

NEXT IAS

GS MAINS ADVANCED COURSE 2024

(To be filled by candidate)

TEST CODE : GSMAC2403**Test No. : 03**Name of Candidate: Rambhrosh Jaron Mobile No. Roll No. : GSMAC24A1464 Start Time 2:00 End Time 5:00 PMDate of Examination: 28/08/2024 Medium : English ☒ Hindi ☐

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
TOTAL MARKS - 100		

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
TOTAL MARKS - 100		

GRAND TOTAL - / 250

EVAL CODE: EVAL DTE:

GENERAL INSTRUCTIONS

1. Immediately on receipt of the QCA booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet.
2. Candidates must mention all relevant details like Name, Email, Roll No, Mobile, etc. in the space allocated
3. Candidate is expected to attempt all 10 questions within the given timeline.
4. Answers must be written in the medium authorized at the time of admission.
5. Candidates must write answers for the specific question under the respective question itself. Any answer written outside the space allotted may not be given credit
6. Please write neatly. Avoid illegible writing.
7. Do not write/mark irrelevant matters in the QCAB.

सामान्य निर्देश

1. QCA पुस्तिका प्राप्त होने पर कृपया तुरंत जांच लें कि इस QCA पुस्तिका में कोई पृष्ठ या सामग्री आदि गलत छपी हुई या फटी हुई या गायब तो नहीं है। यदि ऐसा है, तो इस एक नई QCA पुस्तिका से बदल लें।
2. अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा।
3. अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय सीमा के भीतर ही सभी 10 प्रश्नों के उत्तर-लेखन का प्रयास करें।
4. प्रत्येक उत्तर, प्रवेश के समय चुनी गयी भाषा के माध्यम में ही लिखे जाने चाहिए।
5. अभ्यर्थियों को विशिष्ट प्रश्न के उत्तर संबंधित प्रश्न के नीचे ही लिखने होंगे। आवंटित स्थान के बाहर लिखे गए किसी भी उत्तर को क्रेडिट नहीं दिया जाएगा।
6. कृपया साफ सूर्य लिखें। अस्पष्ट लेखन से बचें।
7. QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:

FOR OFFICE USE ONLY



Student Concerns / QueryEvaluator's Feedback / Response

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MARKING SCHEME *

Marks Per Ques	Below Average	Average	Above Average
10 Marks	Below 3.00	3.00 - 3.75	4.00 and above
15 Marks	Below 4.50	4.50 - 5.75	6.00 and above

* Subject to change without prior notice.

IMPORTANT QR CODES

Topper's Copy



Common mistake and Correct Filled QCAB



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Next IAS Test Centre Location

MACRO COMMENTS

The Purpose of evaluation@nextias.com is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

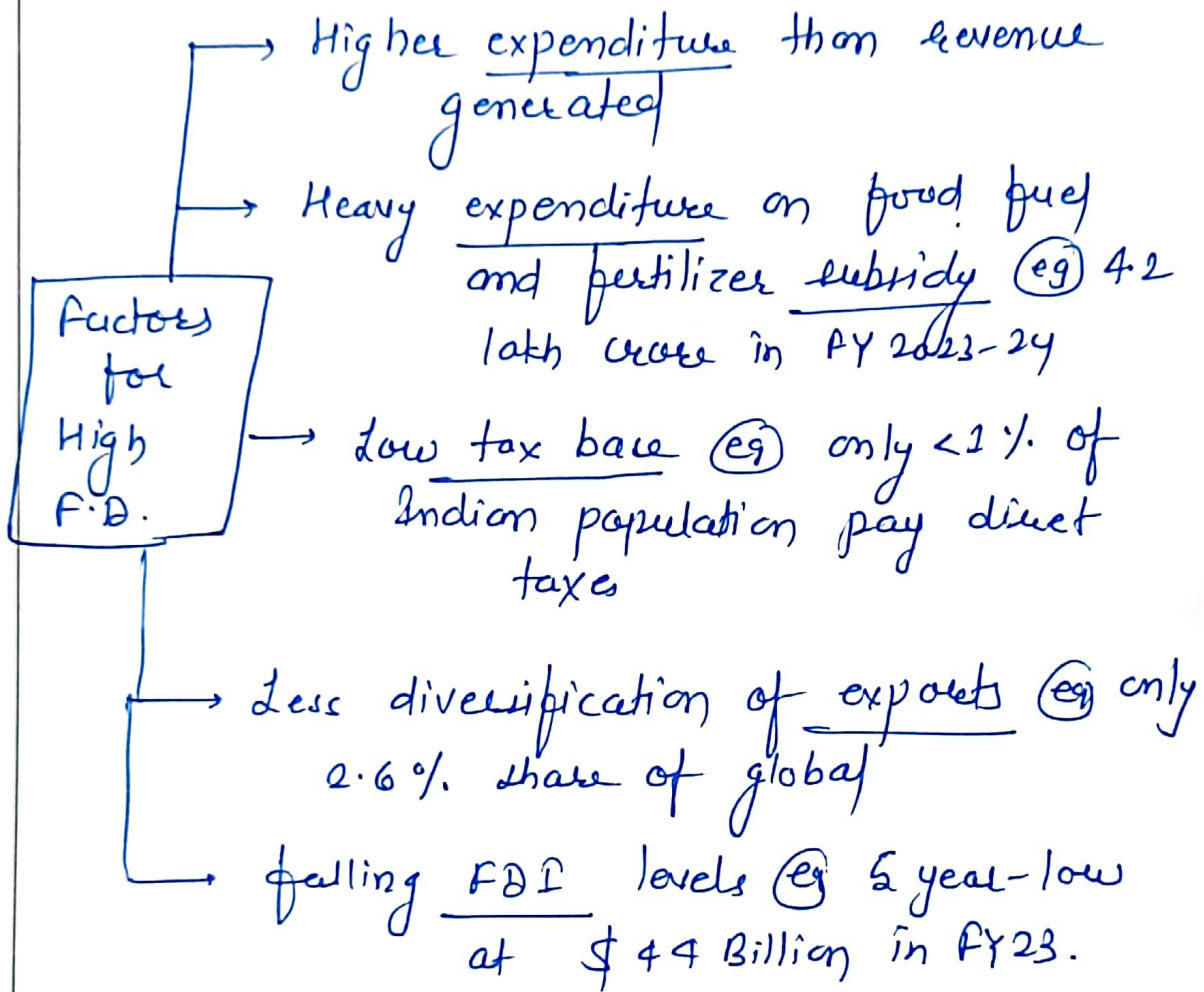
STRENGTHS OF THE CANDIDATE

AREAS OF IMPROVEMENT

IMPROVEMENT SUGGESTIONS

1. भारत में उच्च राजकोषीय घाटे में योगदान देने वाले कारकों पर प्रकाश डालते हुए, ऐसे घाटे के संभावित परिणामों पर चर्चा कीजिए तथा राजकोषीय समेकन (Fiscal consolidation) सुनिश्चित करने के उपाय सुझाइए। (10 अंक, 150 शब्द)
 Highlighting the factors contributing to high fiscal deficit in India, discuss the potential consequences of such deficit and suggest measures to ensure fiscal consolidation.
 (10 marks, 150 words)

According to Economic Survey 2023-2024 India's fiscal deficit is 5.6% of GDP which is beyond limit prescribed by FRBM Act, 2003.



Potential Consequences:

- ① High FD need to be financed by borrowings hence more interest (eg) 2% of GDP as interest

- ① Less option to enhance capital expenditure
(e) 11.11 Lcr in FY 24
- ② Economic instability due to less forex reserves (e) \$ 651 Bn in Mar, 2024
- ③ Reduced emphasis on socio-economic development (e) reduced share of MAURERAF
- ④ Inflation may increase due to volatility in market

Measures to ensure fiscal consolidation:

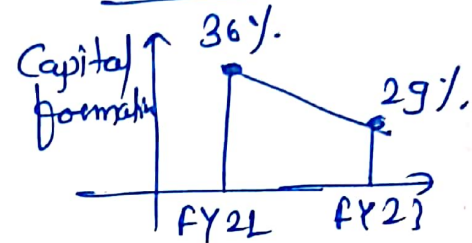
- ① Following FRBM Act mandate by bringing down FD to 4-5% by FY 2026.
- ② Widening tax base and generation more non-tax revenues also
- ③ Continued investment in capital expenditure to create capital and job creation hence maintaining demand

Hence multipronged approach needed to maintain fiscal consolidation and achieve target of \$5 Trillion economy by 2027-28.

2. 2047 तक भारत के विकसित राष्ट्र बनने की आकांक्षा महत्वपूर्ण पूँजीगत निवेश पर निर्भर है। इसके आलोक में, इस लक्ष्य को प्राप्त करने में पूँजीगत निवेश की संभावनाओं पर चर्चा कीजिए। इस संदर्भ में भारत के समक्ष क्या चुनौतियाँ हैं? (10 अंक, 150 शब्द)

India's aspiration to be a developed nation by 2047 hinges on significant capital investment. In light of this, discuss the potential of capital investment in achieving this vision. What are the challenges India faces in this regard? (10 marks, 150 words)

According to Economic Survey, India's stand at 29% of Gross capital formation (GCF) which has declined in last one decade.



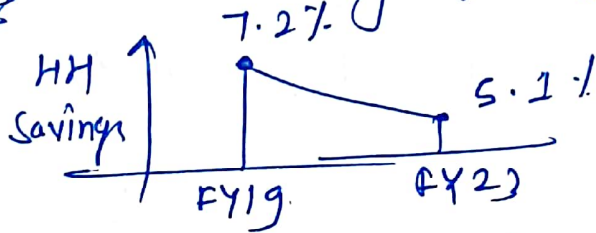
Significance of Capital Investment

- ① Job creation: investment leads to more fixed capital formation (eg) NHAI is building 34 km/day roads
- ② Drive demand by pushing money to market (eg) demand-supply in sync
- ③ Economic growth enhances due to more foreign investment (eg) resilient economy post covid - FDI highest (\$71B)
- ④ Alleviation poverty by targeted socio-economic upliftment (eg) 135 million people lifted out of poverty (2015-2020)

- ① Sustainable development by diversifying needs in sync with environment (eg) 43% share of Renewable energy in total energy

Challenges

- ① Households savings are reducing specially post covid-19



- ② Private sector participation is limited
- ③ Heavy liquidity crunch in Banks (eg) In 20 yr., worst deposits and lending
- ④ Geopolitical uncertainties hindering foreign investment (eg) 5-year low FDI in FY23 (\$44 Bn)
- ⑤ Slow manufacturing growth in promoting jobs growth (eg) stagnant at 17%

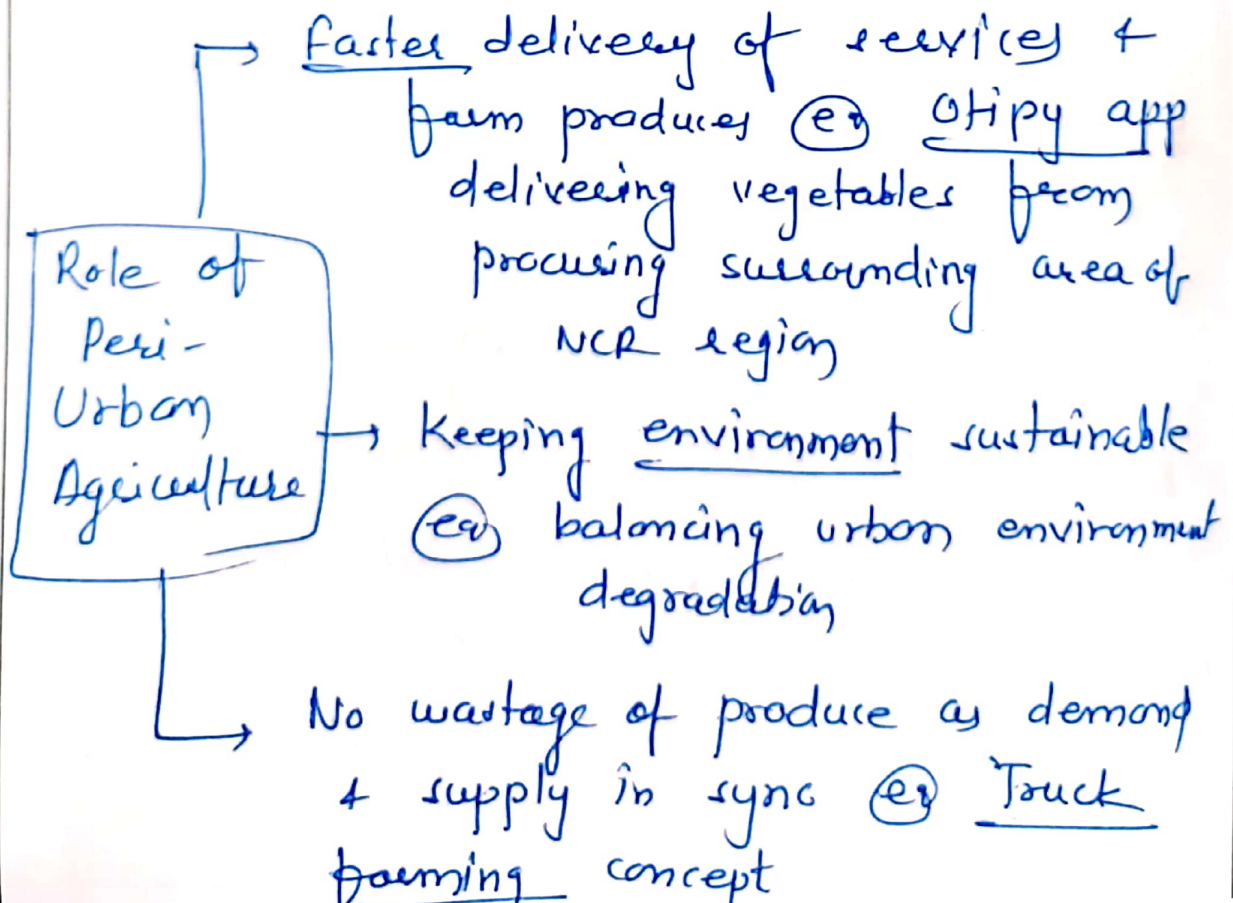
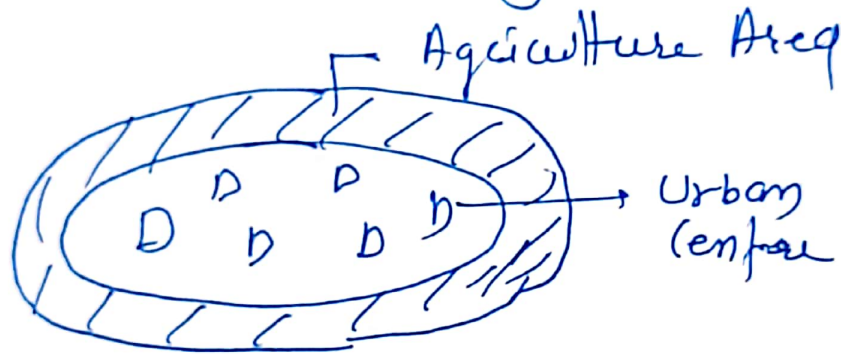
Therefore to become developed nation by 2047, banking habits along with local savings need to pushed to enhance capital investment

3. "नगरीकरण में वृद्धि के साथ, पेरी-अर्बन/परिनगरीय कृषि (Peri-urban agriculture) ताजा कृषि उपज की आवश्यकताओं के लिए एक महत्वपूर्ण योगदानकर्ता के रूप में उभरी है।" इस संदर्भ में, सतत रूप से पेरी-अर्बन कृषि को बढ़ावा देने से सम्बंधित अवसरों और चुनौतियों पर चर्चा कीजिए। (10 अंक, 150 शब्द)

"With growing urbanization, peri-urban agriculture is emerging as a significant contributor to fresh farm produce needs". In this context, discuss the opportunities and challenges associated with promoting peri-urban agriculture in a sustainable manner.

(10 marks, 150 words)

Peri-Urban agriculture is a new concept of agriculture around an urban area by keeping demands of urban cities in mind while cultivating crops.



Opportunities

- ① Raising farmer's income by cultivating crops as per urban consumption @ vegetables, fruits.
- ① Realization of price is more efficient @ 'pay and deliver' model
- ① diversification in cropping pattern
- ① Sustainable use of resources @ High income consumer. using organic products

Challenges

- ① Quick growth may distort process and ill-practices of used @ Using injection for faster production of vegetable
- ① Less focus on rural demand hence creating disparity

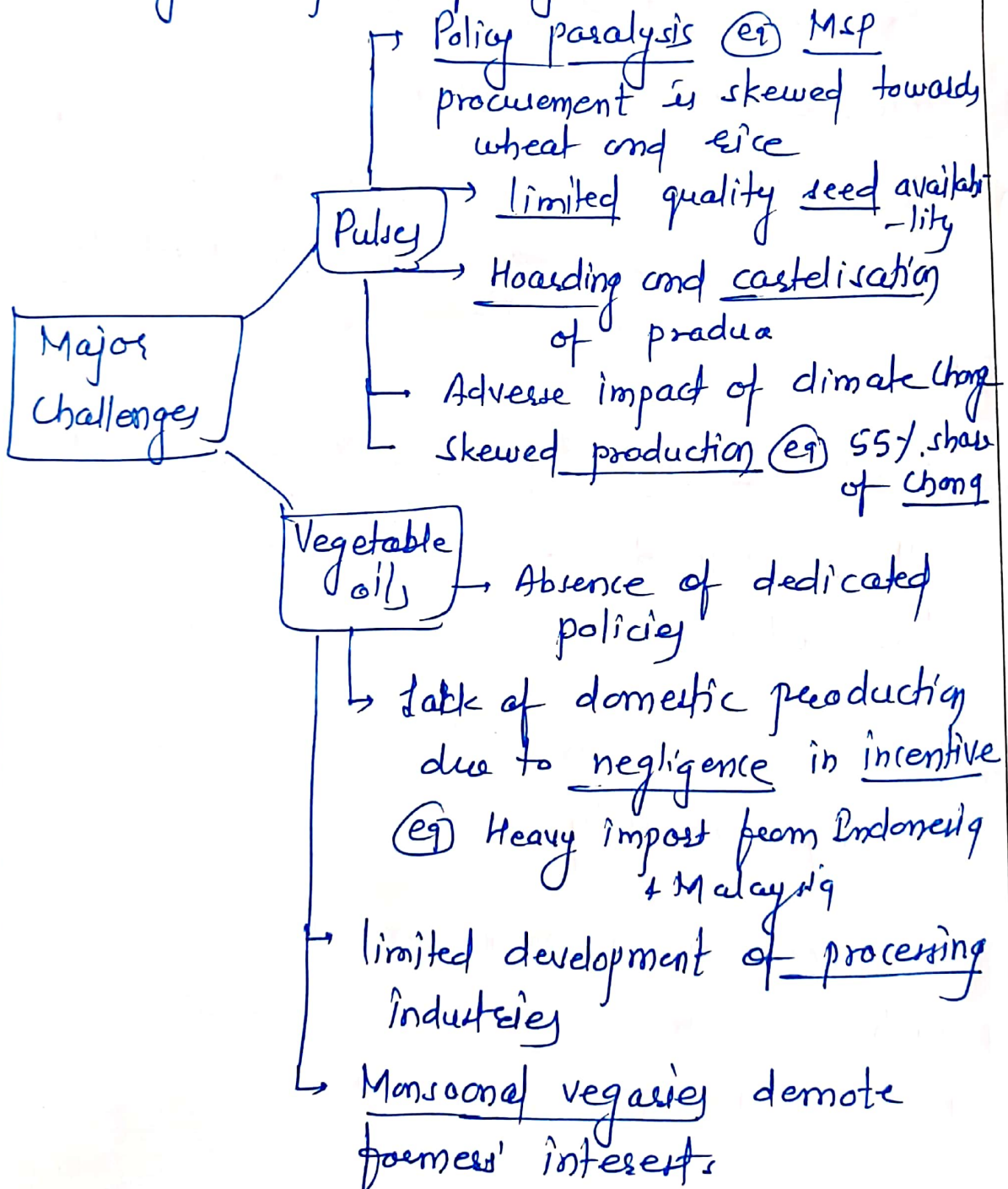
Need is to maintain balanced approach by promoting 'green-agriculture' with 'smart' technologies used.

4. दालों और वनस्पति तेलों में आत्मनिर्भरता प्राप्त करने के लिए भारत के कृषि क्षेत्र के समक्ष कौन सी प्रमुख चुनौतियाँ हैं? इन चुनौतियों के समाधान भी सुझाइए। (10 अंक, 150 शब्द)

What are the major challenges faced by India's agriculture sector to achieve self-sufficiency in pulses and vegetable oils? Suggest measures to address these challenges.

(10 marks, 150 words)

According to FAO, India is largest producer, consumer as well as importer of Pulses and 2nd largest importer of vegetable oils.



To Become . self-sufficient in these sectors

Measures

- ① Balanced procurement of all items listed in MSP
- ① Quality seeds and timely credit need to be provided (ca) > 50% of agri households are in debt.
- ① Integration of technology in agriculture (ca) effective utilization of fertiliser can reduce cost.
- ① Developing forward and backward chains in food processing industries (ca) only < 10% produce goes through processing
- ① Collaboration of FPOs, farmers and industries with dedicated government support

Hence schemes like Nation mission on pulses and PM-Kisan Sampada Yojna can help in improving production and achieving target of self-sufficiency suggested by Agriculture Export Policy, 2018

5. भारत को एक सतत हरित अर्थव्यवस्था बनाने में जैव-निर्माण (Biomanufacturing) और जैव-फाउंड्री (Bio-foundry) की संभावनाओं का मूल्यांकन कीजिए। (10 अंक, 150 शब्द)
Evaluate the potential of biomanufacturing and bio-foundry in driving India's future towards a sustainable green economy. (10 marks, 150 words)

India has announced in cop 26 to become net zero carbon economy by 2070 through PANCHAMRITA for which green economy need to play important role.

Biomanufacturing :- It is a process through which organisms are integrated with manufacturing process to make it more sustainable.

- ↳ Bioremediation of waste will help in safe disposal
- ↳ Biogas energy will help in reducing carbon footprint of industry.
- ↳ Principles of circularity - Recycle, Reuse will help in effective utilization of resources (eg) Ash utilization in roads
- ↳ Compliance to environmental laws (eg) CAMPA - compensatory forestation

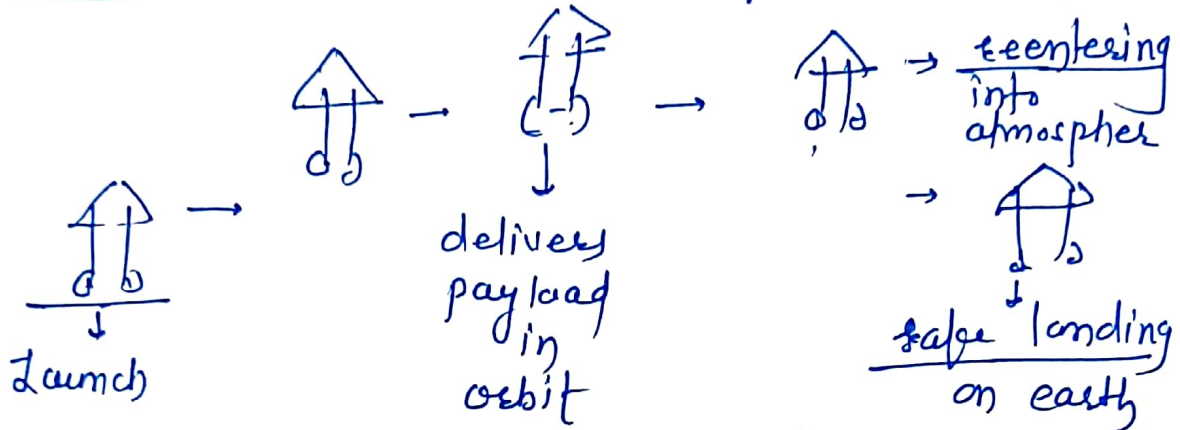
Bio - foundation =

6.

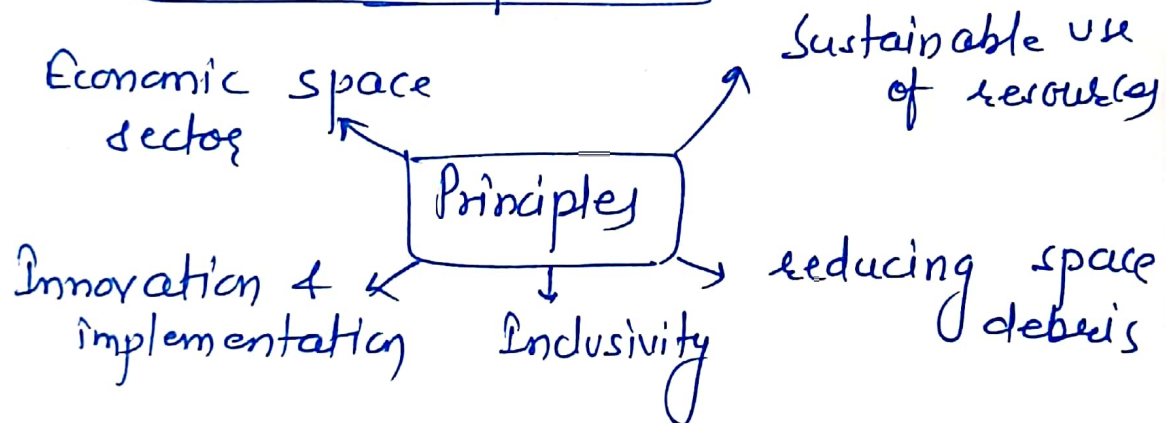
पुनः प्रयोज्य प्रक्षेपण यान (RLV) की कार्यप्रणाली के पीछे क्या सिद्धांत हैं? भारत के अंतरिक्ष वाणिज्य में आर.एल.वी. के उपयोग के महत्त्व और संभावित लाभों की व्याख्या कीजिए। (10 अंक, 150 शब्द)

What are the principles behind the working of Reusable Launch Vehicle (RLV)? Explain the significance and potential benefits of use of RLVs in India's space commerce. (10 marks, 150 words)

Recently, ISRO has demonstrated successful third test in the direction of RLV in space.



Phenomenon of RLV



Significance of RLV:

- ① It will make space sector economic-friendly and less expensive
- ② Encourage private sector participation like Agnikul in India
- ③ Less fiscal burden on government
 - ④ SpaceX RLV in NASA projects

- ① Sustainable environment by promoting principles of circularity - Reuse.
- ① Reducing carbon footprint of space sector
- ① Reducing space debris (eg Kessler Syndrome)
- ① Benefits of using RLV:

- ① Investments: RLV will crowd-in capital flow from developing as well as private sectors (eg UAE launched Hope mission)
- ① Help in achieving Paris Agreement, 2015 targets of controlling global warming
- ① Promote inclusivity by reducing space sector services cost (eg Poor countries can reach space)
- ① Promote innovation through using indigenous knowledge (eg 1st 3D-space rocket by Skysroot).

Hence RLV can open space for all and will help in making it more sustainable, to make world carbon-neutral by 2050.

7. कार्बन क्रेडिट ट्रेडिंग स्कीम (CCTS) 2023 की प्रमुख विशेषताओं का परिक्षण कीजिए। भारत में हरित गृह गैस (Greenhouse gas) उत्सर्जन को कम करने की इसकी संभावनाओं का विश्लेषण कीजिए। (10 अंक, 150 शब्द)
Examine the key features of the Carbon Credit Trading Scheme (CCTS) 2023. Analyze its potential for mitigating greenhouse gas emissions in India. (10 marks, 150 words)

CCTS, 2023 aim is to raise climate finance by promoting carbon credit trading through bond & share market

→ to provide finance to investment in renewable-energy projects
(eg) 50% energy by non-fossil sources by 2035

Features of CCTS, 2023 → Harnessing individuals capacity and money to make environment more sustainable (eg) available to individuals & private sector

→ Provide a platform to raise finance by following Pollute-pays principle

→ Innovative and environmental-friendly practices will be promoted (eg) forestation will earn more carbon-credit

→ Create a 'mass-movement' to achieve carbon-neutrality

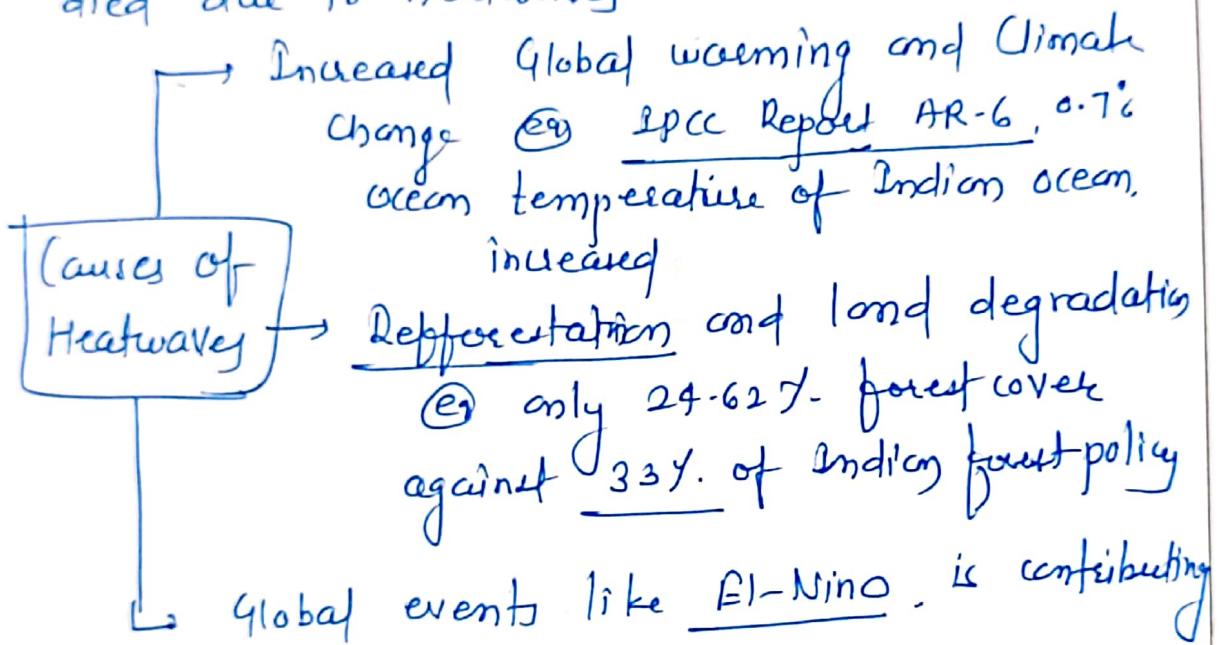
→ Avoid practices like 'greenwashing' by promoting transparency

Potential of CCTS for mitigating GHGs in India

- ① Diversifying sources for climate finance
hence easy availability of credit @ \$10 Trillion need to make carbon-neutral India
 - ① Easy cost of borrowing by channelizing people's money @ reducing fiscal burden
- FD (5.6%)
 - ① Behavioural change of people in following sustainable practices in sync with environment
@ Tribal's life lessons in normal life
 - ① Reducing GDP losses due to adverse impact of global warming & climate change
 - ① Making carbon sequestration by practices like social and community forestry.
 - ① Investment in renewable energy to reduce fossil led carbon emission @ 500 GW by 2020
 - ① Promoting technology in agriculture to reduce fertilizer use and practicing sustainable irrigation.
- Hence CCTS can become beacon in raising finance to become carbon-neutral by 2030

8. पिछले दशक में हीट वेव की बढ़ती गहनता, आवृत्ति और अवधि के मद्देनजर, क्या "हीट वेव" को अब आपदा प्रबंधन अधिनियम 2005 के तहत एक अधिसूचित आपदा के रूप में शामिल किया जाना चाहिए? (10 अंक, 150 शब्द)
- In light of the increased intensity, frequency and duration of heat waves in the last decade, do you think the time has come to include "heat waves" as a notified disaster under the Disaster Management Act, 2005? (10 marks, 150 words)

According to IMD, number of heatwaves in India has increased drastically to 5 to 6 per year contributing to health issues and death of people. (e.g.) Rajasthan, 12 people died due to heatwaves



Impact of Heatwaves

- ① Health issues across sectors (e.g.) Human, livestock etc
- ② Out of pocket expenditure has increased (e.g.) 47% (NITI Aayog)
- ③ Lack of awareness about heatwaves' precaution and cure (e.g.) not part of policy

- ① Missing early warning system lead to more exposure
- ① No guideline of NDMA to act appropriately during such event, leading to more casualty @ more than 11000 deaths between 2000-2019.

Benefits of adding 'heatwaves' as notified disaster

- ① Dedicated policy and guideline to adhere to during such event @ Precautionary measure, mitigation etc
- ① Team to support during extreme condition
- ① finance support in creating 'region-specific' plan @ Ahmedabad Plan of Action
- ① Creating awareness by mass campaign :
- ① Sound early warning system to monitor heatwaves progress

Hence addition of 'Heatwaves' in NDMA is need of the hour, to ensure 'Sendai framework' is followed in letter and spirit.

9. भारतीय सशस्त्र बलों द्वारा हाल ही में तैयार किए गए 'साइबर-अंतरिक्ष अभियान (Cyberspace operations) के लिए संयुक्त सिद्धांत' में पारंपरिक ऑपरेशनों के साथ-साथ ग्रे ज़ोन युद्ध दोनों के लिए साइबर-सुरक्षा स्थिति मजबूत होगी। परीक्षण कीजिए। (10 अंक, 150 शब्द)

Recently formulated 'joint doctrine for cyberspace operations' by Indian armed forces will lead to strengthening of the cyber-security posture for both conventional operations as well as gray zone warfare. Examine. (10 marks, 150 words)

Cybercrimes are increasing at 12% of growth rate year on year and hence creating economical, political and social damage to a nation. According to World Cybercrime Index 2024, India is 10th in terms of cybercrimes.

→ Comprehensive approach by
integrating

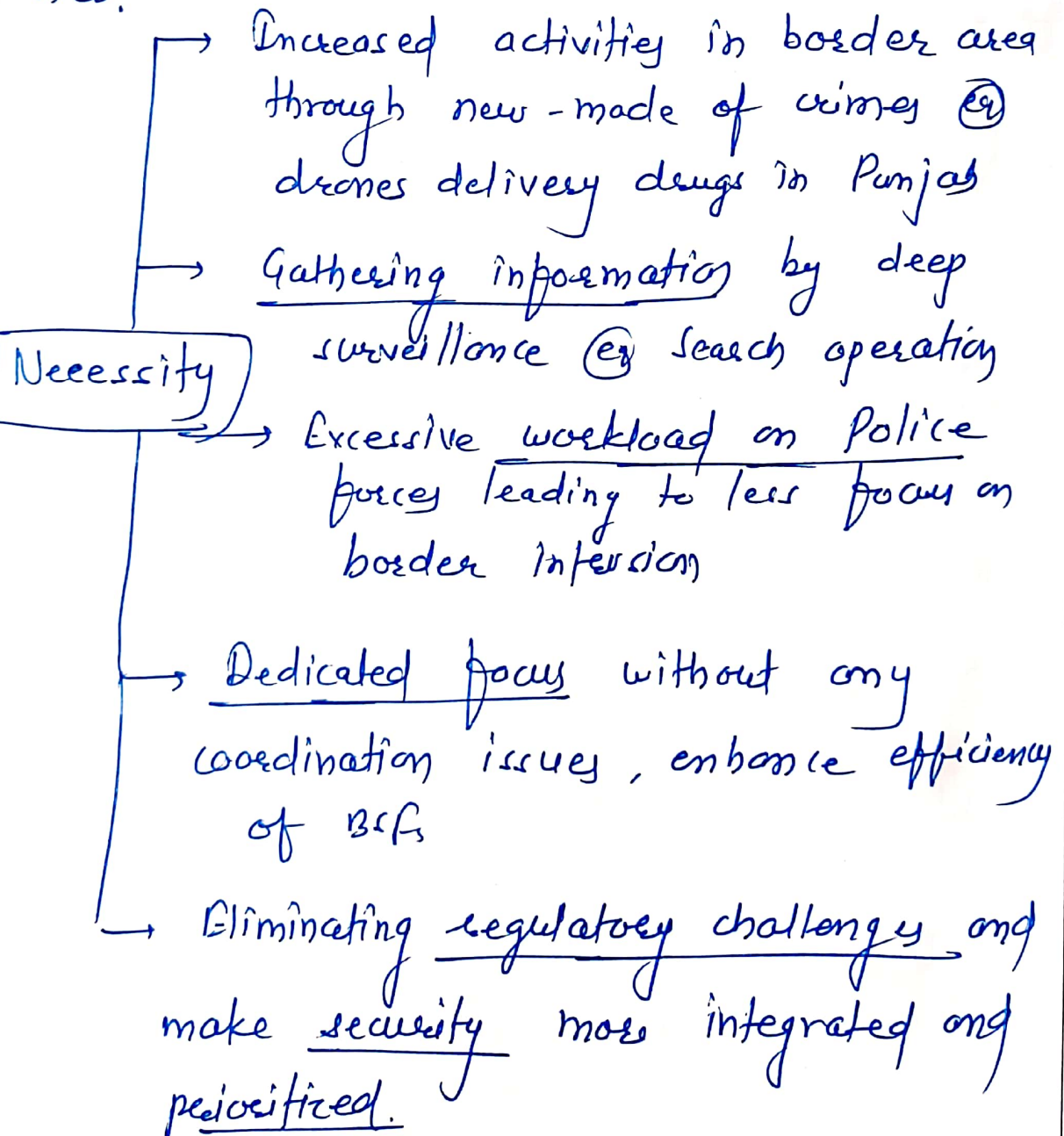
Significance
of joint
doctrine

10. पाकिस्तान और बांग्लादेश से सटे राज्यों में सीमा सुरक्षा बल (BSF) के प्रादेशिक क्षेत्राधिकार के विस्तार की आवश्यकता एवं संभावित मुद्दों पर चर्चा कीजिए। (10 अंक, 150 शब्द)

Discuss the necessity and potential issues surrounding the extension of the Border Security Force's (BSF) territorial jurisdiction in states adjacent to Pakistan and Bangladesh.

(10 marks, 150 words)

Recently, Ministry of Home Affairs extended the territorial jurisdiction from 15 km to 50 km in states adjacent to Pakistan (Punjab) and Bangladesh (West Bengal), by amending BSF Act.



But state governments have moved to Supreme Court under Article-131 against this move.

Potential issues

- ① Against federalism: Law and order in state, is 'state' subject (7th schedule) hence encroachment by centre.
- ② Enhanced area will divert BRF focus and may reduce inefficiency
- ③ Strong local connection of police, may not be available with BRF
- ④ Coordination challenge between Police and BRF
- ⑤ Violation of freedom of people may occur due to excessive intrusion @ Article-21

Hence there is a need to maintain security of nation by minimizing impact on individual's life.

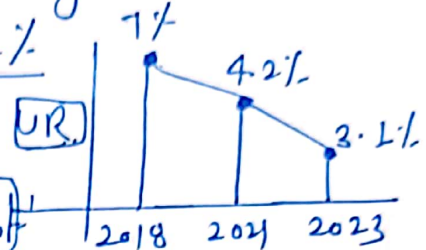
11. भारत की आर्थिक विकास की कहानी प्रायः बेरोजगारी की निरंतर चुनौतियों से प्रभावित होती है। संरचनात्मक बेरोजगारी की अवधारणा का विश्लेषण कीजिए और भारत की वर्तमान आर्थिक स्थिति के संदर्भ में इसकी प्रासंगिकता पर चर्चा कीजिए साथ ही सम्भावनी रोजगार को बढ़ावा देने के लिए नीतिगत उपाय सुझाइए। (15 अंक, 250 शब्द)

India's economic growth story is often overshadowed by the persistent challenges of unemployment. Analyze the concept of structural unemployment and discuss its relevance in the context of India's current economic situation. Suggest policy measures to promote inclusive job growth. (15 marks, 250 words)

According to NSO PLFS survey, India's unemployment rate is 3.1%.

The main contributor in

this is structural Unemployment



It is caused due to upgradation of technology frequently hence according to skill requirement, labour is not available. This low skill

labour is not able to reap the benefits of opportunities created by new technologies.

(eg) AI will create opportunity for 35% more data analysts and engineers.

Challenges of Unemployment :-

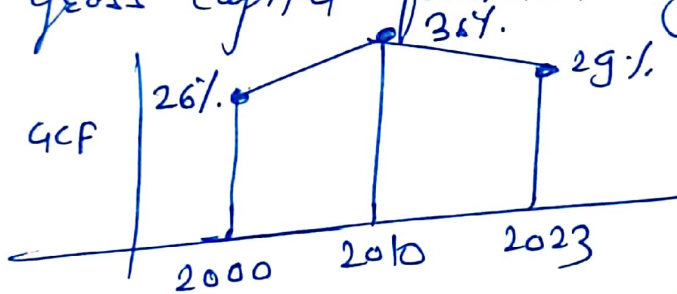
- ① Lack of inclusivity hence promoting inequalities (eg) Oxfam report 2023 says - top 10% having 77% of wealth
- ② Missing opportunity to reap benefits of demographic dividend (2018-2055)

hence impacting economic growth

- ① Sluggish growth of innovation and capital creation due to lack of opportunities to young people (a) 85% of people in unemployment data, are youth

- ② Enhances gender injustice by reducing women participation (a) female labour force participation rate @ 41%

- ③ Lack of per capita income due to unemployment impact gross capital formation negatively



Relevance of Structural Unemployment:

- ① With enhanced emerging technologies, it is halting opportunities for getting jobs (a) mismatch between demand and skill supply

- ② Outdated educational system is not producing skilled human capital (a) According to NITI, 99.4% of graduates are not employable.

- ① Lack of coordination between industry - academia creating gulf in labour demand-supply.
- ① Negatively impacts economy (e) Companies migrate in the absence of skilled labour

Policy Measures to promote inclusive growth

- ① Sync between industry demand and educational courses (e) Implement NEP, 2020
- ① Creating human capital by promoting skill and training (e) PM-Kaushal Vikas Yojna - women skill enhancement in textile
- ① Collaboration with top industries in providing internship (e) 1 crore young students to be attached to top 500 companies (Budget 2024-25)
- ① Consistent policy upgradation and curriculum updates with demand of time (e) dedicated courses for AI, Machine learning

Hence to make India developed by 2047 human capital and inclusive growth become of paramount importance.

भारत में क्षेत्रीय विकास को बढ़ावा देने में सूक्ष्म, लघु और मध्यम (MSMEs) को भूमिका पर चर्चा कीजिए।
औद्योगिक विविधीकरण और उन्नत प्रौद्योगिकी प्राप्त करने में डेढ़ों किस प्रकार योगदान दे सकते हैं?

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margin

Discuss the role of Micro, Small, and Medium Enterprises (MSMEs) in fostering regional growth in India. How can MSMEs contribute to achieving industrial diversification and technological advancement?
(15 अंक, 250 शब्द)
(15 marks, 250 words)

According to Economic Survey 2022-23, India have 6.1 crore of MSMEs and providing employment to 11.2 crore people with 45% of total exports contribution.

- Promote rural economy by harnessing local resources @ more than 50% of MSMEs, are present in rural area
- Inclusive development by involving women @ self-help groups (SHGs) are about to reach 1 million target

Role in
fostering
regional
growth

- Creating agglomeration of economy by bringing capital @ TISCO in Jamshedpur

- Providing employment opportunity in non-farm sector @ 46% & labour concentrated in agriculture

- Pulling foreign investment (FDI) in reducing regional inequality @ North east region receives < 1% of FDI

MSMEs contribution in Industrial diversification and technological advancement:

- ① Promoting agri-based industries by procuring raw-materials from farmers directly @ food processing industry
- ② Sustainable development by promoting net-zero carbon footprint industries
@ Bamboo boat in Assam
- ③ focussed work on creating small parts for heavy machineries @ automobile parts in Tamil-nadu and areas-
Dindigul

Technological advancement

- ① Integrating modern technologies to eliminate repeated manual work @ Automation in textile industry
- ② Adopting modern accounting and auditing methods using digitization and internet
@ Khatbook like applications

- ① Create innovative prototypes for region-specific demands (e.g.) Bondicoot robot to clean sewage in Kerala
- ① Using modern methods to reach last-mile customers (e.g.) MEESHO e-commerce in rural areas.

However MSMEs are facing certain challenges

- ① informalization of MSME sector deprive them from social-security benefits (e.g.) ~ 90% informalized sector
- ① Exploitation of labour due to absence of contract in work
- ① Lack of tech-integrations and high-skill make them less competitive

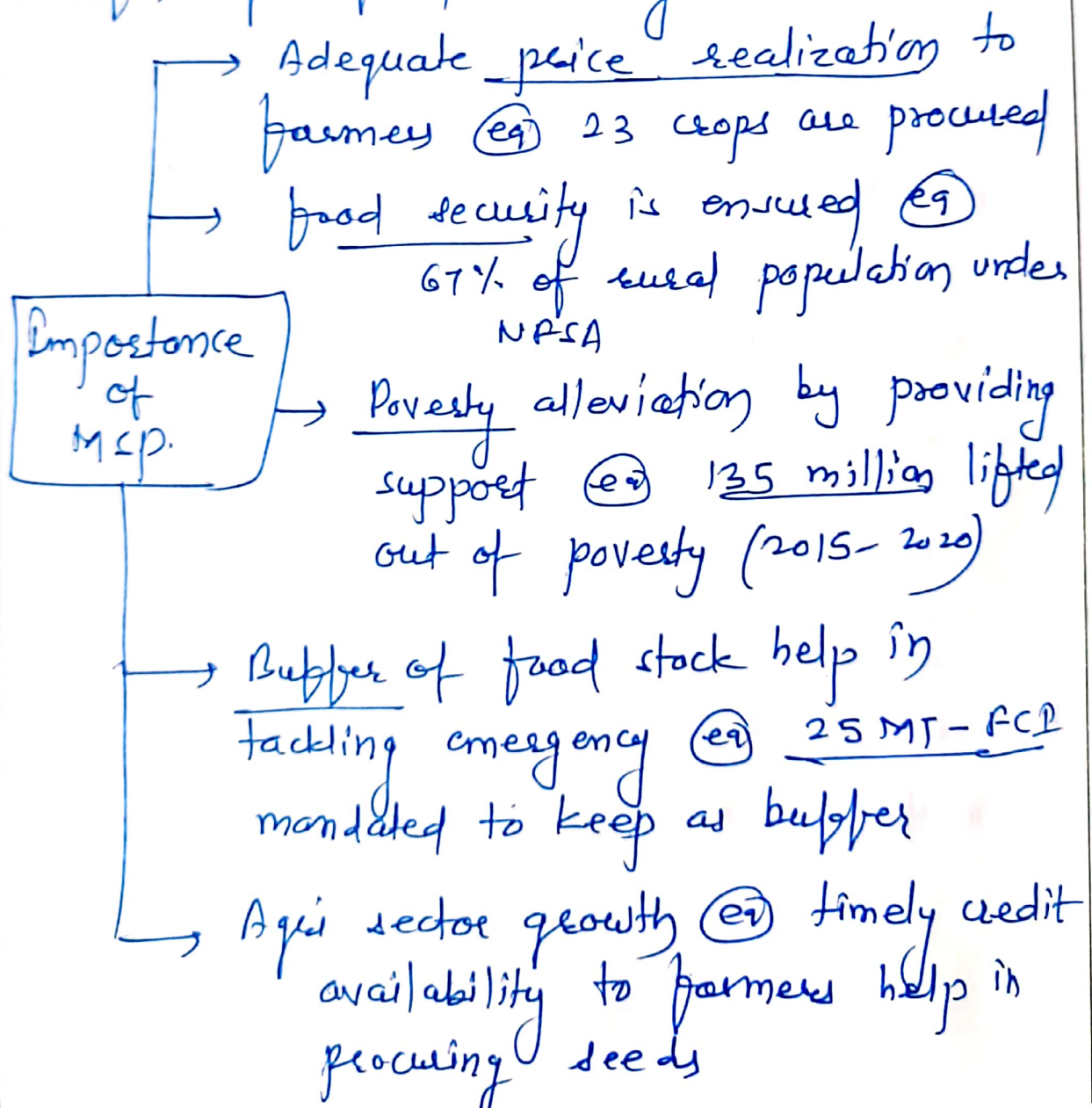
Hence need of the hour to implement four labour codes in letter and spirit and use schemes like 'Make-in-India' to boost MSME's performance.

13.

"MSP का एकमात्र उद्देश्य किसानों को आकस्मिक मूल्य परिवर्तन के आघात से बचाना है"। क्या आपको लगता है कि MSP को वैधानिक बनाने से किसानों को आकस्मिक आघातों से बचाया जा सकेगा? MSP आधारित खरीद को प्रभावी बनाने के लिए अन्य कौन से उपाय किए जा सकते हैं? (15 अंक, 250 शब्द)

"The sole point of MSP is to protect farmers from sudden price shock". Do you think legalization of MSP can insure farmers from sudden price shocks? What are the other measures which can be taken to make MSP-led procurement effective? (15 marks, 250 words)

MSP was introduced post green revolution to procure produce from farmers and provide food-security to citizens. Under NFSA 2013 81 crore people are getting benefit of food security.



Impact of Legalization: It will help in ensuring farmers from sudden shocks

- ① Ensured procurement by government, will motivate farmers in producing food.
- ① Adequate price will ensure farmers get profit and hence credit for other requirements
- ① Reduced inequality by treating all equally in 'open-ending' procurement
- ① Exploitation from intermediaries is eliminated @ 5-6% share in Punjab
- ① Reducing post-harvest losses by timely procurement @ More than 9000 crore. post harvest loss annually (WIT)

~~But~~ But it has certain challenges

- ① Skewed benefit promoting regional disparity @ Maximum procurement from Punjab, Uttar Pradesh
- ① More focus on rice & wheat, promotes monocropping hence damaging environment
@ Unsustainable use of fertilizers

Measures To make MSP effective =

- ① Equal purchase of all items (23) will ensure crop diversification and better agriculture output
- ① Reduce regional inequality by making decentralized procurement across India @ state warehousing corporation
- ① Strong storage network can help in effective realization of produce price @ scientific technologies in godowns
- ① Promoting food processing by integrating forward and backward linkages, will help in reducing burden of finance
- ① Transparent procurement using digital methods @ portal

Hence MSP effectiveness will not only ensure food security but also will make achieving Asok Dalwai committee doubling farmers income objective

14. भारत में खाद्य सुरक्षा सुनिश्चित करने के लिए सार्वजनिक वितरण प्रणाली (PDS) में भारतीय खाद्य निगम (FCI) की भूमिका पर चर्चा कीजिए। भारतीय खाद्य निगम की दक्षता और प्रभावशीलता को बढ़ाने के लिए इसकी कार्यप्रणाली में आवश्यक सुधारों को सुझाए।

Discuss the role of the Food Corporation of India (FCI) in the Public Distribution System (PDS) to ensure food security in India. Suggest necessary reforms in the functioning of FCI to enhance its efficiency and effectiveness. (15 अंक, 250 शब्द)

(15 marks, 250 words)

FCI is a statutory body, created by National Food Security Act, 2013 to procure food from farmers at MSP and distributing to people in ensuring food security.

→ Procurement of produce for 23 varieties in 'open-ended' manner

→ Storage of procured produce in warehouses of own, private as well as state @ Central Warehousing corporation

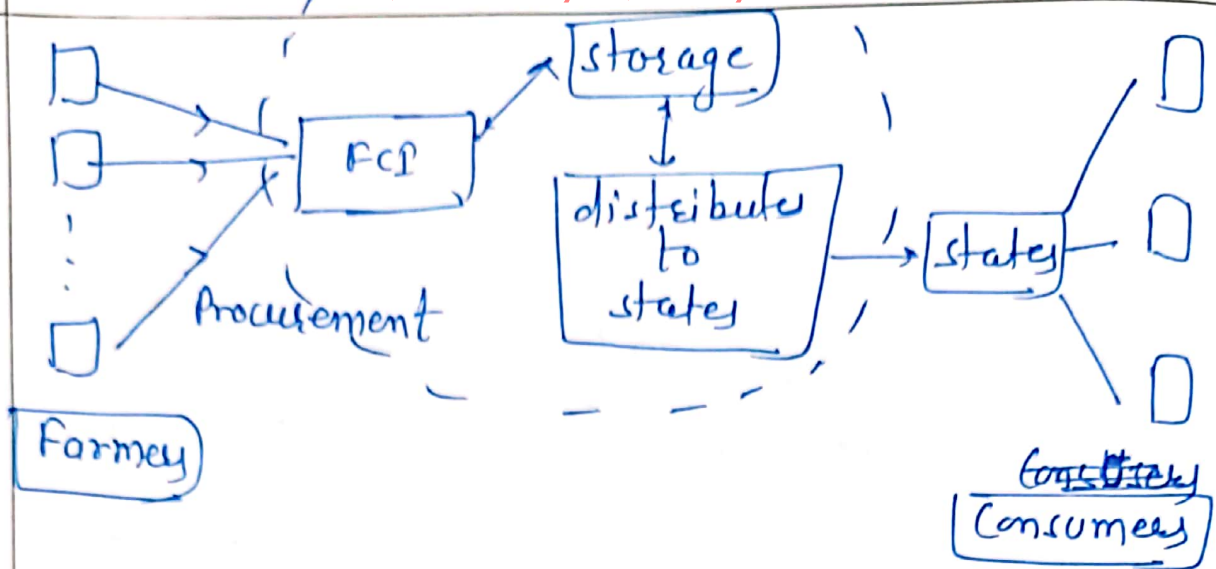
Role of
FCI
in
PDS

→ Allocating procured foodgrain to state under PDS

→ transportation of produce from one state to other

→ Monitoring movement of goods

→ Ensure last-mile delivery by cooperating with states



Reform in FCI : to improve efficiency

- ① Decentralized procurement will help in reducing regional disparity (eg) North-south divide
- ② Inclusive procurement of all crops will reduce monocropping of rice & wheat
- ③ Scientific storage in godowns help in reducing wastage (eg) moisture in Bihar, damaged many thousand tonnes
- ④ Inclusive private sector participation in storage infrastructure (eg) efficiency & and technology.
- ⑤ timely clearance of excess food (eg) open market scheme

- ① Limited storage of buffer stock (25%)
hence reducing wastage
- ① Excess food should be used through
food processing industries in creating
value addition
- ① Environmental friendly food grains should
be promoted (e.g.) Millets
- ① Digitalization of end to end cycle
will ensure transparency and no
leakage.

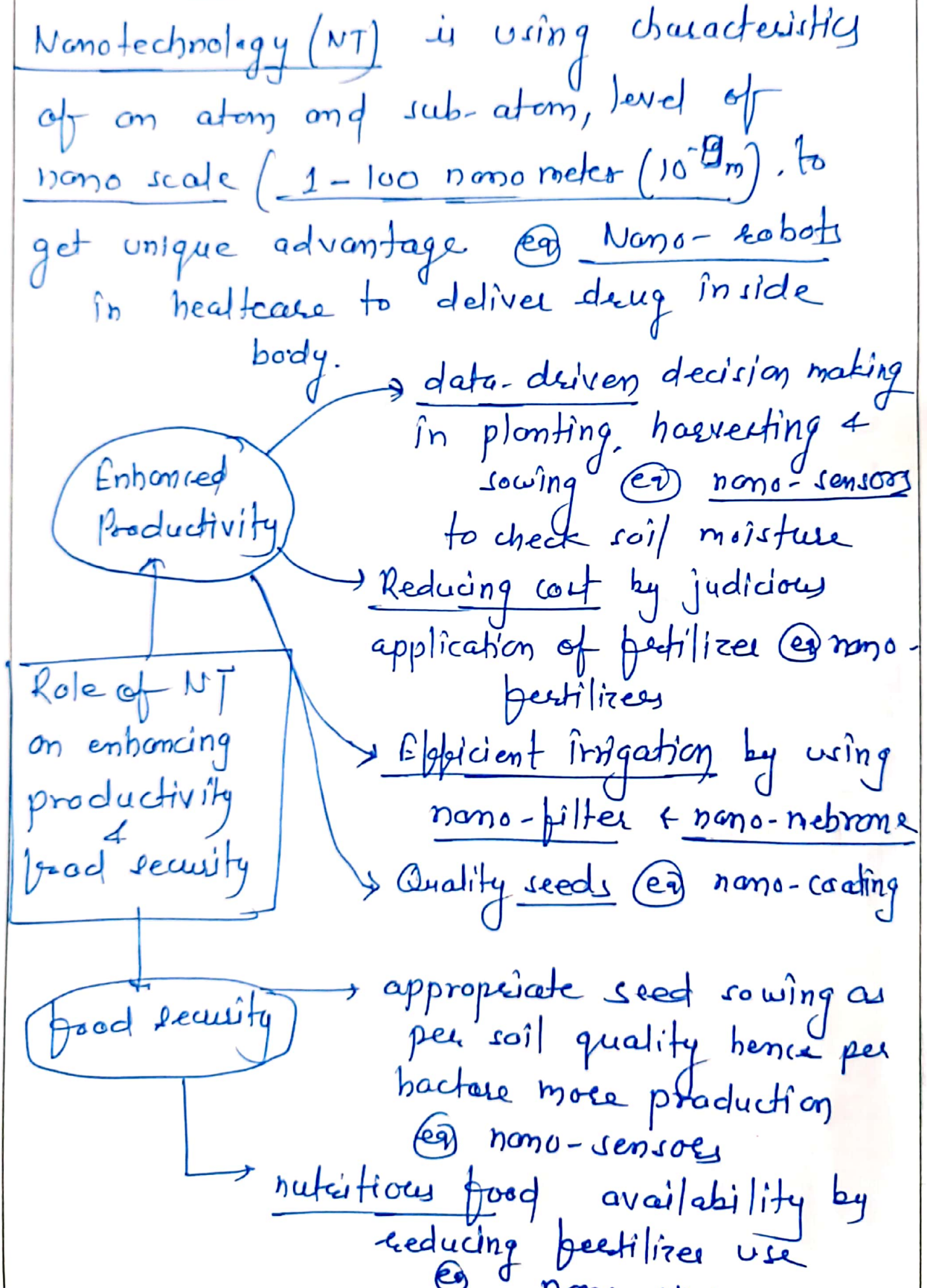
Therefore by adopting recommendations
of Shanta Kumar Committee in upgrading
FCI storage and reforms, to ensure
food secured India.

15. भारत में कृषि उत्पादकता और खाद्य सुरक्षा बढ़ाने में नैनो प्रौद्योगिकी की भूमिका पर चर्चा कीजिए। नैनो-उर्वरकों और नैनो-कीटनाशकों के उपयोग के हाल के विकास/प्रगति और संभावित लाभों एवं जोखिमों पर प्रकाश डालिए।

(15 अंक, 250 शब्द)

Discuss the role of nanotechnology on enhancing agricultural productivity and food security in India. Highlight recent developments and potential benefits and risks of use of nano-fertilizers and nano-pesticides.

(15 marks, 250 words)



Recent developments:

- ① Production of liquified nano-urea by IFFCO (e) will reduce urea application and enhance efficiency
- ① Establishment of nano-urea plants in
- ① Promotion of Research and development on nano-technology through Atal innovation mission (AIM)
- ① Work on nano-pesticides to reduce damage on human health
- ① Local production of liquified nano-fertilizers to reduce import bill (e) India largest producer of urea & importer also
- ① ~~for Bharat-Urea~~ (sulphur-coated urea) to Nano-gold urea (sulphur-coated) to reduce application of fertilizer

Benefits

- ① enhanced efficiency of fertilizer
 (e) reducing fertilizer application
 → reduced import bill
 → more productive use of fertilizer

- ↳ controlling environmental damage by reduced application of fertilizers
- ↳ savings for farmers @ liquid-nano-urea is less costly

Risks → nano-particles can infect into human body due to small size

- Uncontrolled use of any kind of fertilizer impacts water quality @ western India
- Enhanced GHG gases in the form of NH_3 , NO_2 may damage environment

Hence need of the hour is to promote efficient use of fertilizer along with incentivizing alternative fertilizers (organic) under PM-PRANAM scheme to ensure sustainable agriculture of MMSA.

2023 का भौतिकी का नोबेल पुरस्कार क्वांटम डॉट्स के संश्लेषण की खोज के लिए एकिमोव, रुस और बावेंडी को संयुक्त रूप से दिया गया। इस संदर्भ में क्वांटम डॉट्स के अनुप्रयोगों पर चर्चा कीजिए। (15 अंक, 250 शब्द)

The Nobel Prize in Physics of 2023 was jointly awarded to Ekimov, Brus and Bawendi for the discovery of synthesis of quantum dots. In this context, discuss the applications of quantum dots. (15 marks, 250 words)

Quantum dots are having unique quality of entanglement and super-positioning of each state on each other. Hence using Quantum mechanics principle is opening new avenue.

Discovery of synthesis of Q-dots

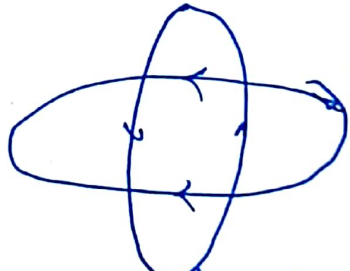
① Since Q-dots are inter-related to each other and possess quality of changing-state interactively, can be used in security link establishment.

(eg) QDK (Quantum-key-distribution) between two distant location.

② Materials strength can be enhanced by using Q-dots (eg) more tensile strength.

- ⑤ Secured channel of communication can be established with faster speed of data travelling.
- ⑥ Innovative use in industries to enhance performance.

Application of Q-dots

- ① Communication: link between two location can be established
 - ② Surveillance: monitoring of information can be done through using property of superposition.
- 
- ③ Processing: Quantum mechanics principles can be used in leveraging faster and large-scale data processing in industries
 - ④ Analysis: Q-dots will be helpful

in analyzing large amount of data
in shorter span of time.

- ① Research: Q-dot can help in
understand particle-physics in
better way and provide opportunity
to understand mysteries of cosmos.

India is aligned with Quantum
dots technology's pace with National
Quantum Mission, need is to collaborate
internationally to enhance more research
and development.

17. भारत में जीव विविधता संरक्षण में आरक्षित क्षेत्रों (Protected areas) की भूमिका का मूल्यांकन कीजिए। भारत को जीव विविधता को संरक्षित करने में राष्ट्रीय उद्यान, वन्यजीव अभयारण्य और बायोस्फीयर रिजर्व (जैवमंडल निचय) कितने प्रभाव रहे हैं? (15 अंक, 250 शब्द)
- Evaluate the role of protected areas in biodiversity conservation in India. How effective have national parks, wildlife sanctuaries, and biosphere reserves been in preserving India's biodiversity? (15 marks, 250 words)

India have enacted Wildlife Protection Act, 1972 (WPA) to protect bio-diversity through following comprehensive approach of core and buffer strategy.

Protection Area	Count	Area
National Park	106	1.8%
Wildlife Sanctuaries	573	4.34%
Biosphere Reserve	18	

Role of Protected Area:

- ① Conservation of fauna and flora through dedicated focus @ Special recovery program of species (SRP)
- ② Development of habitat to provide good ecosystem @ Number of tiger reserve increased from 9 (1973) to ~~63~~ 54 (2023) under Project Tiger

- ① Indigenous knowledge is used to protect bio-diversity @ Joint forest management practice (JFM)
- ① Enhanced surveillance to control illegal activities like poaching and wildlife trading. @ Project Elephant- to stop tusk trade
- ① Intervention practices are being implemented to ensure overall ecosystem development @ target based approach - Red list

Effectiveness of Protected Area

- ① India's forest cover have grown to 24.62% in ISFR, 2021 } $\uparrow 0.17\%$ since ISFR, 2019
- ① Number of tigers have increased and more than doubled since 2008 under Project tiger } more than 3600
- ① Pace of extinction of species have reduced - IUCN Report

- ① Number of one-horn rhino have increased (e) Kaziranga National park
- ① Expansion of targeted approach to Elephant, snow leopard, Great Indian Bustard etc led to increase in their count.
- ① Illegal wildlife trade has been controlled effectively by following CITES guidelines (e) skin of tiger

However constantly increasing pollution and rising global warming are creating menace of climate change which is posing threat to Biodiversity conservation

Need is to reduce global warming by 1.5°C by 2030 to make sustainable living possible and achieve SDG goals of climate action (13) -

भारत में पार्टिकुलेट मैटर (PM_{2.5} and PM₁₀) और ओजोन प्रदूषण के उच्च स्तर होने के क्या कारण हैं? पार्टिकुलेट मैटर और ओजोन प्रदूषण को कम करने के लिए सरकार द्वारा किए गए विभिन्न प्रयास कितने प्रभावी रहे हैं?

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What the causes of high levels of particulate matter (PM_{2.5} and PM₁₀) and ozone pollution in India. How effective are the various steps taken by the government to mitigate particulate matter and ozone pollution? (15 अंक, 250 शब्द)

(15 marks, 250 marks)

According to IQ Air Report 2023 India is 3rd most polluting country with nine out of top 10 cities belonging to India.

Causes →

→ PM_{2.5} & PM₁₀ → Vehicular emission leads to this @ 1% of global vehicle in India

→ Industries in urban areas don't follow non-fossil source of energy @ coal, cosmetic

→ Construction sector is growing due to rising economic growth leading to more emission

→ Deforestation and land degradation lead to soil-weathering @ sand-storms in Western India

→ Other activities like stubble burning, timber as fuel, indoor pollution etc lead to this

Causes of Ozone pollution:

- High use of cooling-agents in the form of ~~re~~ HCFCs, CCl₄, SF₆ etc
- generation of Volatile-organic compounds (VOCs) lead to more O₃ @ industries like automobile
- Uncontrolled Urbanization and pollution provides favourable condition in sunny-weather to form O₃.

Steps taken by government:

① National clean air programme (NCAP)

is targeting to reduce PM 2.5 + PM 10 by 40% by 2026.

- ↳ Reduction in NCR region observed
- ↳ 47 cities (out of 131) have seen reduction in PM 2.5 level

② Air pollution (control & regulation) Act, 1986 established CPCB and SPCB to monitor industry-led pollution

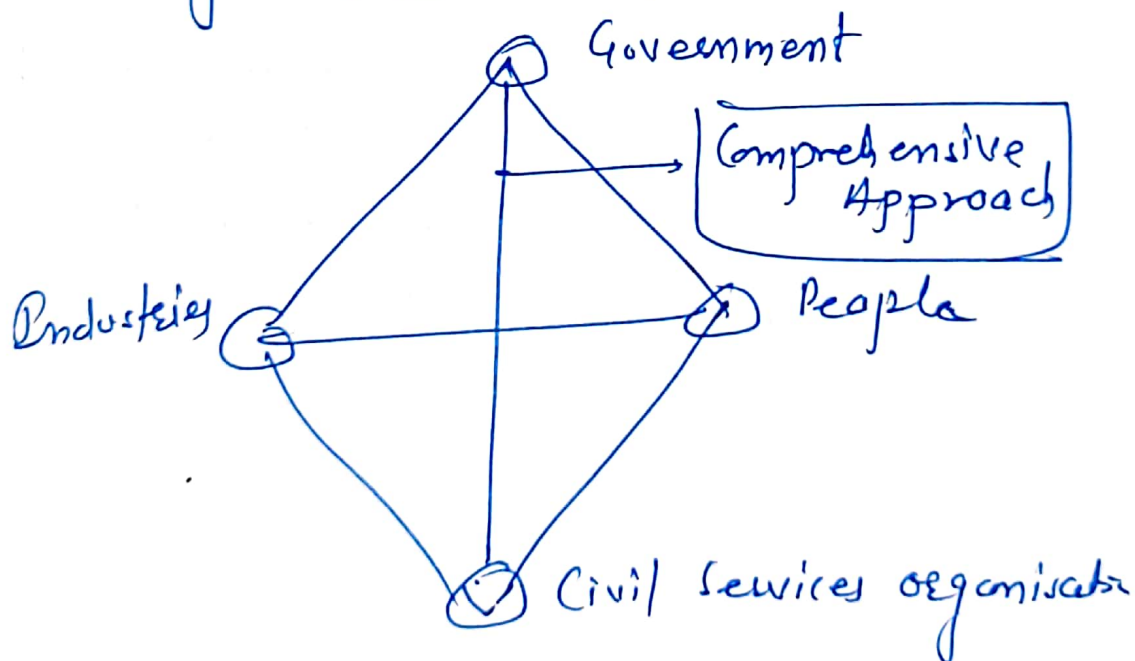
- ↳ limited progress because in winter many cities cross severe category

of pollution

- ① Ratification of Montreal protocol to phase-out CFCs and phasing out HCFCs under Montreal Kigali Agreement-

↳ almost all HCFCs are phased out
↳ on track to reduce consumption of HCFCs

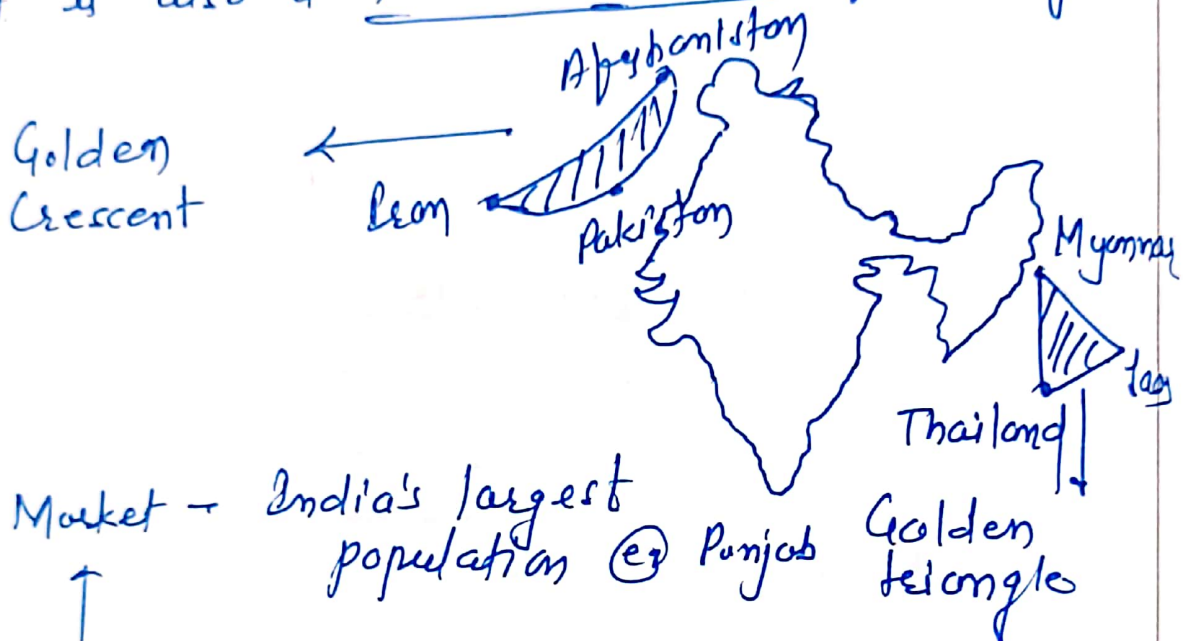
Hence we can say that mixed results are generated. Therefore need of the hour is to bring industries, people, government on same page to counter menace of environment pollution and achieve target of Paris agreement, 2015.



19.

अंतराष्ट्रीय नारकोटिक्स नियंत्रण बोर्ड (INCB) रिपोर्ट 2023 में, एशिया में मादक पदार्थों की तस्करी के बढ़ते खतरे को प्रदर्शित करती है, जिसका कि भारत एक प्रमुख केंद्र है। भारत के संदर्भ में इस चुनौती के विभिन्न आयामों का विश्लेषण कीजिए। साथ ही, इससे निपटने के लिए बहु-आयामी दृष्टिकोण भी सुझाए।
 The International Narcotics Control Board (INCB) Report 2023 highlights a growing menace of drug trafficking in South Asia, with India being a major hub. Analyze the various dimensions of this challenge with respect to India. Also suggest a multi-pronged approach to address it. (15 अंक, 250 शब्द)

According to UNTOC, India is one of the largest destination for drug-trafficking. It is also a transient hub for drugs.



Market - India's largest population @ Punjab

Reasons of Growing drug-trafficking - India

Geographical factors - make India - a sandwich between golden crescent and triangle
 Political instability @ Post coup in Myanmar, it has emerged as largest poppy cultivating country.

Porous border & dispute

→ on both sides of India border is porous and historical movement links are available.

Challenge of drug-trafficking and India

- ① Youthful population have instinct of experiment and adventure hence consumption
 @ drug caught in dance-bars-Mumbai
- ② Presence of drug-cadets due to lack of law enforcements @ drug-delivery through Ports - caught in Mumbai
- ③ Technological upgradation : using modern to deliver drugs while being remotely
 @ Dark web, Drone-drugs delivery in J&K, Punjab
- ④ Sporadic border with Myanmar :- free movement regime (FMR) enhances such trade @ chin community famous for drug cultivation
- ⑤ Environmental pollution and damage due to cultivation of poppy @ Uttarakhand hills were cleared to cultivate poppy.

Multi pronged Approach needed to counter

this menace.

- ⑥ Strong fencing of all boundaries @ removal of FMR with Myanmar

- ① Combination of 'defensive and offensive' strategy to counter (a) Operation Samudragupta in Indian Ocean region
- ② strong enforcement of law with faster case completion (a) CRP is slow in resolving cases - NDR Act
- ③ Coordination with neighbouring countries in tackling drug-cartels from roots (a) SAARC revival and discussion
- ④ Anti-drone guns with strong surveillance mechanism to halt movement
- ⑤ Adhering to global convention for following best practices and information sharing.

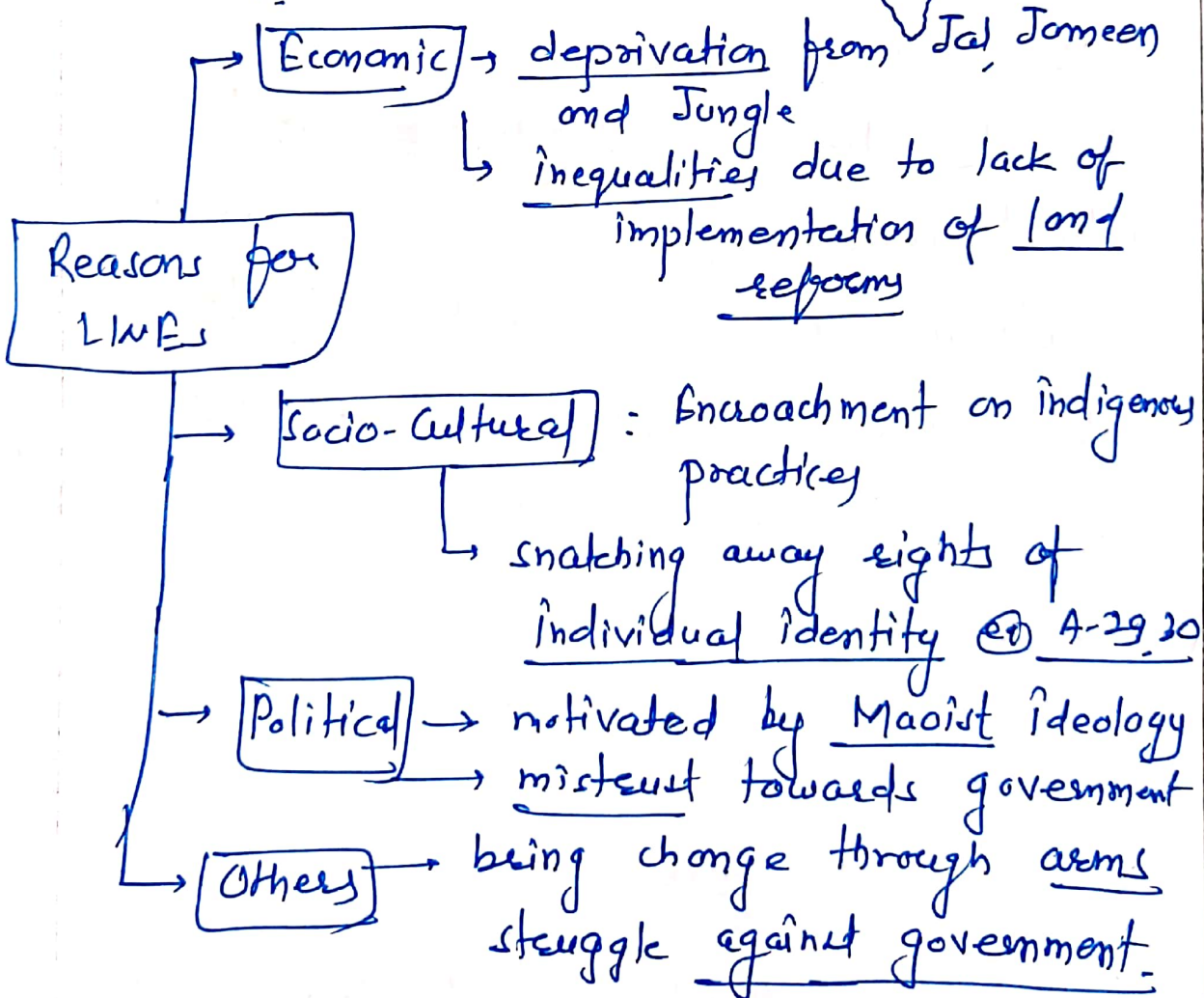
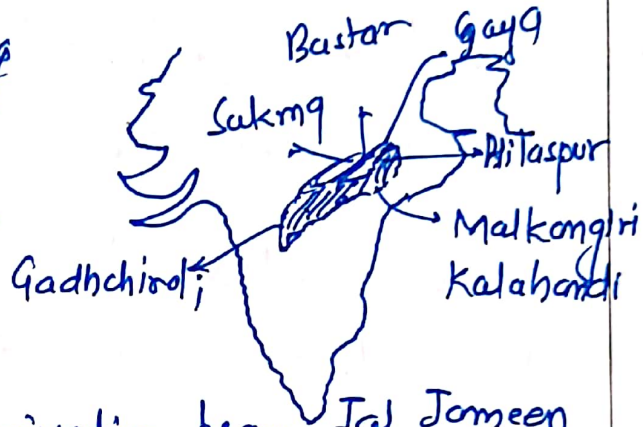
Hence need of the hour is to eliminate menace of drugs by following multi-faceted approach ~~on~~ under guidelines of UN single convention of Narcotics drugs (1961).

0. वामपंथी उग्रवाद के प्रति भारत की प्रतिक्रिया (कारवाई) में नक्सलवाद के मूल कारणों को दूर करने के लिए कठोर सुरक्षा उपायों के साथ-साथ सामाजिक-आर्थिक नीतियों और संवाद जैसे नरम दृष्टिकोणों/उपायों (Soft approaches) को एकीकृत करने की आवश्यकता है। चर्चा कीजिए। (15 अंक, 250 शब्द)

India's response to left wing extremism needs to integrate soft approaches like socio-economic policies and dialogue along with hard security measures to address the root causes of Naxalism. Discuss. (15 marks, 250 words)

According to ministry of Home affairs (MHA), Left wing extremism (LWE) is present in

red corridor spreading across 6 states of Andhra Pradesh, Maharashtra, Chhattisgarh, Odisha, Jharkhand, Bihar.



Need of soft - approaches

- ① To gain the trust of people by promoting decentralized decision-making
(eg) SAMADHAN strategy
- ① Providing livelihood and employment opportunities (eg) Roshni initiative
- ① Infrastructure development to reduce inequalities (eg) Education institute creation
- ① Promote dialogue to understand actual concerns and find peaceful solution (eg) 'Lone - Vassatu' step of 'surrendering' and providing necessary things - Chhatigarh
- ① Collaborative approach will bring long-term impact (eg) area reduced by 73% in last decade

Need for Hard- Approach

- ① offensive strategy against those who doesn't want to collaborate and

spread propaganda (e) Operation Grey-hounds

(i) Creating special forces to match their fighting strategies to counter effectively and avoiding spillover effect. (e) Bastaria Battalion

(i) Blocking financing and arms inflow by adopting comprehensive approach (e) Munger - illicit arm industry was destroyed

(i) To maintain peace in area so that other peoples' rights are protected (e) Artid - 21

Hence to eliminate LWF, balanced approach of Hard and soft, needs so that peace can be established and unity and integrity (Article-1) can be protected.

IMPORTANT INSTRUCTIONS

CANDIDATES SHOULD READ THE UNDERMENTIONED INSTRUCTIONS CAREFULLY. VIOLATION OF ANY OF THE INSTRUCTIONS MAY LEAD TO PENALTY.

DONT'S

1. Do not write your name or registration no. anywhere inside this Question-cum-Answer Booklet.
2. Do not write anything other than the actual answers to the questions anywhere inside your QCA Booklet.
3. Do not tear off any pages from your QCA Booklet, if you find any page missing do not fail to notify the supervisor/invigilator.
4. Do not leave behind your QCA Booklet on your table unattended, it should be handed over to the invigilator after conclusion of the exam.

DO'S

1. Read the Instructions on the cover page and strictly follow them.
2. Write your registration number and other particulars, in the space provided on the cover of QCA Booklet.
3. Write legibly and neatly. Do not write bad/illegible handwritings.
4. For rough notes or calculation, the two blank pages of this booklet should be used. The rough notes should be crossed through afterwards.
5. If you wish to cancel any work, draw a line with a pen through it or write "Cancel" across it, otherwise it may be evaluated.
6. Handover your QCA Booklet personally to the invigilator before leaving examination hall.

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1. Scan the QCA booklet properly. We suggest the uses of the app CAM scanner (Scan the QR code in page 2) based on our previous experiences.
2. Please scan the QCA booklet in ample light. Copies scanned under moderate light may hamper evaluation quality.
3. Any page/pdf having shadow needs to be rescanned. Please make sure that the pdf you upload is as clean as possible.
4. **Candidates not using the QCA booklet** must mention their details on the front page and leave the next page blank for the macro comments. It must be understood that the answers should start from Page no. 3 in of the scanned pdf.
5. Candidates not using the QCA booklet must follow the sequence of the answer as per the question paper.
6. Please check the sequence of the answer and total number of pages in the scanned version. Make sure it is in consonance with the physical version of the same.

महत्वपूर्ण निर्देश

अभ्यर्थियों को निम्नलिखित निर्देशों को ध्यानपूर्वक पढ़ना चाहिए। किसी भी निर्देश का उल्लंघन करने पर दण्डित किया जा सकता है।

क्या न करें-

1. इस प्रश्न-सह-उत्तर पुस्तिका के भीतर कहीं भी अपना नाम या पंजीकरण संख्या न लिखें।
2. अपनी QCA पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तरों के अलावा कुछ भी न लिखें।
3. अपनी QCA पुस्तिका से कोई भी पृष्ठ न फाड़ें, यदि आपको कोई पृष्ठ गायब लगे, तो पर्यवेक्षक/निरीक्षक को सूचित करना न भूलें।
4. अपनी QCA पुस्तिका को अपनी टेबल पर न छोड़ें, परीक्षा समाप्त होने के पश्चात इसे निरीक्षक को सौंप देना चाहिए।

क्या करें-

1. कवर पृष्ठ पर दिए गए निर्देशों को ध्यान पूर्वक पढ़ें और उनका सख्ती से पालन करें।
2. QCA पुस्तिका के कवर पृष्ठ पर दिए गए ध्यान पर अपना पंजीकरण नंबर और अन्य विवरण लिखें।
3. स्पष्ट और पठनीय तरीके से लिखें। खराब/अपठनीय लिखावट में न लिखें।
4. रफ नोट्स या गणना के लिए, इस पुस्तिका के अंतिम दो खाली पृष्ठों का उपयोग किया जाना चाहिए। रफ नोट्स को बाद में क्रॉस कर देना चाहिए।
5. यदि आप किसी कार्य को रद्द करना चाहते हैं, तो उस पर अपना पेन चलाएं या उस पर "रद्द" लिखें, अन्यथा उसका मूल्यांकन किया जा सकता है।
6. परीक्षा हॉल छोड़ने से पहले अपनी QCA पुस्तिका व्यक्तिगत रूप से निरीक्षक को सौंप दें।

ऑनलाइन सुविधा का लाभ उठाने वाले अभ्यर्थियों के लिए विशेष अनुरोध

1. QCA पुस्तिका को ठीक से स्कैन करें। हम चाहेंगे कि आप स्कैनिंग के लिए कैमस्कैनर ऐप (CAM SCANNER) का प्रयोग करें। (यह कोई प्रमोशन नहीं है)।
2. कृपया QCA पुस्तिका को पर्याप्त रोशनी में स्कैन करें। कम रोशनी में स्कैन की गई पुस्तिकाएं, उनके मूल्यांकन की गुणवत्ता को बाधित कर सकती हैं।
3. स्कैन के दौरान छाया वाले किसी भी पृष्ठ/पीडीएफ को फिर से स्कैन किया जाना चाहिए। कृपया सुनिश्चित करें कि आपके द्वारा अपलोड की गई पीडीएफ यथा संभव स्पष्ट हो।
4. QCA पुस्तिका का उपयोग नहीं करने वाले उम्मीदवारों को अपना विवरण पहले पृष्ठ पर देना चाहिए और पैक्टो टिप्पणियां के लिए अगला पृष्ठ खाली छोड़ दें। यह समझना चाहिए कि उत्तर स्कैन की गई पीडीएफ में पृष्ठ नंबर 3 से शुरू होना चाहिए।
5. QCA पुस्तिका का उपयोग नहीं करने वाले उम्मीदवारों को प्रश्नपत्र के अनुसार उत्तर के अनुक्रम का पालन करना चाहिए।
6. कृपया स्कैन किए गए संस्करण में उत्तर के अनुक्रम और कुल पृष्ठों की संख्या की जाँच करें। सुनिश्चित करें कि यह उसी के भौतिक संस्करण के अनुरूप है।