

VISIONIAS
INSPIRING INNOVATION
ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

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. : 01562623

अभ्यर्थी का नाम/Name of Student : Ajink

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

25/08/24

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

केंद्र
Centre Bhai Joga Singh Public
School, Kaul Bagh, Delhi

निरीक्षक के हस्ताक्षर
Invigilator's Signature

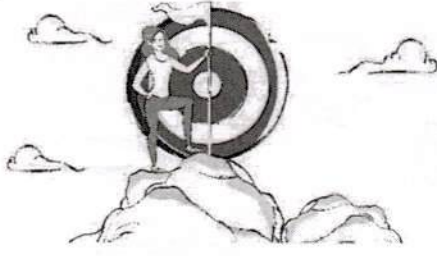
Ronans

	<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
<p>परीक्षक के हस्ताक्षर Signature of Examiner(s)</p>	

प्रासांक 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) (2930)

निर्धारित समय: तीन घंटे
Time Allowed: **Three Hours**

अधिकतम अंक: 250
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प्रश्न-पत्र संबंधी विशेष अनुदेश

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

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

सभी प्रश्न अनिवार्य हैं।

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

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

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

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

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

QUESTION PAPER SPECIFIC INSTRUCTIONS

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

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

All questions are compulsory.

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

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

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

Keep the word limit indicated in the questions in mind.

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

EVALUATION INDICATORS

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

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1. खाद्य प्रसंस्करण उद्योग का तीव्र विकास किस प्रकार भारत में खाद्य सुरक्षा संबंधी चुनौतियां उत्पन्न कर रहा है? (उत्तर 150 शब्दों में दीजिए)
How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words) 10

Food Processing Industry can be defined as those industry which changes primary food products to secondary food products.

(eg) → Tomato Processing → Puroe
Ketchup etc.
Pickle.

Rapid growth of food processing industry leading to food safety challenges

As per Economic Survey 2023-24, Food Processing Industries, employ 5mn people & contribute 10% to our export.

① Converting perishable items to secondary product and can be used later on.

(eg) ₹ 93,000 cr worth food got wasted → food insecurity.

FPI → Food security.

2) Taking care of changing food habits in the public. (eg) → More packed foods due to ↑ disposable income leading to increased use of chemicals. (eg) → Ketchup.

3) No proper FSSAI standards followed by the small FPIs.

(eg) → Spice manufacturers use of Ethyl Alcohol.

4) Cases of adulteration have increased

(eg) → Use of Horse's lid in Spice (Coriander).

5) Fortification of rice for nutritional supplement but no proper standards followed with marking.

(eg) → No marking on fortified rice for Sickle Cell Anaemia patients.

6) Plant based unmeat products on rice and no proper standards followed.

Food processing industries rising due to PM Mega Food Park, PM FME, PM Sampada

but health standards need to be maintained

2.

भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words)

10

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

Public Distribution System (PDS) of India

has helped in curbing starvation and hunger. It has provided food to the most vulnerable at the cheapest rate.

(Antyodaya, Anna Yojana and now PM KISAN)



Fair Price Shop transformation is an evolving process :-

- ① Earlier supply of rice, wheat to the ~~ration card holder~~ every one.
- ② Targeted PDS and distribution to only ration card holder.
- ③ Technological Augmentation and now geo tagging of shops.

4. One Nation - One Ration Card where one can purchase from any FPS through out India

5. Some states providing other than cereal crop like Rosene oil, Pulses, Coconut oil etc.
(eg) Pulses in M.P.

6. FPS are now being developed as a ~~store~~ modular shop to provide various items at subsidised rates

(eg) Sanitary Napkin, Customer Service Centre
Fortified Rice etc.

Pilot projects launched by Ministry of Food

Thus, FPS have evolved and come a long way. It is a great enabler in meeting SDG 1, 2 & now 3 too.

3.

भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

10

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

Agriculture is the mainstay of our economy.

~42% people involved in farming &

contributing 18% to GVA. (Economic Survey 2023-24)

Role of Agritech startups in enhancing

I Farm Productivity

① Providing advice in local languages to the farmers. (eg) AI enabled Krishi App.

② Providing Agro extension services to the farmer. (eg) Krishi Chaupal.

③ Using technology like sensors, valves, actuators for precision farming.

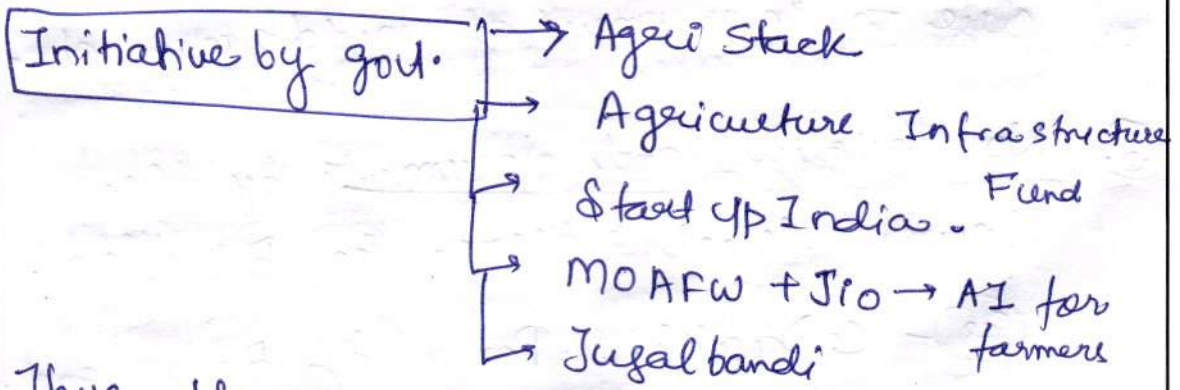
(eg) → Dharti Putra.

④ Using organic farming and exotic horticulture. (eg) Two Brother Organic Farming

10

II) Market Access

1. Market rates and collection centres facility. (Ex) Dehaat App.
2. Providing forward & backward linkages to the farmers.
3. Improving supply chain and logistics through market integration and huge fleet. (Ex) Wheels on wheels.
4. Cold storage facilities by some agri tech startups on a Co-operative basis.



Thus, through such initiative we can improve farmer's income (2 times) as compared to...

4.

भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Discuss the role of digitization of land records in the effective implementation of land reforms in India. (Answer in 150 words)

10

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

As per World Bank (2007) ~ (66%) cases pending is related to land disputes.

This land disputes are due to improper records, forgery, ineffective land reforms

Digitalization of land records can make this easy :-

① Land records available at the block level in digitized form.

(eg) DILRMP program.

② Reducing cases of forgery of lands, due to involvement of middlemen etc.

③ No invalid land documents by the lower level officers. (eg) BDO, CO.

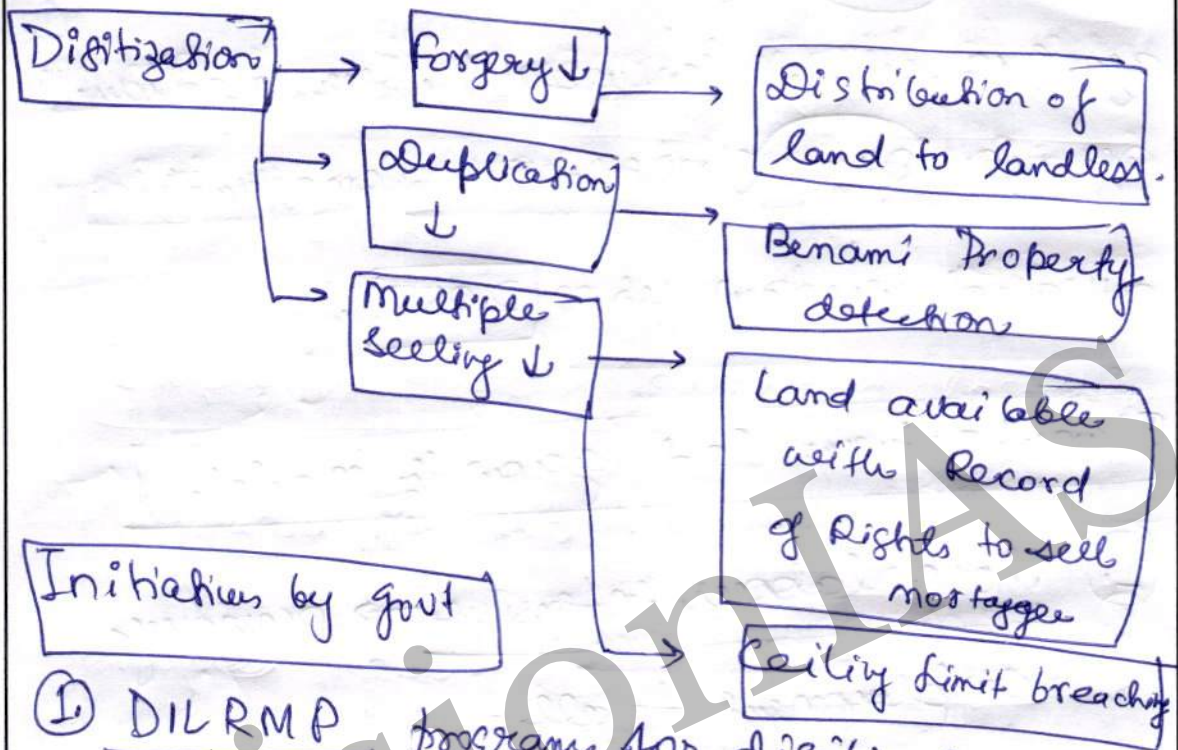
(eg) e-Daakhil Portal of Bihar govt. for mutation.

④ Reducing cases of land dispute

and artificial deficiency of lands.

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

② NITI Aayog (20yrs) minimum to solve land dispute.



① DILRMP programs for digitization.

② SUAMITVA scheme to provide property cards & reduce disputes.

③ BHUVAN portal for mapping of villages.

Thus, through digitization land reforms can be implemented in a better way protecting sights of vulnerable and increasing productivity.

5.

भारत को अपने जनसांख्यिकीय लाभांश का पूर्ण उपयोग करने और आर्थिक विकास में तेजी लाने के लिए एक विनिर्माण-केंद्रित विकास मॉडल को अपनाने की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

To fully exploit its demographic dividend and accelerate economic growth, India needs to adopt a manufacturing-led growth model. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हार्गिए में नही लिखना चाहिए
Candidates must not write on this margin

India's (64%) of population is in working age (18-64 yrs) (Census 2011). Our median age is (29 yrs) (NFHS-05). Demographic dividend window up to [2055].

Manufacturing led growth model /

- ① More labour intensive → providing employment to all.
- ② Lesser skilled people can also be employed in menial jobs.
(e.g.) Unloading / loading.
- ③ Manufacturing add to the Economy
 - ③.1 Export potential of products.
 - ③.2 Maximum value added during ~~the~~ this stage.

④ Cheap labour present in India attracting
manufacturing.

⑤ Initiatives by govt.

- ① PLI scheme for manufacturers.
- ② Make In India.
- ③ New Manufacturing Policy.
- ④ Apprenticeship program.
- ⑤ Skill India Mission etc.
- ⑥ SEZ and Industrial corridor.

Challenges

- ① Fast paced automation in India.
- ② Attractive location like Vietnam, Philippines close to China.
- ③ Skill deficiency in some sector.

However, due to our efforts we are now electronic giant, (Apple, Vivo, Samsung) and automobile giant. But more needs to be done because as per (Eco. Survey)

6.

जलवायु परिवर्तन के परिणामस्वरूप बढ़ते प्राकृतिक खतरों से निपटने के लिए भारतीय तटीय समुदायों की प्रत्यास्थता को किस प्रकार मजबूत किया जा सकता है? (उत्तर 150 शब्दों में दीजिए)

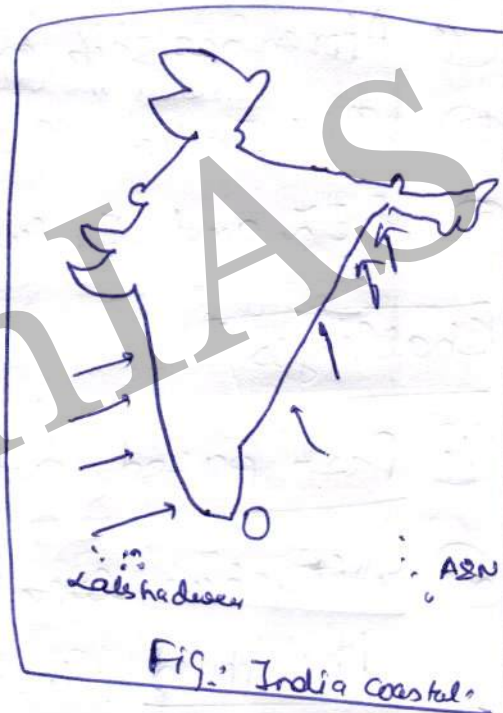
How can the resilience of Indian coastal communities be strengthened to tackle the growing natural hazards resulting from climate change? (Answer in 150 words) 10

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

India has a long coastline of 7500 km.
Due to climate change and increasing sea level, coastal erosion, inundation on rise.

Resilience of coastal communities

- ① Upskilling them and diversifying their livelihood.
- ② \rightarrow > 10cr people on fisheries etc.



- ② Nature based solution like promoting 'Kuttinad Rice cultivation'
- ③ Coastal stabilization using mangrove plantation
- ④ MOSHVI scheme

4. Partners in development :- (Eg) PM

Matsya Sampada → Shrimp cultivation
↓
Resilience ← More money

5. Educating and awareness regarding

Cyclone Warning,

(Eg) EWS in Doppler Radar & mobile SMS,

6. Following the principle of structural
measures by constructing houses at elevation.

7. Using traditional knowledge of
fish catching to avoid deep sea voyage.

8. Restricting deep shipping in the areas.

Thus, our coastal communities need to strengthen their resilience. This is in our Blue Economy framework.

7.

भारत में अधिक संधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)

How does the Green Credit Programme extend beyond carbon management to promote a more sustainable environment in India? What are the various concerns about its implementation? (Answer in 150 words)

10

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

Green Credit Programme is one of the flagship program of MOEFCC for carbon & other emission management.

Extend beyond carbon management

- ① Helps in other sustainable practices.
- ② easy trading of carbon credit.
- ③ Development of carbon market for the world.
- ④ Indian company can get huge benefit by trading in their credit.

⑤ Other projects like afforestation, etc. can be financed using Credits.

Challenge

① Regulatory mechanism is not sure.

② Private companies need to be incentivised first.

③ Role of foreign companies & their confidence building.

④ Greenwashing can be one of the challenge.

8.

जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

What is the need for NavIC when existing satellite navigation systems are already available? (Answer in 150 words)

10

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

NavIC is our own satellite navigation system. Provide coverage to 1500km both side of India.

Need for NavIC

- ① Surveillance and Reconnaissance for the military.
- ② Self dependent and no foreign dependence.
- ③ During Kargil war USA did not help.
- ④ Start up will develop using tech as a platform.

(eg) OLA maps-

9) Security to the woman as

panic button in cars for navigation,

10) Reducing our ~~to~~ ~~also~~ import
of tech and heavy user
fee =

(eg) Several airplanes are
using NAVIC.

Thus, NAVIC & Gagan will
make India ATMA NIRBHAR
and will help in achieving

VISION OF BHARAT @ 2047

9.

साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Cyber-enabled financial crime has emerged as the new frontier of global money laundering. Discuss. How can the government address this issue? (Answer in 150 words) 10

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

As per CERT-in cyber fraud increased by 200% after COVID-19, USA has called Cyberspace as 5th domain of warfare.

Cyber-enabled financial crime — frontier of Money Laundering

- ① Cases of Hawala money through virtual digital asset.
- ② Cyber arrest a new mechanism to ~~law~~ first extract money & then laundering it.
- ③ Money trapping and then pressurising to do money laundering.
- ④ Digital fraud using duping OTP and using account as a 6 Mule Accounts

Government can address the issues

- ① Enabling I4C and other agencies.
- ② NCIIPC to be strengthened.
- ③ Cyber security professional skilling, upskilling by the govt.
- ④ Cyber Swachhta Kendra Initiative.
- ⑤ International Initiative like No Money for Terror Financing & Declaration
- ⑥ Crypto Currency & other VDA and VDA service provider guideline by FATF.

Thus, our govt. is taking initiatives to protect our citizens. Apart from this, citizens need to be cautious before engaging in such crime.

10.

इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्र में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

The Indian Army is observing the year 2024 as the 'Year of Technology Absorption'. In light of this, explain why there is a need for technology absorption in the defence sector of India. What challenges can India face in this initiative? (Answer in 150 words)

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

10

Indigenization of technology is at the core of our government. Several initiatives started by govt. like DAP, Sojan Portal, Positive indigenisation list, idex, Aditi Project etc.

Need of technology absorption

① India largest importer of arms - CSIRI.

② Saving our forex reserves.

③ Security of our country because foreign equipments with their hardware, software - chances of espionage.

④ Giving opportunity to local manufacturers.

⑤ Export capability

₹ 25,000 cr worth export in 2023-24

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

Challenges

1. Unorganised sector mainly producing equipment.
2. Our less expenditure on R&D only 0.65% GDP.
3. Our labs are unable to give good products & we generally work on tech. transfer.
4. Lesser no. of private players in the industry.
5. Relation with other nation like Russia, USA etc.

However, USA is our largest importer of defence equipment. India target is to export ₹ 50,000 cr²⁵ by 2015

भारत के पूर्वोत्तर क्षेत्र (NER) में व्यापार एवं उद्योगों के विकास में किन समस्याओं का सामना करना पड़ा है? इन समस्याओं से निपटने हेतु किए गए उपायों पर टिप्पणी कीजिए। (उत्तर 250 शब्दों में दीजिए)
 What are the issues faced in the development of trade and industries in the North-Eastern Region (NER) of India? Comment on the measures that have been taken to tackle these issues. (Answer in 250 words)

North Eastern Region comprises of 7 brother & 1 sister and surrounding by Himalayas from one side and Myanmar, Bangladesh, Bhutan and China.

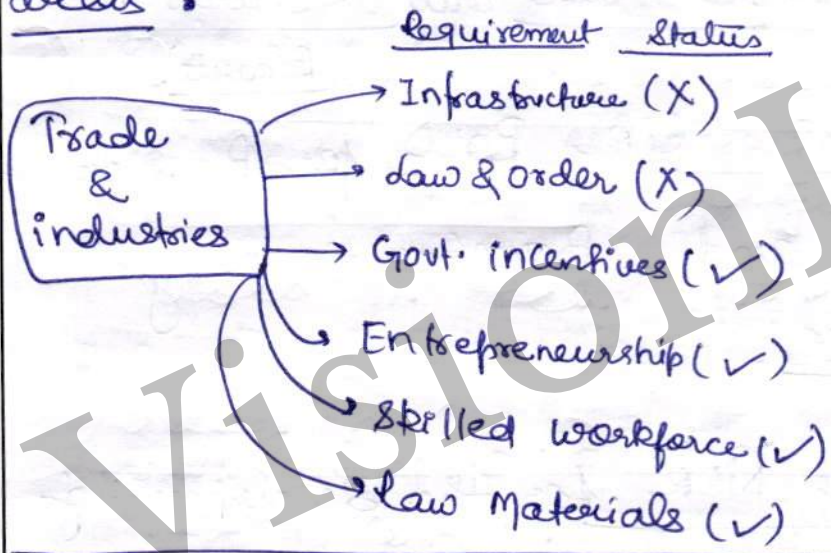
Issues faced in the development of trade & industries in NER are as follows: →

- ① Undulating topography: → North East region have Himalayas, Other hills (Purwanchal hills), swaying Brahmaputra etc.
- ② Rising insurgency: → Several insurgent groups like ULFA, NSCN etc are present challenging peaceful environment & law and order.
- ③ Infrastructure lacking: → Physical Infrastructure like roads, bridges, telecommunications are lacking in NER.

4. Ethnic Conflicts :- Between different ethnic groups. like Meitei & Kuki & Burakung people exodus from Tripura.

5. Historical factors :- Britishers isolated these areas from mainland using excluded areas and partially excluded

areas :



Measures that have been taken to tackle the issues are :->

1. Schemes like PM De vine ÷ Special focus on North-East region for its rapid industrial development.

2. Signing of Suspension of Operations (SOO)

with various groups like (NSCN -I) etc.

- 3) Signing of peace accord like 'Naga Peace Accord & ULFA Peace Accord'.
- 4) Attracting investment from Japan through JICA in NER.
- 5) Tapping tourism potential through attracting tourists and catchy initiatives of 'Incredible India' and 'Ek Bharat Shrestha Bharat'.
- 6) Some initiatives like BOLD for Bamboo plantation and Bamboo economy under KVIC.
- 7) Ministry of NER for the development of North East and solving the issue.
- 8) Construction of infrastructure :- Bogibeel Bridge, railway lines etc.

Development of North East would lead to development of India. It is one of the core part in VISIONS IN BHARAT @ 2047.

improvising the concept of Inclusive growth

12.

जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

In the era of climate change and growing water scarcity, how can micro-irrigation systems contribute to sustainable agricultural practices in India? (Answer in 250 words) 15

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

Climate change induced water scarcity is a current (ongoing) phenomenon. As per Moody's report, due to water scarcity our GDP growth rate would fall. Further, water availability per capita is down to 1300 cm³/year. India a water stressed country.

Climate change and growing water scarcity in India Scenario :-

- ① India world's (18%) population; (4%) water resources.
- ② Condition of Zero Day scenario in 32 urban centres like Bengaluru, Pune (NITI Aayog)
- ③ Water availability per capita per year is only 1300 cm³/year (moody).

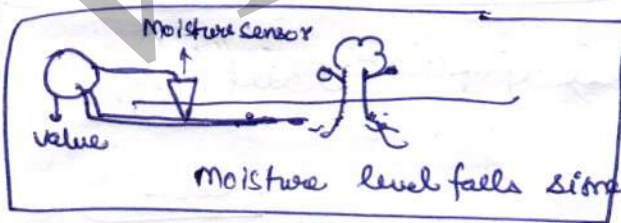
Micro irrigation system contributing to sustainable agricultural practices are: →

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

① Use of Sprinkler System as it reduces the water wastage. Water usage efficiency of Canal System $\sim 30\%$ (CWC)

② Use of Drip irrigation system as it is dripping the soil; making it always moist. So, lesser water required.

③ Precision farming and use of sensors for opening the valve and \uparrow water efficiency.



Moisture level falls signal to valve, valve activates & water to plants.

④ uses of waterguns to water the field using torque and changing direction

⑤ Uses of ponds, wells present in the field to water the field.

Initiatives by the govt.

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

- ① PM Kisan Sinchayee Yojana with Haro khat ko Paani and micro irrigation techniques.
- ② Subsidy on installing micro irrigation techniques. (Eg) Bihar govt. (50%)
- ③ Other state government schemes like Jal Jeevan Harigali (Bihar) to rejuvenate traditional water bodies and promoting water use efficiency
- ④ Subsidization of water pumps through PM-KUSUM.

Thus, in a country where agriculture is the mainstay. Improving micro-irrigation techniques is necessary for water conservation as agriculture uses (25%) of ground water. Thus, micro irrigation is required for sustainable water usage.

13.

भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल दुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)

What strategies can be adopted to overcome the issues pertaining to freight transportation in the Indian Railways and increase its share in the domestic freight? (Answer in 250 words) 15

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

Indian Railways is ~~the~~ called the lifeline of the country ~~with~~ by connecting hinterland to the main centres.

Issues related to the freight transportation in the country are: →

- ① Last mile connectivity is not present leading to less usage of train for freight movement.
- ② Higher time by train to deliver the product because of congestion issue.
- ③ Lesser speed of the freight trains.
(Eg) - Avg. speed 25-30km/hr (Min. of Railways)
- ④ Complex procedure to book the rates for movement of goods.
(Eg) → Commercial Manager approval etc.

⑤ Rail network not present in North East,
some parts of Punjab, some industrial
hubs. (eg) Neemrana - Dhaundera, etc.

Strategies to be adopted to improve the share

① Construction of Dedicated Freight Corridor
like EDFC, WDFC.

② Increasing the speed of goods train on
the line $\sim 50 \text{ km/hr}$.

③ Increasing the no. of rakes for easy
and faster movement of goods.
(eg) New Aluminium Rakes.

④ New engines to carry more load
(eg) Alstom new engine.

⑤ Initiatives like 'Kisan Rail' for
faster movement of perishables.

⑥ Online booking of rakes to be
started to move away from
complex (Pen-Paper) procedure.

(7) Increasing the track coverage in the country. (eg) New Rail lines in Meghalaya, Jammu etc.

(8) Awareness among the business community that freight charges with Railways ₹ 1.6/km
Roadways ₹ 2.6/km] Statista data.

(9) Last mile connectivity by connecting ports with railways under Safarmala Project.

(10) PM Gati Shakti for better coordination. This, however, the recent train accidents and slow pace of work is a challenge for increasing freight.

Thus, trains can improve our logistics performance index (LPI) and helps in achieving 8-9% GDP logistic cost.

currently, 14% GDP.

14.

उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

Discuss the factors that have aided India in making impressive strides in the renewable energy sector and establishing itself as a frontrunner in the global renewable energy transition. (Answer in 250 words)

15

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

India ranks 4th in terms of renewable energy installation. In solar energy it is 5th and in wind it is 3rd

(IRENA) data.

Some quick facts

Out of total 484 GW installation; 44%

renewable (including hydro); 87 GW solar energy. (MNRE data).

Factors that have aided India are: →

① India's 'Panch Pran' during COP-26 & a target to achieve Net Zero @ 2070

② India's INDC → 500 GW renewable by 2030
→ 40% renewable by 2025.

③ Initiatives like ONE SUN ONE WORLD
ONE GRID by India
and International Solar Alliance.

4. Government impetus on increasing share of renewable energy to reduce ~~exp~~ import dependence.

(eg) - India imports (86%) of crude oil.

5. Global supply chain disruptions due to the Covid-19 and War.

6. Coming up with schemes like

6.1. PM KUSUM \Rightarrow Target 100GW by solarising agricultural field.

6.2. Offshore wind energy \Rightarrow Targets of 30GW.

6.3. Ocean Thermal Energy Conversion plant in Andaman & Nicobar.

6.4. PM Surya Ghar Muft Bijli Yojana
Target 30GW rooftop solar by providing subsidy to households upto 3kW.

6.5. Tidal Energy conversion in the Gulf of Kambhat.

6.6. Geo-thermal Energy in Ladakh, Tattani etc.

6.7. Bio mass energy through SATAT Scheme.

6.8. Compressed Biogas - GOBARDHAN scheme.

6.9. Renewable Purchase Obligation with Discoms to purchase renewable energy at lower rate.

However, still almost 57% of our energy demands met by Thermal Power Plant.

As per CEA only 8.76 GW TPP have

'Desulphurisation unit'. Secondly, challenge

of disposal of Solar PV waste and environmental concern (Great Indian Bustard)

Thus, our transition is phenomenal and at current rate we will achieve our target

sooner. It will help to achieve SDG 6 ³⁷

and stick to Paris Agreement (~1.5°C)

15.

उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words)

15

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए

Candidates must not write on this margin

Agriculture is the mainstay of our economy. Usage of chemical fertilizers and pesticides resulted into environmental pollution and several diseases like 'Blue Baby Syndrome' and bio-magnification.

Agriculture Runoff contributing to environmental pollution in the following ways: →

① Excessive usage of fertilizers leading to solubility & runoff. → Avg:- N : P : K
4 : 2 : 1
India: → 6 : 7 : 4 : 1

② Indiscriminate usage of pesticide like Monocrotophos (Phoskill) and its solubility is higher.

③ Agricultural subsidy on UREA and NPK (Nutrient based subsidy) giving farmers freedom to use excessively.

4.) Flood irrigation method is used leading to solubility and river pollution.

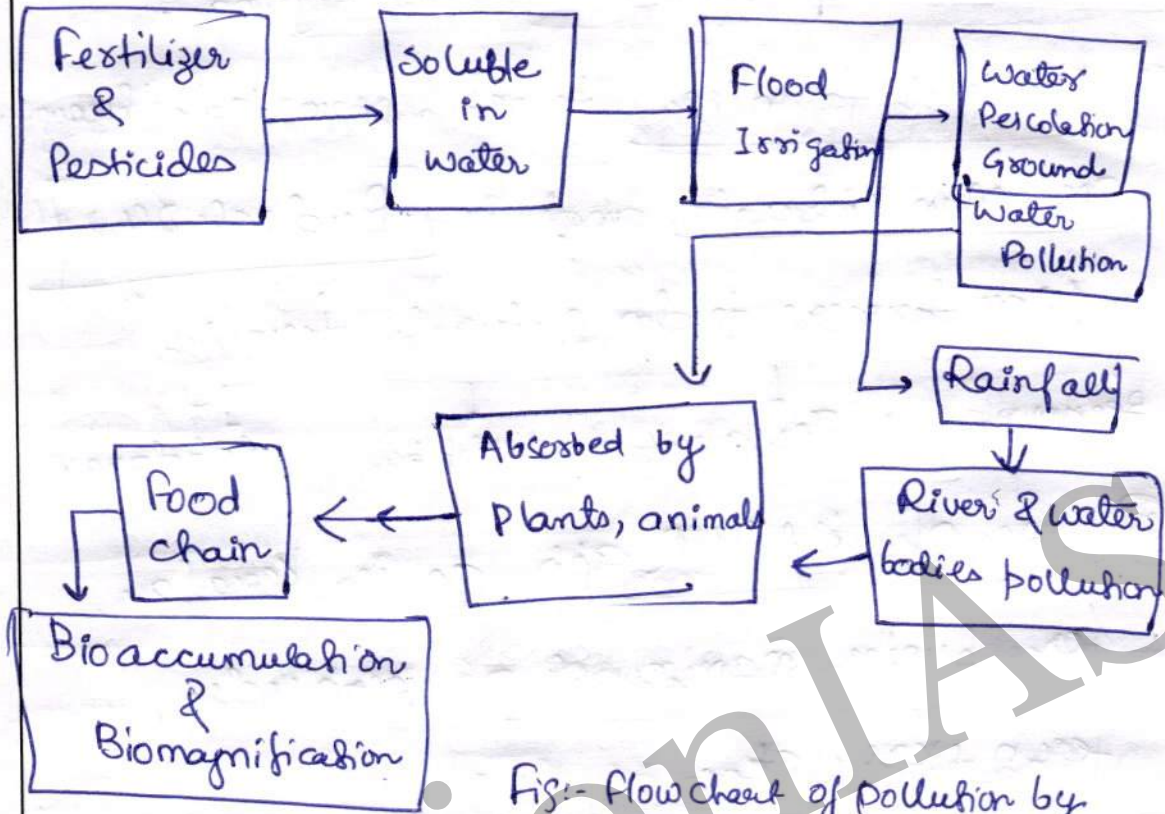
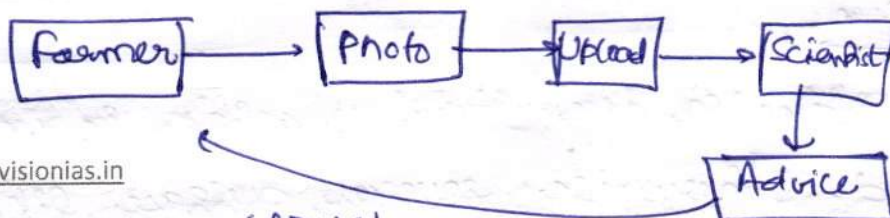


Fig: Flowchart of pollution by chemical fertilizer

Measures to mitigate the impact of runoff are:-

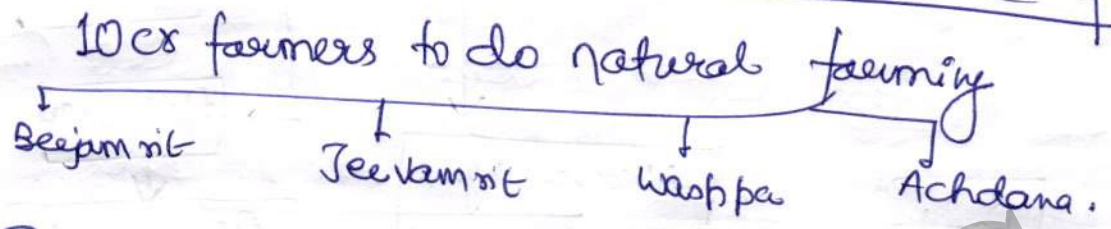
- ① Use of Neem coated Urea as it inhibits the solubility of Urea.
- ② National Pesticide Management System (NPMS) in which AI will be used to guide farmers on pesticide usage.



3) Sustainable agriculture Practices like

- Organic farming (Sikkim)
- Pramparagat Krishi Vikas Yojana.

4) Natural farming to be promoted through PM Man Ki Baat and in Budget 24-25



5) Use of KATHIR app as in Kerala for proper management of pesticides, fertilizers etc.

6) Agro extension services like Krishi Darshan & Krishi Chaupal for agricultural services.

7) Ban on several pesticides under Pottadam convention which were highly poisonous.

8) Concept of hydroponics & integrated farming.

Thus, sustainable agricultural practices is way forward. Otherwise several diseases like
can be well spread at a later date.

16.

हिमालयी राज्यों में पर्यटकों की बढ़ती संख्या ने उनके पारिस्थितिकीय समावेशन क्षमता को पार कर लिया है, जिसके कारण बड़े पैमाने पर मानव-जनित आपदाएं उत्पन्न हुई हैं। संधारणीय पर्यटन को बढ़ावा देते हुए ऐसी आपदाओं को रोकने के लिए क्या उपाय किए जा सकते हैं? प्रासंगिक उदाहरणों के साथ चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए)

The growing influx of tourists in Himalayan states has breached their ecological carrying capacity, leading to significant man-made disasters. What measures can be implemented to prevent such disasters while promoting sustainable tourism? Discuss with relevant examples. (Answer in 250 words)

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

15

As per a report by Himalayan Trek Agency,
 The current footfall of tourist is close to 40mn expected to reach 100mn by 2030.

Influx of tourist leading to significant man made disasters. →

- ① Infrastructure development for tourist easiness. (Eg) → Char Dham Project.
- ② Coming of resorts, hotels in the flood plains of rivers. (Eg) → In Himachal Pradesh in Shimla.
- ③ Violation of norms of ESZ to construct infrastructure.
- ④ Social Media and Revenge Travelling → leading to ↑ no. of tourist in the Himalayas.
 (Eg) After COVID-19.

- (5) Increasing disposable income of Indians and the rising middle class.
- (6) More no. of Gen Z population with our median age ≈ 28 yrs and they try to explore new things.
- (7) Offers by travel and tour operators like Make My Trip etc.

Some examples of recent man-made disaster

- (1) Kedarnath flood, 2013 \Rightarrow Illegal construction leading to loss of life.
- (2) Flood in Manali & Shimla, 2024 leading to death.
- (3) Landslides in Uttarakhand due to deforestation to construct hotels.
- (4) Land subsidence at Joshimath, tourist place.

Measures to be implemented to protect such disasters are: -

- (1) HRVA :- Hazard Risk & Vulnerability assessment and drawing hazard zones like CISRO landslide

2) Investing in funds, functions and functions

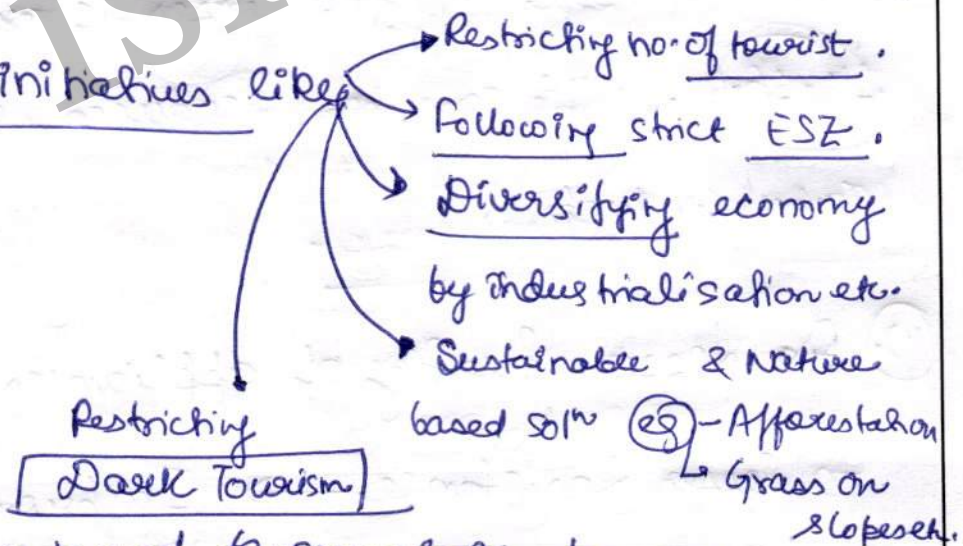
like economic vulnerabilities, social vulnerabilities to done away with. (eg) → Skillig of SDRF local volunteer. Disaster specific plan for Himalayan state.

3) Structural & non-Structural measures.

like Earthquake resilient infra, following building By laws. Restricting the no. of tourist EIA and SIA and Strong DPR before taking any project.

4) Preparedness using installing Early Warning System like Doppler Radar, iflows etc.

5) Other initiatives like



Thus, we need to regulate tourist

influx. Otherwise due to disaster severe casualties would take place.

17.

सुपरकंडक्टर्स विज्ञान एवं प्रौद्योगिकी के विभिन्न क्षेत्रों में नवाचार को किस प्रकार बढ़ावा देते हैं? उदाहरण सहित स्पष्ट कीजिए। (उत्तर 250 शब्दों में दीजिए)

How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words)

15

उम्मीदवारों को इस हिसाब में नही लिखना चाहिए
Candidate must not write on this margin

Superconductors are those conductors which allow flow of electricity without any resistance. A conductor can become

Superconductors below critical temperature i.e. Super cooled temperature.

Superconductors fuel innovation

① Electricity transmission

①.1 On an average AT&C losses is around 14-16%. It can be reduced using Superconductors

①.2 As lesser heating of appliances due to lesser resistance → Improved life.

$$\boxed{H = I^2 R t} \rightarrow \boxed{R \downarrow \rightarrow H \downarrow} \checkmark$$

② Health Sector

www.visionias.in

44

②.1 Superconductors can be used to

Send signals to our body to check for

tumours and cancerous tissues.

↳ Diagnosis of cancer.

3. Semiconductors and beyond

Semiconductor properties can

Super conductor
Conductor
Semiconductor
Insulator

 as with enhanced increase the

computational speed and can be used in

Super Computers

4. Quantum Computing

Increasing AI penetration, and quantum computing to increased computational speeds. Superconductors can help in maintaining temperature and improving computational speed.

5. Analysing of protein structure and developing modular medicine.

(eg) Alpha fold-4 for computation

Superconductors can be used.

Challenges with Superconductor

- ① Difficult to maintain such a low temperature.
- ② Nascent stage technology.
- ③ Costly and very expensive.
- ④ In development stage currently.

Thus, superconductors can be beneficial in a no. of ~~#~~ ways. But development needs to be done. For India our R&D budget is 0.65% of GDP. we need to invest more.

यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तर वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

While India has laws covering almost all types of intellectual property rights, numerous enforcement, regulatory and administrative challenges hamper the commercialisation of IPRs in India. Elaborate. (Answer in 250 words) 15

As per WIPO, India's ranking in Global Innovation Index is 40. India ranks 3rd in the no. of filing patents in 2023.

Laws in India covering all types of IPR

① Law on Intellectual Property Rights in India with exception of

① Evergreening is not allowed

② Compulsory Licensing norms not followed. License can be given for generic medicines.

② Laws to protect design, Copyright, trademark and patents.

②.1 Copyright and Trademark :- 10 years.

②.2 Patents :- 20 years.

③ Laws on Geographical Indications
valid for 10 years.

Challenges to such laws

1. Enforcement

1.1 Case of Plagiarism esp. in copyright and trademark matters.

1.2 Concept of 'evergreening' not followed leading to lesser no. of patents filling in India.

2. Regulatory

2.1 Compulsory licensing domain for manufacture of generic medicines; leading to pharma ^{Companies} ~~co.~~ not patenting in India.

2.2 Pending cases in the SC & HC regarding this regulation.

eg - Novartis Case.

3. Administrative Challenges

- 3.1. Huge number of vacancies in the Patent office
- 3.2. Lack of training and lesser capacity building of the officers.
- 3.3. lesser no. of labs to do testing etc.
- 3.4. World level testing facilities not available.

Thus, India has a strong IPR regime but implementation and infrastructure issues are present. We need to provide good infrastructure to
improve our global footing.

19.

एकीकृत थियेटर कमान का निर्माण करने में सामना की जाने वाली चुनौतियों को ध्यान में रखते हुए, परीक्षण कीजिए कि कमानों का थिएटराइजेशन किस प्रकार तीनों सेनाओं के बीच जनशक्ति और संसाधनों के बेहतर एकीकरण और युक्तिकरण को बढ़ावा दे सकता है। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the challenges in creating integrated theatre commands, examine how the theaterisation of commands can lead to greater integration and rationalisation of manpower and resources among the three services. (Answer in 250 words)

15

Currently, in India there are 2 joint theatre commands → Theatre command in Andaman
Nicobar
→ Theatre command on Nuclear.

Challenges of theatreisation of commands

- ① Different code of conduct of Army, Navy & Air force.
- ② Confusion on how would be the hierarchy.
- ③ Control of which command on which sector.
- ④ Succession on who would be the top commander.
- ⑤ Office of CDS would be there or it would be vanished.

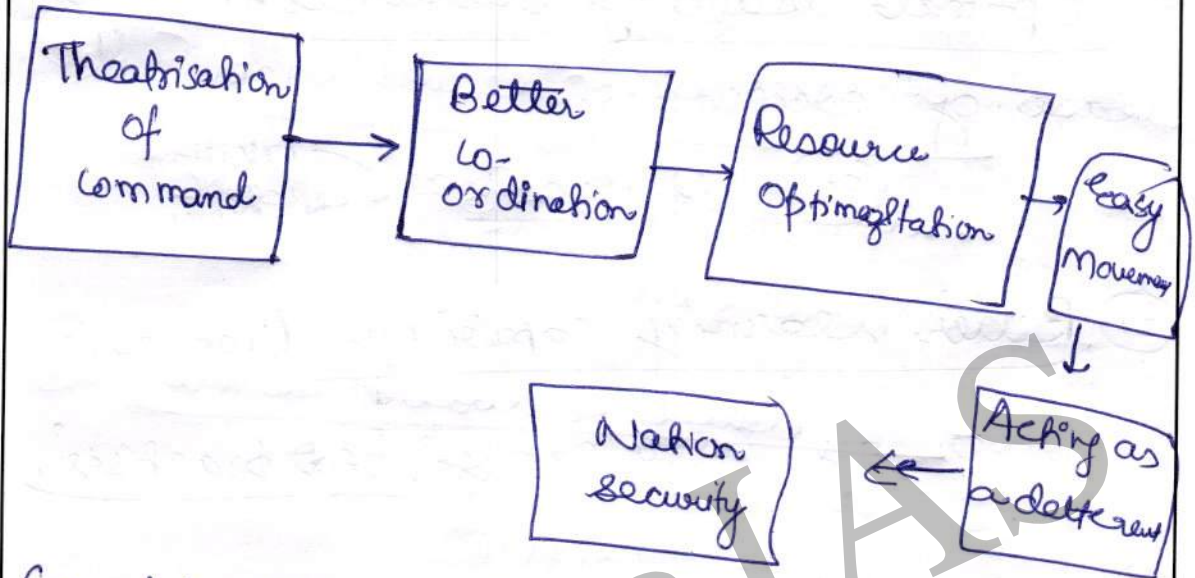
Benefits of theatisation of command

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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- ① Greater integration between the tri-services.
- ② Optimal usage of resources in any case of exigencies.
(e.g.) 2 front war ← Pakistan
← China
- ③ Better learning capability from each other by inculcating 'Best practices'.
- ④ No confusion and better co-ordination among the tri-services.
- ⑤ Proper hierarchical model to be developed for satisfaction of all three tri-services.
- ⑥ Use of training academy for each other for better capacity development.
- ⑦ Inter service deputation of officers to get insight of

functioning.

⑧ Easy decision making and lesser procedures to be followed.



Countries like USA, China have this structure.

Thus, theatrisation of command is a win-win situation. We should try to get consensuses of tri services to get there early. Our CDS concept was the first step in that.

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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20.

सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)
Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words) 15

India is surrounded by several countries and most of the countries have either internal conflicts or are hostile with India.

eg → China, Pakistan] Hostile; Afghanistan, Myanmar, Bangladesh, Nepal
↓
Internal conflict.

For our protection we need to follow multipronged approach. Like developing border villages; improving our capacity, Training of armed forces; friendly relation with neighbours.

Treating border villages as first villages

① Improving connectivity of border villages. eg → road connectivity to

(2) Telecommunication and internet facilities through BHARAT net and Universal Obligation Fund.

(3) Providing source of livelihood for the people - (eg) Startup India.
Making co-operatives.

(4) Human Resource development
(eg) - MOOC courses NPTEL.
SWAYAM Prabha etc.

(5) Constructing Green field Airport & Air Strips. in those areas.
(eg) - Dino Polyo Airport.

(6) Confidence building through Winning Heart & Mind Initiative of Indian Army & CAPF.
(eg) - Op: Sadhbhavana.



- ① Vibrant Village Program by the MHA for development of border villages with all facilities.
- ② Construction of roads by the BRO in the border villages under Border Development Program.
- ③ Construction of 3D printed climate resilient houses. (eg) In Ladakh.
- ④ Internet connection through Optical Fibre.
- ⑤ FCA amendment no clearance for 100km
However, ~~our~~ close to border for infra development

However, our pace is slow. China has done a tremendous work & has settled several villages along LAC. We have to shift gear in this regard.



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