by 2030
- > Reduction in Carbon emission intensity by 50% by 2030
- > Reduction in emission by 1bn tonnes

> net neutrality by 2070

### (iii) Coal issues

> Despite being the 4th largest coal reserves

India imported 235mn tonnes and ~~to~~  
expenditure of ₹1.71 lac crore in FY2020

> Coal shortage led to power ~~sto~~ outage

> Rise in demand : Accordi to UN report

India's population is set to ~~rise~~ surpass  
China's by 2050 - leads to rise in demand

### (iv) Sustainability of clean source of

energy like sun, wind - India is

blessed with sun's energy availability

due to its geographical location

### Issues

i) Limited technological development

leads to slow development of alternative

technologies like sun, wind

ii) Financial crunch - health risks, fiscal deficit which was 9.8% in FY 20, fund allocation for advancement is limited

iii) Sustainability of grid - due to varying rays of sun, and wind energy and weather variations

iv) International funds not provided by developed countries despite commitment  
Ex: \$100bn in Paris Summit in 2015

v) Industry led growth model - which will lead to rise in demand for energy will be met through coal.

vi) Infrastructure gaps like charging stations have not been properly developed.

Initiatives like FAME, PM-KUSUM, and international initiative like One grid - One sun will help in achieving India's targets at COP 26

14.

भारत में आगत-सघन (इनपुट इंटेन्सिव) कृषि की प्रथा में, इसकी अस्थिरता और नकारात्मक परिणामों के कारण, बृहद पैमाने पर बदलाव की आवश्यकता है। इस संदर्भ में, निम्न बाह्य आगत संधारणीय कृषि (LEISA) के महत्व पर चर्चा कीजिए। (उत्तर 250 शब्दों में दें)

The practice of input-intensive agriculture in India needs a massive overhaul due to its unsustainability and negative consequences. In this context, discuss the significance of Low External Input Sustainable Agriculture (LEISA). (Answer in 250 words) 15

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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Low external Input Sustainable Agriculture (LEISA) aims to overhaul the input intensive agriculture like high use of chemical fertilizers, flood irrigation to low input like precision farming to enhance sustainability in agriculture.

Need for Overhaul

i) Farm side issues

a) High Cost: makes agriculture less remunerative. As: according to the latest situation assessment survey, farmers earn only 40% of farm cultivation.

ii) Fragmented landholdings: with average size of 1.15 Ha, use of chemicals, ~~water~~ flood does not lead to proportional rise in yield.

(iii) Decrease in yield in the long run : due to loss in the natural ability of soil replenishment

## II) Environment Issues

i) Surface runoff leads to chemical ~~addition~~ flow from field to water bodies

ii) Methane release : Agriculture is the highest contributor of methane, a greenhouse gas

iii) Reckless use of water leads to decrease in groundwater levels

iv) Contamination of groundwater : affects health of environment

## III) Government Issues

i) Rise in subsidies - ~~low~~ Around ₹ 4.2 Lacs crore is the subsidy on food and fertilizer, leading to fiscal deficit

ii) International pressure at WTO to reduce trade distorting subsidies

(iii) Decrease in productivity - leads to long term future impact on welfare scheme like PDS

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए  
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### Significance of LEISA

- i) Decrease cost of production : Making agriculture more productive
- ii) Protect environment : through precision farming and climate smart agriculture
- iii) Enhance productivity
- iv) Promotion of Zero Budget Natural Farming (ZBNF) as advocated by Dr Palekar

has 4 components

- Bijmitra → micro bio seeds
- Jivmitra - natural humus
- Waapsa - humus in soil
- Mulchmi - to prevent evaporation & water loss

Thus, with PM Modi's clarion call to move agriculture from the lap of chemical laboratories to 'lap of nature's laboratories' will make agricultural practice more sustainable.

15.

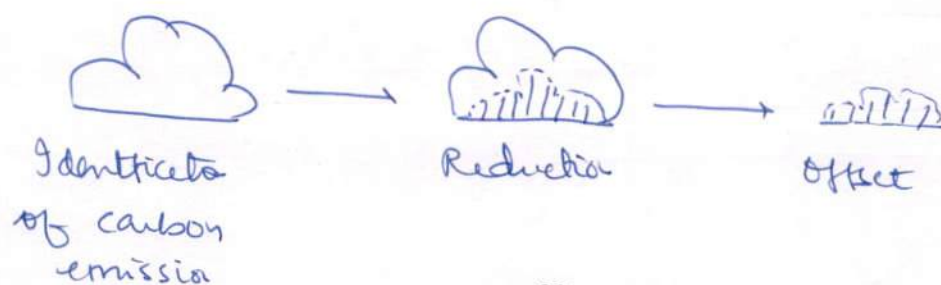
हाल ही में जारी IPCC की छठी आकलन रिपोर्ट (AR6) – 2021 को मानवता के लिए 'कोड रेड' माना गया है। इस संदर्भ में, भारत पर विशेष ध्यान देते हुए इस रिपोर्ट में उजागर की गई विभिन्न चिंताओं की विवेचना कीजिए। साथ ही, इस रिपोर्ट द्वारा प्रदत्त उपचारात्मक उपायों को भी सूचीबद्ध कीजिए। (उत्तर 250 शब्दों में दें)

The recently released IPCC Sixth Assessment Report (AR6) – 2021 has been deemed as 'code red' for humanity. In this context, discuss the various concerns raised in the report with special focus on India. Also, enlist the remedial measures given by the report. (Answer in 250 words) 15

According to UN Sec General, the 6th IPCC report is 'Code red for humanity' since it highlights that planet Earth is headed towards 2°C rise in temperature by 2050 if the current methods of use of energy, industrial production is not altered.

Concern in the Report

i) Need for net ~~next~~ carbon neutrality by 2050 to ~~prevent~~ achieve the target of limit to 2°C



(ii) Rise in sea levels - With India having a coastline of 7500 km, the coastal area remain highly vulnerable. Special SIDS (small island developing states)

(iii) Melting of glaciers: India shares area of the 'Third Pole', melting of glacier can cause disasters like Glacier lake outburst flood (GLOF), etc

(iv) Warming up of Arabian sea has made the western states more vulnerable to cyclones

(v) Irratic monsoons: Monsoons will be more intense and for shorter duration affecting the 59% of area of cultivation that is rain dependent

(vi) Impact on agriculture: With 48% of population employed in agriculture, vulnerability will increase

## Steps suggested by the report

- i) Net carbon neutrality by 2050 : India committed to neutrality by 2070 at the Glasgow COP26 summit of UNFCCC.
- ii) Shift to renewable energy : India committed to 50% of energy from renewable energy
- iii) Climate smart agriculture : like precision agriculture; PM Modi's call for Zero Budget Natural Farming (ZBNF) is a step in right direction
- iv) Climate Smart Cities : Smart Cities mission 2.0 focuses on climate smart ~~agriculture~~ cities to control issues like urban floodings.

Thus, with these steps, along with recommendation of TERI like green building climate resilient infrastructure and India initiative like One Sun One World One Grid & Intra Resilient for Island State (IRIS) India can achieve SDG Goal 7 of climate neutrality.

16.

भोपाल गैस त्रासदी से लेकर विशाखापत्तनम में गैस रिसाव तक कई रासायनिक आपदाओं ने भारत में खतरनाक रसायनों (HAZCHEM) द्वारा उत्पन्न जोखिमों को ध्यान में लाया है। इसके दृष्टिगत, भारत में रासायनिक आपदा प्रबंधन (CDM) की तैयारियों के साथ-साथ इसमें व्याप्त कमियों की भी विवेचना कीजिए। (उत्तर 250 शब्दों में दें)

Multiple chemical disasters from the Bhopal gas tragedy to gas leak in Visakhapatnam have brought into focus the risks posed by hazardous chemicals (HAZCHEM) in India. In view of this, discuss the preparedness as well as gaps in Chemical Disaster Management (CDM) in India. (Answer in 250 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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The release of Methyl Isocyanate in Bhopal in 1985 and release of styrene gas leak in Visakhapatnam has had debilitating impact on both human health and the environment.

Such instances call for preparedness of chemical disaster mgmt (CDM)

Preparedness in CDM

- i) Transboundary shipment of chemicals rules mandate the safe movement of chemicals from one place to another
- ii) International agreements like Rotterdam Convention for safe disposal and use of chemicals.

(iii) Environment Impact Assessment (EIA)

to deal with costs of ~~the~~ projects related to environment impact

(iv) Setting of tribunal - NGT - to protect

two motto cognizance of chemical leaks

(v) Awareness generation among community

to deal with issue of chemical leakage

(vi) Post disaster support - through NDRF

and reallocation along with reduction of impact of disasters.

Gaps in CDM

(i) Lack of proper implementation of the

rules due to ambiguity

(ii) limited awareness among the

community to deal with disasters

of chemical leakage

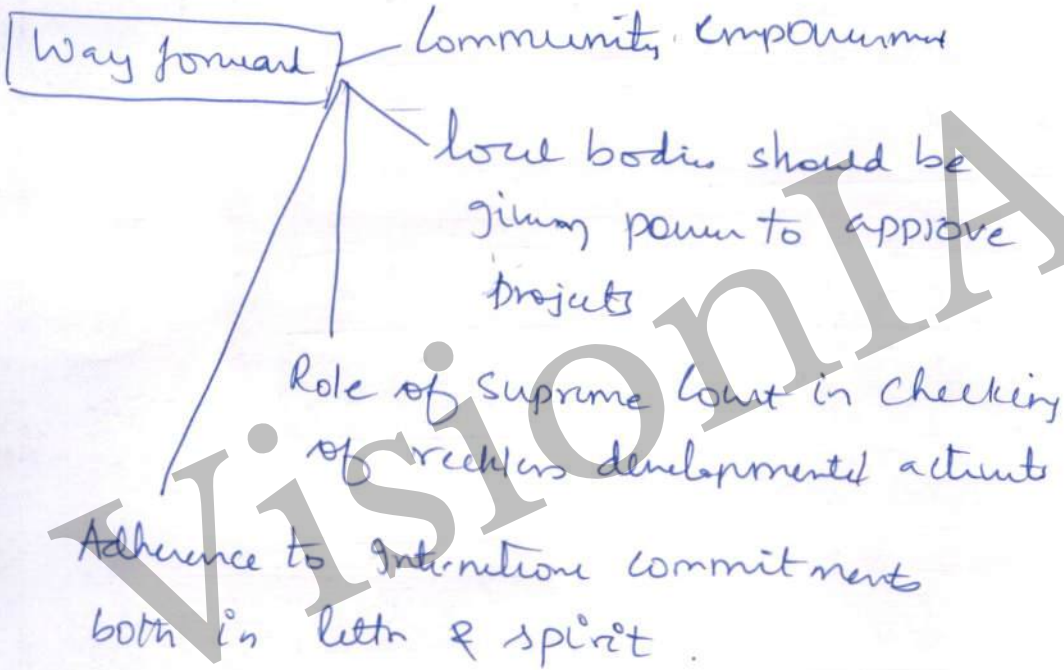
(iii) Exploitation of vulnerable section by

As: Bhopal plant was set up in an area where villagers had limited knowledge,

(iv) limited assessment of project done

leading to low due diligence and

poor anticipation of impact



~~But~~ Human health is of utmost importance, which requires mandatory checks and balances, along with proper due diligence to environmental projects.

17.

महामारी के समय सार्वजनिक स्वास्थ्य से संबंधित वस्तुओं और सेवाओं के उदारीकरण की बढ़ती मांग ने वर्तमान बौद्धिक संपदा व्यवस्था के संबंध में महत्वपूर्ण मुद्दों को उठाया है। विवेचना कीजिए। (उत्तर 250 शब्दों में दें)  
The growing demand for liberalisation of public health-related goods and services amidst the pandemic has raised critical issues with regard to the current intellectual property regime. Discuss. (Answer in 250 words)

15

उम्मीदवारों को इस हार्गिए में नही लिखना चाहिए  
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According to the Economic Survey 2020 the Covid pandemic is a 'once in a century' event, that has led to change in various aspects of healthcare including demand for liberalization of public health-related goods and services

Demand for liberalization - Rationale

i) At WTO, India and South Africa - led the demand for relaxation in TRIPS - that provide patent to for intellectual property

ii) Vaccine inequity - with some countries not able to develop vaccines, they ~~be~~ remained more vulnerable to pandemic

iii) Vaccine nationalism - the countries favoured vaccination for own citizens over larger picture of equitable distribution

(iv) Globalization - has made the world flat. According to UN Secretary General 'Pandemic cannot end anywhere if it ends everywhere'

v) Misuse of vulnerabilities by private players leads to black marketing, unreasonably high price of vaccines, etc

### Issues with IPR

i) Prioritization of Intellectual rights over health leading to death and health related vulnerabilities in poorer countries

ii) Tool for private players to leverage the demand by controlling the production to artificially increase price

iii) Overprotection of patents - leads to endless patent rights as against maximum 20 yrs of patent rights

iv) Product vs process patent : Small variation

in process - leads to grant of patents beyond the threshold period of 20 years

Balance between IPR and human health

- i) Provision of compulsory licensing to the Govt to allow for production by other players
- ii) Proper regulation by WTO to prevent 'emergencies' of patents
- iii) Pacts between countries to enhance production: Eg: Consolidated production by Serum Institute of India with AstrZeneca
- iv) International alliances like GAVI to provide equitable distribution of vaccines
- v) Vaccine diplomacy by India to provide vaccines to neighbours like Sri Lanka, Bhutan

No cost is high enough to protect the lives of human beings. Thus, priority to human health should be the aim of International Community.

भारत में रक्षा प्रौद्योगिकियों के स्वदेशीकरण में उप-इष्टतम परिणामों के लिए उत्तरदायी कारणों पर प्रकाश डालते हुए, उन उपायों का सुझाव दीजिए जो रक्षा क्षेत्र में स्वदेशीकरण की गति को तीव्र कर सकते हैं। (उत्तर 250 शब्दों में दें)

Highlighting the reasons behind suboptimal results in indigenization of defence technologies in India, suggest measures which can accelerate the pace of indigenization in the defence sector. (Answer in 250 words)

## Indigenization of defence technologies

refer to the use and promotion of

home grown defence equipments to

become self reliant, reduce current

account deficit (CAD) and promote exports

to earn foreign currency

### Suboptimal result in indigenization

i) Lack of technological progress: hindered progress in technology led to high dependence on countries like USA, Russia, France

ii) limited capital expenditure on building home grown equipments due to widening fiscal deficit (9.8% in FY2020) and high interest period

iii) Lack of private participation - due to distrust and limited incentives for private players

iv) low on priority : Issues like welfare of poor, etc. is on top priority, while ~~no~~ limited capital allocation for industrialization

v) Improper policy planning to provide impetus to the growth of defence industrialization

vi) Inter-ministry coordination is ~~poor~~ limited.  
Ex: Coordination b/w ministry of finance and ministry of defence

vii) Red tapism and bureaucratic hierarchy leads to delay in policy formulation - called as 'Policy Paralysis' by Economic Survey

### Steps taken

i) Defence Acquisition Procedure (DAP) from 1986 while Defence Procurement Procedure (DPP)

to support indigenization

(ii) 209 item list of negative import or positive indigenization to promote indigenization

iii) Focus on exports: For the first time, according to SIPRI, India featured as exporting country of defence items

iv) Plan to raise about ₹1.75<sup>blac</sup> crore by 2025 from defence exports

v) Privatization to private players

(vi) Revamp of Ordnance Factory Board (OFB) to PSUs

As India was 2nd largest importer after Saudi Arabia according to SIPRI, the steps to promote defence indigenization will take India from being self sufficient to exporter of defence items.

19.

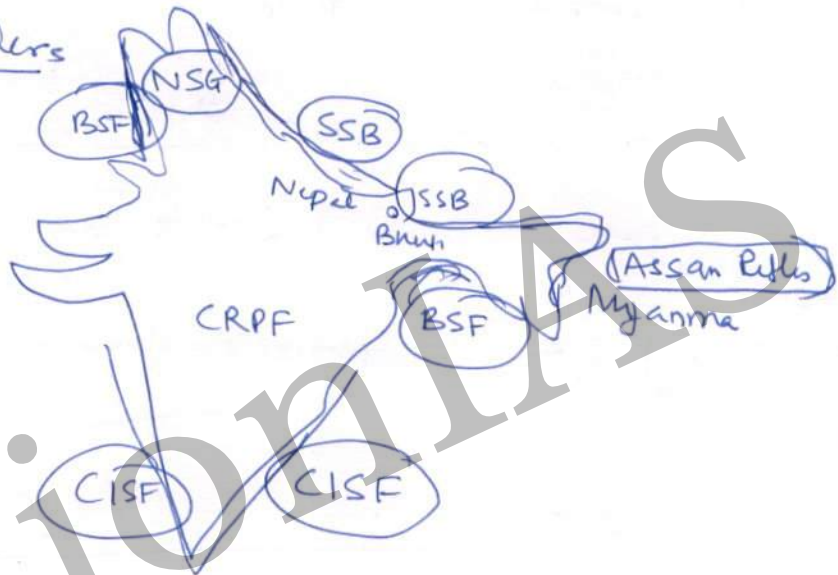
अंतर्राष्ट्रीय सीमाओं की रक्षा के लिए विभिन्न केंद्रीय सशस्त्र पुलिस बलों की अवधारणा के पीछे के कारकों पर चर्चा कीजिए। साथ ही, भारत की सुरक्षा सुनिश्चित करने में इन बलों के योगदान पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दें)

Discuss the factors behind conceptualization of different Central Armed Police Forces for guarding the international borders. Also, highlight the contribution of these forces in ensuring security of India. (Answer in 250 words)

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

15

CAPF (Central Armed Police Forces) are a group of 7 forces under the central government to holistically deal with security issues at the borders



MAP: Deployment of various CAPF

Factors behind conceptualization of CAPF

- i) Centralized coordination by the Union Govt to deal with the security concerns holistically
- ii) Judicious use of resources - like arms, equipments to deal with issues of incursions, insurgency & infiltration

(iii) 'No one size fits all approach' -

Ex: At Bangladesh & Pakistan - deployment of Border Security Force (BSF)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए  
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Border	CAPE	localized needs
Pak/Bangladesh	BSF	- Porus border - Infiltration across LOC - Refugee crisis
Nepal/Bhutan	Serem Suraksha Bal	- Refugee e-Visa/no visa entry - trans-border river issue - No clear demarcation of border - Ex: Kali river @ Nepal
Coastal Area	Centre Andaman Resem Force (CISF)	- Disasters - Sri-Lanka former issues - Fishermen - Sir Creek line dispute
Jammu Kashmir	BSF	- Militancy - local civilians radicalized - Over ground work

Contribution

i) Alert patrolling = 24x7 and vigilant leads to neutralization of attacks. Ex: infiltration attempts by Pakistan

ii) Local incursions like in China's Galwan valley

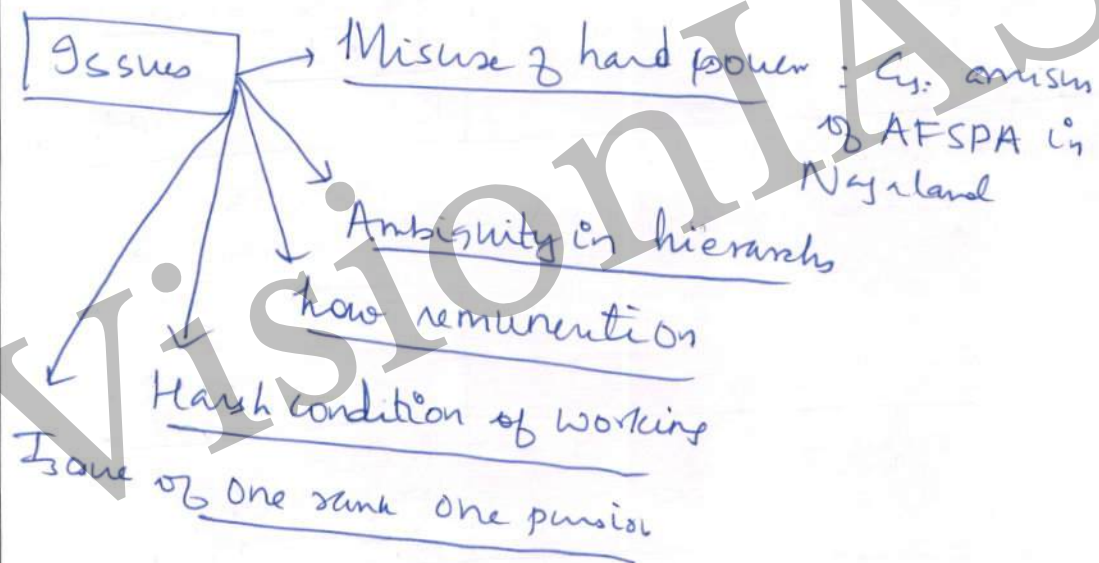
(iii) Use of hard power when required :

Ex: Surgical strike on Balakot

(iv) Protection of civilians : Ex: J&K civilians

(v) Constructive role : Ex: CISF role in disaster management

(vi) Awareness generation among locals for their protection



As national security is of utmost importance for any nation, the CAPF have continued to provide support in providing territorial security to the nation

धन शोधन (मनी लॉन्ड्रिंग) गतिविधियों के लिए आभासी परिसंपत्तियों के दुरुपयोग के संदर्भ में, उनकी सुभेद्यता पर चर्चा कीजिए। साथ ही, उन सुधारात्मक उपायों का भी उल्लेख कीजिए, जो आभासी परिसंपत्तियों के उपयोग से उत्पन्न जोखिमों को कम करने के लिए अपनाए जा सकते हैं। (उत्तर 250 शब्दों में दें)

Discuss the vulnerability of virtual assets in terms of their misuse for money laundering activities. Also, state corrective measures that can be taken to mitigate the risks posed by the use of virtual assets. (Answer in 250 words)

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

Virtual assets are digital assets that have no physical presence, but are based on technological infrastructure; eg: cryptocurrency, non fungible token, etc

With ~~the~~ progress in Industry 4.0, virtual currency is gaining acceptance across the world, however some vulnerabilities are associated with it.

Vulnerability of Virtual assets

Misuse for money laundering activities

i) Absence of central regulatory authority

In virtual assets, makes it vulnerable for use of illicit activities like terror financing

ii) Anonymity of users, keeps the identity

hidden of the transacting parties - thereby  
creating a room for misuse

(iii) No trail of transactions → unlike in case  
of payment through debit-credit card  
supported by VISA network, no trail  
of transactions is left

iv) Concerns by authorities like Financial  
Action Task Force (FATF) have highlighted  
the use of virtual currency in money  
laundering and terror financing

v) Inter-country transactions - made easier  
through technological transfer of virtual  
money, that bypasses the land/water  
checking posts

vi) With cyberspace termed as the 6<sup>th</sup>  
dimension of warfare, terror financing continues  
to threaten the security of countries, making it  
a global issue.

## Corrective steps

### I) National level

i) Clear legislations: Ex. The proposed bill on crypto-currencies and regulation of digital currencies Bill, 2021 seeks to regulate the virtual assets by within the territories.

ii) Awareness generation by government through  
→ social media, ads, etc

iii) Formation of expert committee like SCGARs  
Committee - recommended foreign regulation backed  
by RBI as the way forward

### II) International level

i) International examples: Ex. El-Salvador  
legalized crypto currency as medium of exchange

ii) International platform: Ex. At Sydney Conference  
the PM advocated for joint discussion on  
issue of crypto cur

As about 15-20mn individuals have invested  
in crypto cur, the need for clear regulation of  
virtual assets will prompt the issue of money  
laundering.