



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. : **579225**

अभ्यर्थी का नाम/Name of Student : **RUHANI**

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

19-12-2021

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

केंद्र
Centre

**Lajinder Nagar
Delhi**

निरीक्षक के हस्ताक्षर
Invigilator's Signature

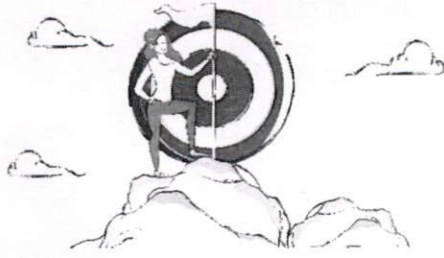
Capil Choudhary

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

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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)					



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

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 हार्शिए में नहीं लिखना चाहिए
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Agricultural extension refers to the institutional support provided to the stakeholders involved in agriculture.

ISSUES WRT AGRICULTURAL EXTENSION

- Lack of technology support
- Lack of R&D in seeds
- Transportation hurdles in providing inputs to farmers
- Lack of counseling to farmers on the appropriate use of fertilisers.
Thus, farmers end up using excessive fertilisers.
- Lack of irrigation support
- ^{Poor} Awareness regarding use of micro-irrigation practices.

ROLE OF KRISHI VIGYAN KENDRAS (KVKs)

उम्मीदवारों को
इस हार्शिए में
नहीं लिखना
चाहिए
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- Strengthen Agricultural R&D
- Communication of latest research done by Indian Council of Agricultural Research (ICAR) to the farmers
- Awareness generation about new techniques like :
 - grafting
 - Aquaponics
 - Vertical farming
 - Hydroponics
- Optimal usage of fertilizers is encouraged with the help of Kisan Credit Cards and Kisan Soil Health Cards.
- Soil management practices information is also disseminated
- Micro-irrigation practices promoted.

Hence, KVKs are playing a crucial role in strengthening agro-research extension system.

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

Food processing is the process of value-addition to agricultural produce.

POTENTIAL OF FOOD PROCESSING SECTOR IN INDIA :

• ABUNDANCE OF RAW MATERIALS IN INDIA

makes the food processing sector as a high growth sector

→ India is the largest producer of milk, mango and banana in the world.

→ It is the world's second largest producer of rice and wheat.

• EMPLOYMENT OPPORTUNITIES

→ This sector can reduce problem of disguised unemployment in agriculture sector

→ It can generate jobs with the help of

- Mega-Food Parks

- Field Collection centres

- Primary processing centres which can do sorting, grading and packaging of food.

• CHANGING CONSUMER PREFERENCES

→ After globalisation and advent of media, consumers now prefer ready-to-eat food like noodles, pasta. Thus, the sector can cater to this demand

• RISING HEALTH CONSCIOUSNESS

→ This leads to a demand for sugar-free products, skimmed milk, yogurt which can be manufactured by this sector.

• FDI policy of Govt. in Organised Retail

→ This ~~has~~ ^{is} liberal FDI policy has enabled food processing industries to establish forward linkages with retailing MNCs.

→ This has encouraged entry of companies like Nestle, Danone in food processing sector.

• INFRASTRUCTURE projects like GatiShakti and other Cold Storage Project to increase storage capacity and reduce logistic costs have further enhanced potential of this sector.

Thus, the food processing sector has immense potential for value addition.

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 हार्शिए में नहीं लिखना चाहिए
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Livestock-based Integrated Farming System (IFS) refers to the combination of traditional ^{crop} farming and animal husbandary practices.

BENEFITS OF IFS :-

- Recycling of wastes
- The excreta of animals can be used as compost and manure for cultivation of crops.
- This ^{organic farming} will reduce usage of chemical fertilizers which require:
 - huge quantity of water, and
 - also degrade land
- This will also prevent contamination of groundwater.

- Livestock animals like cow, bull can plough the field which will reduce the machinery costs of farmers.
- This cost-reduction will reduce the dependence of farmers on moneylenders for credit.
- Income security of farmers will enhance
- Animal farming act as insurance against failure of crops during monsoon-deficiency.
- Milk produced by livestock can help in doubling farmers' income.
- The excreta of animals i.e. the biomass can be converted into biogas, which is a clean source of energy (renewable) and can help in combating climate change.

Thus, livestock-based IFS needs to be promoted in India.

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

PIOs are spearheading
entrepreneurships ~~across~~ the world,
except in India.

REASONS :-

- Lack of Startup Culture
- Too much compliance burden
- Low Ease of Doing Business
- Delays in getting clearances
- Poor credit facilities
- High interest ~~rate~~ rates
- Risk-taking culture is not promoted
- Risk-aversion of Banks in lending due to NPAs.

उम्मीदवारों को
इस हार्जिन में
नहीं लिखना
चाहिए
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MEASURES TAKEN :-

- Startup India, Stand-up India is being promoted
- Speedy credit disbursement to MSMEs
- Clustering of MSMEs to provide them technical support
- Collateral free Loans given to women SHGs to start their own businesses.
- MUDRA Yojana for MSMEs
- Taxes have been waived for startups.
- Promoting angel investors to invest in startups
- Ease of Doing Business is being enhances.

All this will increase pace of Entrepreneurship

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 हार्शिए में
नहीं लिखना
चाहिए
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Amendment in FCN

→ Parliament amendment need
not take approval from

Forest Department

→ State Government need not
not take approval from

Central Govt. for

transfer of forest land to

Other use

(21/1/12)

→ Government need approval

from Forest Dept.

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)

10

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

Amendments in FCA

- Railways Department need not take approvals from Forest Department
- State governments now need not take approvals from Central govt. for diverting forest land to other uses.

CONCERNS

- Increased development activities will occur.

- This will lead to pollution.
- Tribal rights over forest produce will be trampled. This is antithetical to FRA.
- Land acquisition in forests will occur swiftly and tribals won't get adequate compensation.
- Tribal livelihood will be at risk.
- Rapid deforestation will ~~lead~~ delay India's commitments to climate change.

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)

10

Urban flooding is due to the excess of water overflowing out of rivers due to :

- Excessive rain due to climate change

→ Urbanisation and unplanned development of cities is leading to urban floods

→ Encroachment of river flood plains is leading to this.

NDMA Guidelines

- Prevent disaster
- Evacuate
- Rehabilitate

organization of the country. ITRC
not only launched activities but also
plays a developmental role.

DEVELOPMENTAL ROLE OF ITRC

Agriculture - Remote areas help to
improve crop production and yields
in agriculture.

EDUCATION - ITRC is providing
village resource centres to a village
teacher who can impart education
in remote villages.

HEALTH - Activities of ITRC also enable
villagers and the community service
to benefit.

COMMUNICATION - There is also help
to help in with for more than 1000
to provide satellite communication to
work with mobile telephone and land

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

ISRO is the apex space organisation of the country. ISRO not only launches satellites but also plays a developmental role.

DEVELOPMENTAL ROLE OF ISRO

- AGRICULTURE :- Remote sensing helps to monitor crop production and yields in agriculture.
- EDUCATION :- EDUSAT helps in connecting village resource centres to a centralized teacher who can impart education in remote villages.
- HEALTH :- Satellites of ISRO also enable telemedicine and tele-counseling services to patients.
- COMMUNICATION :- ISRO is also ~~type~~ tying up with private space companies to provide satellite communication to users with wide coverage and low latency.

- RESOURCE MANAGEMENT :- The BHUVAN portal of ISRO enables authorities to monitor the water resources, land resources
- DISASTER MANAGEMENT :- ISRO Satellites issue early warning ~~risk~~ ^{alerts} during cyclones, thunderstorms.
- INFRASTRUCTURE MONITORING :- Satellites of ISRO can do real-time monitoring of key infrastructure projects
- SUSTAINABLE DEVELOPMENT :- ISRO's satellites also send real-time alerts about pollution-levels in the atmosphere so that authorities can take quick action
- MICRO-GRAVITY EXPERIMENTS :- ISRO is also doing R&D in space through its micro-gravity explain to learn about biological processes in space and how these chemical and biological reactions can be leveraged to bring development on Earth.

Thus, ISRO has been playing a huge role in development activities over the year.

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)

10

State and non-state actors are actively targeting the Critical Information Infrastructure (CII) like railways, nuclear plants, hospitals, power grids.

REASONS :-

- to destabilise development processes in India
- to create an atmosphere of panic among citizens
- to demand ransom from the government and citizens through ransomware attacks
- Internet democratisation and globalisation has ensured that internet can be misused by
 - non-state actors to push their radical ideology & radicalise youth.
 - state actors to fight cyberware by crippling critical infrastructure at low cost without using costly weapons.

STEPS TAKEN BY INDIAN GOVT. To SECURE ITS CII

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

- National Cyber Policy was introduced in 2013.
- It aims to create an army of 5 lakh cyber professionals ^{who} ~~which~~ can specialise in preventing cyber attacks.

- Establishment of sectoral CERT-INS in defence and railway sector and recently, power sector. other sectors also need to follow suit.

- Fiscal Incentives have been given to different businesses to create a post of CISO i.e. Chief Information Security Officer ^{who} ~~which~~ can maintain cyber hygiene and cyber security of the business.

- Cyber training and workshops are being organised regularly.

- Capacity-building of cyber police personnel.

- Awareness generation among all users.

- Procurement of indigenous ICT products is being incentivised.

Thus, government is making all-out efforts to secure its CII.

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)

10

उम्मीदवारों को इस हद्दिए में नहीं लिखना चाहिए
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99% of the border of North East states comprises of an international borders with other countries. The state Thus, North-east has huge strategic significance.

REASONS FOR SECURITY THREATS IN NORTH EAST (NE)

• GEOGRAPHICAL REASONS

- States like China and Myanmar provide safe havens to insurgents in NE.
- NSCN-IM and People's Liberation Army (PLA) of Manipur operate from their bases in Myanmar.
- China provides funding to these groups.

• INEFFECTIVE BORDER MANAGEMENT has led to arms and drug smuggling across borders

- INTERNAL ETHNIC CONFLICTS among tribes like Meiteis, Kukis in Manipur
 → Garos, Khasis in Meghalaya
 → Nagas, Kukis in Nagaland
 → Bodos, Nagas in Assam
 also pose a security threat in NE.

- POOR CONNECTIVITY of NE with the rest of India, poor employment opportunities, ineffective land reforms and governance deficit in these regions makes the youth disenchanted, who are then brain-washed by insurgents to create security issues in NE.

→ Immigration of Bangladeshi migrants and Rohingyas also creates security issues.

MEASURES TAKEN BY GOVT.

→ Border Area Development Program (BADP) to develop border areas by providing them both physical (road) and network connectivity and by organising Border Haats to provide livelihood to border areas

→ Effective Border Surveillance through ICT

→ Regulation of Borders to counter arms, drugs trafficking

→ Surgical strike on NSCN-IM in 2015 in Myanmar for creating instability.

→ Negotiation and dialogue with insurgents.

→ Eg:- Naga Peace Accord signed with NSCN-IM in 2015

→ Bodos have been provided administrative autonomy.

→ Bou-Reang Agreement to rehabilitate Bru Community.

→ NRC in Assam to assuage fears of illegal Bangladeshi migrants.

Thus, govt is making all-out efforts in ensuring peace in the 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
Candidates must not write on this margin

15

The operations of Indian Railways have not been efficient as it is facing chronic under-investment.

CHALLENGES FACED BY RAILWAYS

- Land acquisition issues
- Locals stall projects with the help of different NGOs and demand high compensation for land acquisition.
- Ineffective monitoring of Railway projects
- Poor inter-agency Coordination :-
 - The railway department needs to get permission from forest department and other state departments for laying of tracks.
 - This leads to delays in infrastructure creation.

- High logistics costs in terms of transporting of cargo and boats
- Inefficient procurement of building materials for laying of tracks.
- Improper surveillance and guarding of tracks
- Too many clearances required for infrastructure creation
- Poor management
- Ineffective coordination with other Ministries → Lack of synergy
- Inadequate leverage of technology
- Lack of PPP in infrastructure creation

STEPS TAKEN BY GOVERNMENT

- PM Gati Shakti has been launched to provide Gati (Speed) and Shakti (Power) to infrastructure projects
- Single-window clearance for fast clearance
- Fast-track land acquisition
- Dedicated freight corridors have been set up

- Public-Private Partnership is being promoted in railway infrastructure creation, especially with support of Japan's JICA
- Funding for railway projects to be mobilised by NMP i.e. National Monetization Pipeline and NIP i.e. National Infrastructure Pipeline
- Enhanced surveillance of laying tracks, their operation and maintenance through LIDAR technology which offers high-resolution imaging.
- Commercialising railway stations by awarding tenders to various private companies for setting their shops, just like in airports.
- PM Gati Shakti will ensure speedy Inter-Ministerial Coordination.
- Amendment in Forest Conservation Act, 1980 to exempt Railway Department to take permission from forest Department for laying tracks in forest land owned by the former.

All these measures will go a long way
speedy creation of Railway infrastructure
in India

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

The objective of doubling of farmers' income can only be achieved if India adopts a disruptive approach to R&D in agricultural sector.

REASONS FOR DOING R&D

- R&D can enhance productivity of crops
- Increase resilience of crops to climate-change
- Reduce input costs of farmers
- Provide quality seeds to farmers
- Ensure optimum utilization of fertilizers
- Develop new techniques of micro-irrigation
- Reduce transport and logistic costs for farmers.
- Create seed Banks to preserve seeds and biological diversity for future banks.

→ R&D is helping farmers to:

- Convert their stubble into biogas, which can be ~~sold~~ used to produce electricity and generate additional incomes of farmers.
- It is due to R&D of ICAR, PUA that PUA decomposers have been developed to dissolve ~~stubble~~ and reduce the problem of stubble burning. This has saved farmers from payment of finer on burning stubble.
- R&D has enabled development of modern machines like HappySeeders which can effectively uproot stubble.
- R&D has enabled new techniques of agriculture like
 - Hydroponics (growing crops in water)
 - Aquaponics (growing crops along with fishing)

- Since population is increasing but land is limited, scientists have used Biotechnology to increase yields to meet food security of the nation.

Thus, crops like Bt Cotton, Bt Brinjal have been discovered which are pest-resistant and also herbicide-resistant.

- Bt Mustard has been developed through R&D in Delhi University. This will help to reduce India's import dependence on other countries like Malaysia, Indonesia for meeting its demand of edible oil.

→ Krishi Vigyan Kendras are playing massive role in counseling of farmers and in providing them with institutional and R&D support.

→ Seed Banks have been developed by ICAR, PUSA to preserve seeds.

→ Biotechnology is being leveraged to manufacture climate-resilient seeds.

Thus, R&D is necessary ~~and~~ as it is playing a huge role in doubling farmers' incomes.

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)

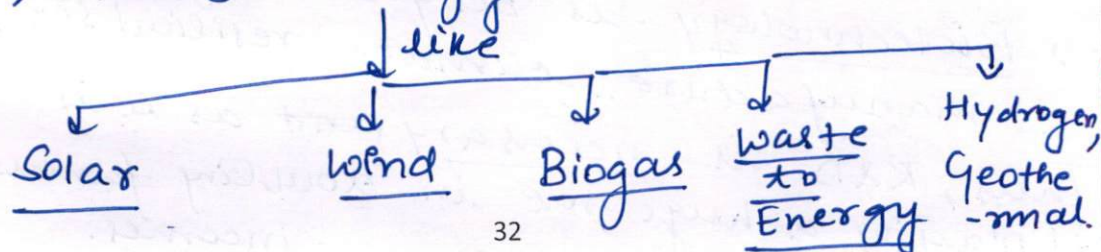
India's power distribution companies and electrical grids must undergo reforms to transition from fossil fuels to more sustainable forms of renewable energy. Discuss. (Answer in 250 words) 15

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

26% of India's energy needs are being met by renewable energy. As per India's commitment in COP-26 Glasgow summit, the target is to achieve 50%. Presently, coal is the major source of production of electricity. 70% of India's electricity needs are being met by coal as it is:

- Cheap,
- Readily mined,
- Amenable to systems of thermal power plants,
- Easy to store,
- Has high calorific value.

However, to combat climate change, India's electrical grids need to transition from fossil fuel to renewable energy



REASONS FOR USING RENEWABLES

- Clean Fuels
- ~~Less~~ polluting
- Less costs
- Prevent global warming, climate change

उम्मीदवारों को इस वॉशिंग में नहीं लिखना चाहिए
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CHALLENGES IN USING RENEWABLES

- SOLAR
 - huge installation cost
 - Storage problems
 - Intermittent supply.
 - Land acquisition issues.
- WIND
 - Impact on birds
 - High installation costs
- BIOGAS
(Bagasse)
 - Involves growing more sugarcane crops which is water-intensive, depletes groundwater.
 - Inefficient procurement & Contracting with farmer
- WASTE TO ENERGY
 - Inefficient segregation of waste
 - Waste management is poor
- HYDROGEN ENERGY
 - Produced by electrolysis which is electricity-intensive.
 - Technology still nascent.
- Decommissioning of Coal-based thermal power plants cannot be done in one-go as it will lead to job losses. This has to be a gradual process.

STEPS TAKEN BY GOVT

- National Solar Mission (off Grid)
- Atal Jyoti Yojana
- Solar Parks Scheme
- Solar Rooftop Scheme
- off ~~grid~~ Wind Scheme
Shore
- GOBAR-DHAN Scheme

Through these schemes, govt is trying to integrate renewable energy into power grids.

REFORMS NEEDED

- Effective implementation of RPOs i.e. Renewable Purchase Obligations so that DISCOMs mandatorily purchase some % of their electricity from renewable energy generators.
 - Power exchanges to be revitalised to ensure effective power-trading.
 - Renewable Energy Certificates (RECs) are currently in excess supply. Hence, their market prices have declined.
 - Nudging States to guide their DISCOMs to adhere to their RPOs and use RECs for inter-state purchasing of renewable electricity.
- All this will ensure smooth transition of DISCOMs towards renewables.

14.

भारत में आगत-सघन (इनपुट इंटेंसिव) 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

Low External Input Sustainable Agriculture (LEISA) is a kind of agricultural practice which promotes low usage of inputs for sustainable agriculture. It promotes permaculture.

SIGNIFICANCE OF LEISA

→ LEISA will ensure natural inputs usage in agriculture instead of chemical inputs.

Eg:- GM crops have "terminator seeds". These seeds, once used, cannot be used once again.

Thus, LEISA discourages the use of expensive GM seeds manufactured by Biotech companies like Monsanto, Bayer.

→ LEISA encourages the farmers' traditional practice of conserving seeds for growing crops in future.

→ This reduces ³⁵ input costs of farmers.

→ LEISA advocates organic farming

→ Inputs like ~~agri~~ fertilisers require more water and are energy-intensive and lead to:

- Degradation of land,
- Salinity of crops and
- Pollution of groundwater.

→

→ Thus, LEISA advocates natural manure which is prepared using excreta of animals.

→ LEISA advocates Integrated Farming System i.e. farmers should grow both crops and also do animal farming and benefit from their animal waste. This will lead to proper waste recycling.

→ LEISA promotes growing of SYNERGISTIC Crops. Eg:- Growing of banana plant and inserting the seeds of chilli and beans will create synergy as

chilli seeds will prevent pests from attacking banana plant; &
bean seeds will fix nitrogen for the banana plant.

→ This will reduce farmers' costs on expensive inputs like pesticides and fertilisers which harm the soil and ecosystem.

→ LEISA promotes rainwater harvesting

→ By creating bunds in the field, fast flow of rainwater can be stopped and groundwater can be recharged effectively.

→ This will reduce dependence of farmers on irrigation subsidies.

→ LEISA also promotes Micro-irrigation like Drip and sprinkler for achieving 'More crop per drop'.

→ Crop diversification and production of climate-resilient crops ^{like millets} is also promoted by LEISA.

Thus, LEISA reduces dependence of farmers on inputs which are energy-intensive and harmful by promoting sustainable agriculture.

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

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IPCC's AR6 i.e. 6th Assessment
Report is a 'Code Red' for humanity -

CONCERNS RAISED IN REPORT WITH SPECIAL FOCUS ON INDIA

- Extreme weather events like floods to affect Mumbai and Kerala the most.
- Global warming can trigger drought-like conditions in North-western India, lead to land-degradation and make agriculture unsustainable.
- Health problems will accentuate, ~~espec~~ pregnant women and elderly are most vulnerable to extreme heat.
- More cyclones in Bay of Bengal and Arabian Sea – evacuation of children and women difficult during cyclones.

- Pollution levels in Delhi-NCR will lead to health problems like asthma, respiratory and lung infections.
- Submergence of low-lying areas during floods
- Increased risk to port infrastructure
- Poor and rural people are most vulnerable to climate-change
- Migration will occur due to climate change.

REMEDIAL MEASURES

- Crop diversification
- Climate-resilient crops like millet to be promoted.
- Effective handling of urban floods
- Energy-efficient vehicles to reduce ~~infrastructure~~ pollution.
- Climate and disaster-resilient infrastructure
- Use of renewables.

→ Effective warning system to forecast floods well in time

→ Reduce urban heat island effects

→ Enhance health facilities

→ Energy-efficient buildings

→ Effective disaster management plan needed to evacuate women and children during cyclones.

→ Policy on dealing with climate refugees needs to be devised.

→ Sustainable smart cities needed.

Thus, the Report has urged India to act swiftly in the interest of all vulnerable stakeholders and help them to mitigate and adapt to climate change.

भोपाल गैस त्रासदी से लेकर विशाखापत्तनम में गैस रिसाव तक कई रासायनिक आपदाओं ने भारत में खतरनाक रासायनों (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)

Bhopal gas tragedy - like chemical disaster have crippled the development of people and their families affected by it.

RISKS POSED BY HAZARDOUS CHEMICALS

- Skin exposure to chemicals can cause skin burns
- Radioactive chemicals can trigger radioactive reactions in the body of humans and can cause mortality
- Damage to eyes, ears → Blindness can be caused
- Damage to brain
- Impact on birds and animals in the region
- Crippling of humans for life and for ⁴¹ generations.

- Adverse impact on pregnant woman and her foetus
- Vicious cycle of poverty can be triggered due to these gas leaks.

PREPAREDNESS IN CDM (Chemical Disaster Management)

- Effective surveillance of Chemical industries through SCADA Systems.
- Periodic review of disaster risk reduction strategies of chemical industries
- Regular drills by employees of these industries to combat chemical disaster
- ~~Extra~~ Installation of sensors to detect chemical leaks.
- Mock drills on evacuation and rehabilitation of people during and after disaster
- Procurement of medicines needed to remedy⁴² diseases resulting

- from such disasters
- Capacity-building of industry employees and doctors to prevent, mitigate and adapt to chemical disasters.

GAPS.

- Weak monitoring of systems
- Obsolete machinery parts
- Poor capacity-building
- Ineffective engagement with other foreign organisations in dealing with such disasters.
- Awareness needs to be generated among industry employees on how to kickstart industry machinery after lockdown so that there is no gas leakage.
- Petroleum Explosives Organisation (PESO) to take the lead in building capacities of all stakeholders to manage chemical disasters.

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 हार्शिए में नहीं लिखना चाहिए
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During Covid-19, there was massive demand for:

- Oxygen cylinder,
- Concentrator,
- Vaccines,
- Drugs
- Masks

for combating the pandemic. This demand could not be met mere by domestic production.

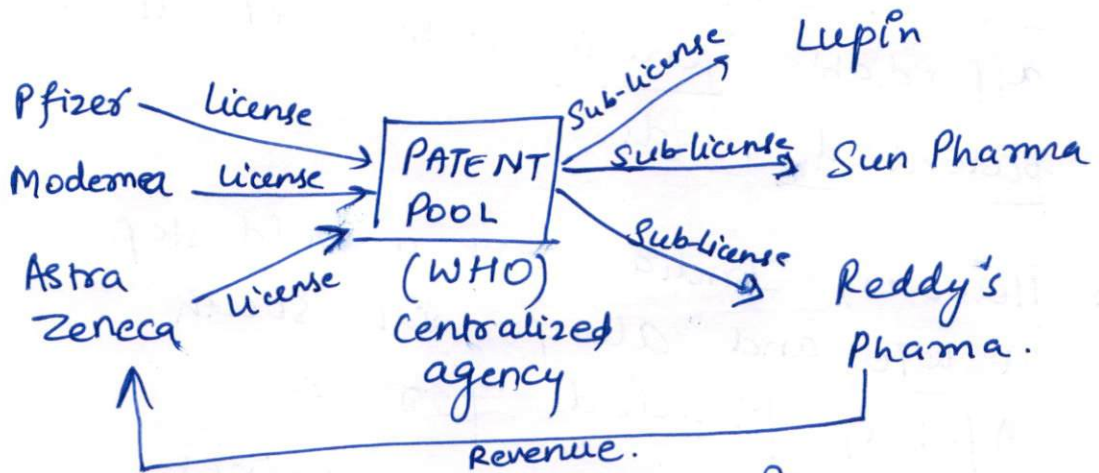
Hence, these products had to be imported as there was increasing demand for liberalisation of these health-related goods. However, IPR issues were related to some of these goods.

IPR ISSUES

- Foreign pharma companies do extensive research on developing drugs and vaccines

- Hence a patent is granted to them which provides to them a monopoly right to produce and sell their goods.
- These goods are sold at high prices, which are unaffordable to most Indians.
- Indian government can impose Compulsory licensing so that Indian companies can manufacture affordable generic versions of these patented goods.
- However, India took a bold step at WTO and along with South Africa, pleaded for a TRIPS waiver on vaccines produced by foreign companies.
- This waiver would waive patent protection during time of pandemic and ensure access to vaccines to the developing world at affordable cost.

→ The concept of PATENT POOLS also came up during pandemic which would help WHO to pool patent licenses from different companies like Pfizer, Moderna and then WHO can sub-license these to generic manufacturers to produce vaccines at affordable cost.



CONCEPT OF PATENT POOL

IN IPR (came up in Doha Declaration 2001)

The WTO needs to consider ~~the~~ India's request for TRIPS waiver so that the world can access vaccines and get relief from the Pandemic soon.

8.

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)

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REASONS BEHIND SUBOPTIMAL RESULTS IN INDIGENIZATION OF DEFENCE TECHNOLOGIES

- Lack of funding
- Poor institutional support
- Private sector was not allowed into defence sector for a long time
- Monopoly of Public sector in defence
- Inadequate Capacity Building
- Lack of collaboration with foreign companies
- Defence Contracts and deals did not ensure Transfer of Technology to India.

MEASURES :-

- Defence Contracts during procurement of defence equipment should insist on Transfer of Technology from foreign companies
- Capacity building of HAL, DRDO
- Institutional support needs to be strengthened
- More budget allocation for R&D.
- All this will ensure accelerated indigenization in the defence sector.

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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)

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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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