

75 min → 9 X 10 marks

30 min → 3 X 15 marks

NEXT IAS

GS MAINS ADVANCED COURSE 2024

(To be filled by candidate)

TEST CODE : GSMAC2403

Test No. 03

Name of Candidate: Raghav Thun Thunwala Mobile No.Roll No. : GSMAC24A1055 Start Time 3:30 End Time 7:00 (+15 min)Date of Examination: 17 Aug '24 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 गूँथ या सामग्री आदि गलत छपी हुई या फटी हुई या गायब तो नहीं है। यदि ऐसा है, तो इसे एक नई QCA पुस्तिका से बदल लें।
2. अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का अपडेटेड स्थान पर उल्लेख करना होगा।
3. अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 20 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-सुथरा लिखें। अगठनीय लेखन से बचें।
7. QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:

FOR OFFICE USE ONLY

Student Concerns / Query

1 Few of boxes, arrows were made by Aet Sir in first few questions, kindly ignore.

2

3

Evaluator's Feedback / Response

1

2

3

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



Copy Scanner App



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)

Fiscal Deficit refers to the excess of Expenditure of govt over its receipts.
 For FY 23-24, it was ~ 5.6% of GDP
 (E.S. 23-24)

Factors contributing

- ① subsidies burden (Ex: Agri
 / Fertilizer
 / MSP
 / Irrigation
)
- ② Social welfare Expenses
 (Ujjwala, PM-AWAS)
- ③ Untapped tax Revenue (low base) and non-tax Receipts
- ④ freebies culture gaining political momentum.

Potential consequences

- ① High Interest burden (~ 15% of Budget size) \Rightarrow loss of resources.
- ② Fall in credit ratings (BBB-)

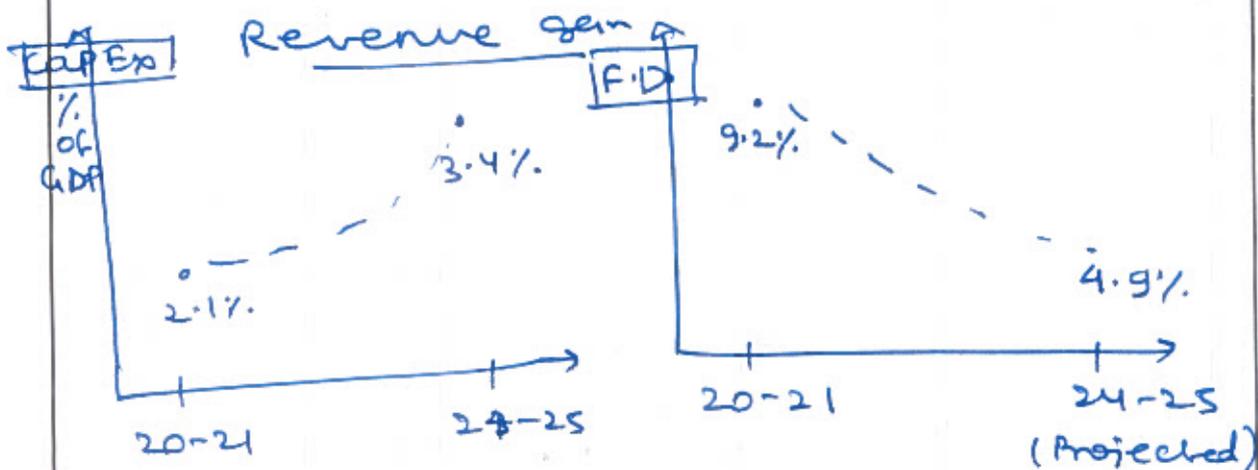
- ③ decline in FDI to India due to debt sustainability concerns.
- ④ squeezed space for more critical expenses (like R&D, etc)

Measures Required

① Rationalizing subsidies

(Ex: Shanta Kr. Committee :
Reducing PDS coverage to 40% popⁿ)

② However, boosting Cap Exp. is rather good (& should be promoted over Rev. Exp. for long run capacity +



Thus, Debt Sustainability is critical to ensure macro-Economic & Financial Stability (RBI)

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 को 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)

Budget 24-25 proclaims India to become Vikrit Bharat by 2047, and it significantly gets affected by Cap Exp. of Govt. & Pvt. sector.

Potential of Capital Invest

- ① NIPFP Study: Every ₹1 spent on Infra, etc. leads to $\boxed{\text{₹}2.5-3}$ multiplier effect.
- ② Long Run Capacity from Transport Infra, Storage, etc.
- ③ Equity: subsidies often face targeting issues; CapEx creates equal opportunities for all alike.
- ④ crowding-In: creates inducing envt. for Pvt. sector Investment.

⑤ Employment generation,
Balanced Regional Devt

Challenges in the regards

① High Debt Burden : Already
80% of GDP (CTS) ; Finance co.
advised to reduced it to 60%.

② freebies & subsidies culture
squeeze out space.

③ Timid response by Pvt. sector
Pvt. Investment yet to pick up
after Covid Recovery (E.S. 24-25)

④ Climate Change
↳ IMF : can shoot $\left(\frac{\text{Debt}}{\text{GDP}}\right) > 100\%$
by 2030.

Govt has continuously provided
greater allocation for Cap Ex since
2020 and today it reached

3.4% of GDP. Such momentum will

Propel India to target of \$30 Trn.
Economy

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)

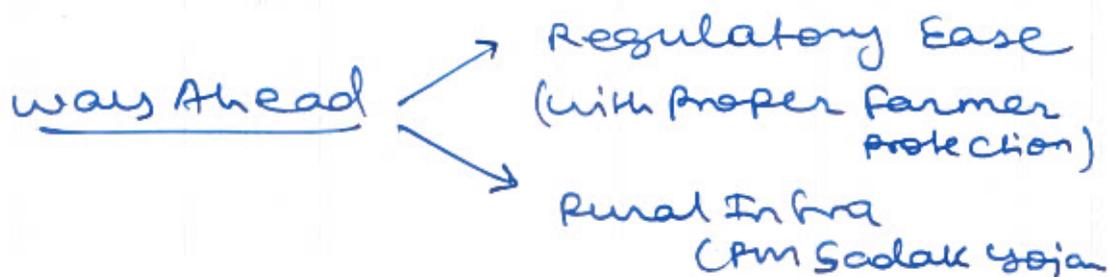
Recently, numerous startups like OTipy, FarmDelight, etc. have gained momentum in Peri-Urban Agri. who promise instant & direct farm to household delivery.

Opportunities associated

- ① Rise in Urban Population, per Capita Income \Rightarrow demand.
- ② Health consciousness and increased awareness for Dairy, meat & Horticulture.
- ③ Scope for organic promotion as households willing to pay more.
- ④ Income support for farmers and better price realization.
- ⑤ continuous Employment on a daily basis.

Challenges associated

- ① Poor state of Infra: Road transportation, etc. ~~fee~~
- ② Exploitation of farmers by Startups (Dalwai Co.: only ~~15-40%~~ 15-40% money reaches farmers)
- ③ Price Inflation may exclude out have nets in urban areas.
- ④ Increased cost of prodⁿ due to vicinity to urban areas.
- ⑤ Pollution from urban sources.
(Air, sewerage, etc.)



Thus, the Peri-urban Agro offers a significant opportunity for all: Farmers, Startups, etc.

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)

India is significantly Import dependant upon pulses & cooking oil, which is disturbing our 'Atmanirbharata in Agri'.

Profile

Pulses (Import from Canada, Australia, etc.)

oil (>60% is imported) (Palm → S.E. Asia
Sunflower → Russia-Ukr. etc.)

Challenges faced in self-suffic

- ① wheat-Rice monoculture due to MSP regime (open procurement Policy for (W)-(R))
- ② Poor penetration of farm Insu. to enable farmers to take risk.
- ③ Poor Agri Storage (NITI Aayog: > ₹9,000 pa. food wastage @ storage)

- ④ Transportation & Infra challenges
- ⑤ APMC issues which gets reflected in poor price discovery.
- ⑥ Pest Infections & Climate change
↳ Root & shoot borers (pulses)

Measures Required :

(Dalwai Committee)

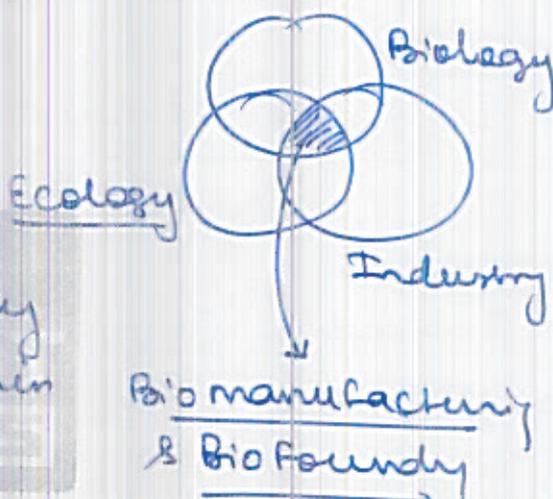
- ① Increase Cap Exp. (specially Public sector Invest.) in Agri to create more cold storage, etc.
- ② APMC Reforms
↳ uniformity across states,
↳ break monopoly of Agents, etc
- ③ Shift MSP → DBT (NITI Aayog Ramesh Chand)
need to create crop blind incentive structure.

Improving Insu. penetration, Agri-
Extension services, etc would go a long way in self sufficiency.

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

As per '24-'25 Interim Budget, BioMfg and Biofoundry are expected to create over \$130 Bn. Industry in India.

Potential in India



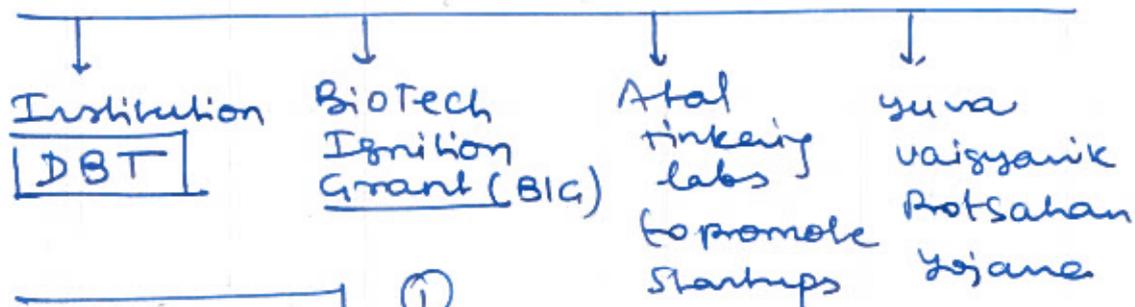
- ① Stem cell Therapy & its application in Artificial organ Production (Inclusive growth)
- ② Biofuel prodn & net-zero target by 2030
- ③ vaccine production & drug manufa. chngs.
- ④ microbial fuel cell as another Component of unconventional Green Energy.
- ⑤ Circular Economy & Blue Economy
 ↳ creation of additional, well paid jobs.

⑥ waste miti mization

↳ Climate Change mitigation

↳ Greater Eco. Growth.

Govt
Initiatives



Potential
Challenges

① API dependence (China)
(Active Pharma Ingredients)

②

Technological

↳ very high estd. cost

↳ lack of technical knowhow

③

lack of skilled workforce due
to lack of potential, awareness.

④

Regulatory hurdles and lack
of clarity in key areas

Eg: Gene Editing

India's climate goal is well
articulated in our LiFE ideology
and Bio sector can play a critical
role in realizing the dream.

6. पुनः प्रयोज्य प्रक्षेपण यान (RLV) की कार्यप्रणाली के पीछे क्या सिद्धांत हैं? भारत के अंतरिक्ष वाणिज्य में आर.एल.वी. के उपयोग के महत्व 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)

ISRO recently conducted trials for Pushpak (India's RLV: Reusable launch vehicle) thereby garnering multiple interests.

Principles involved

- ① 2- Staged project:

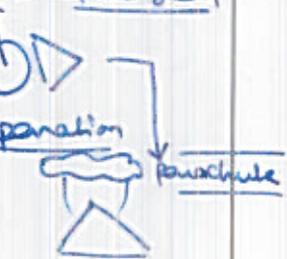
Subsequent return post deployment

- ② Reducing friction upon reentry :

60% angle maintained



Ascent & separation



(land back)

- ③

Improving cost benefit ratio & tooth to tail ratio of ISRO.

- ④

R & D promotion, cutting edge technology, etc

Significance & Benefits :

- ① would significantly reduce per mission cost and provide
- ② Cost Efficiency to India's space sector \Rightarrow Investments & contracts \uparrow .
- ③ Induce prt. sector investment (like Space X's Falcon, etc.)
- ④ Enhance satellite launches :
upstream + downstream services to boost Agri, Disaster mgmt, etc
- ⑤ Reduce Space Debris, material reusability, innovation & R-D.

Thus, Pushpak is India's answer to space sustainability and cost Effectiveness ; immensely boosting our space Commerce.

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)

Recently, ministry of Power released guidelines for CCTS, 2023, which was earlier framed upon sidelines of COP-26 meet.

Potential of Carbon Trading :

- ① Putting a cap on amount of CO₂ that'd be emitted : assured decarbonization.
- ② Rewarding Clean Players : credit is awarded to those who produce less Emissions.
- ③ Penalty on heavy emitters : to disincentivize Carbon Emissions, they will be forced to buy credits.
- ④ promote R&D : Innovation would be undertaken to develop cleaner & efficient prodⁿ technologies.

- ⑤ market signalling to depict Demand-Supply dynamics by auction prices.

Potential Challenges

- ① In a way, Carbon credits actually allow companies to emit a particular level w/o Penalty.
- ② Covers majorly the Industrial sector & largely ignores other sources of Emissions.
- ③ other measures like Pollution norms, Carbon fees, etc > less utilized.
- ④ Lack of familiarity of businesses esp. smaller ones.

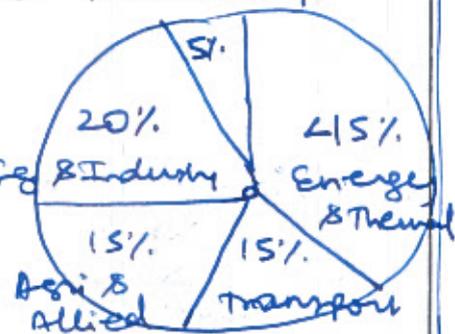


Fig: India's Emissions Profile

India aims to reduce Carbon (Emissions) Intensity of Economy by 45%. (as we reach 2030 ; Paris Commitment)

Thus, CCTS is a critical step in it.

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)

2024 marked the 3rd continuous year in which India faced severe heatwaves; sparking the controversy to notify it under DM Act, 2005.

Benefits of notifying it

- ① ₹4 lakh ex-gratia to provided to kin of deceased.
- ② states & agencies would prepare a specific & distinct action plan (Added impetus to Planning).
- ③ NDMA guidelines will get more comprehensive post notification.
↳ more clarity to agencies.
- ④ Enhance inter-agency and inter-govt deliberation & cooperation.

- ⑤ Intensity, frequency & duration of H waves deteriorating every year thus, call of time.

Challenges of notifying it

- ① 15th FC had recommended against it. Rather it proposed
- ② that states delineate a separate 10% Fund towards Heat wave Relief
- ③ As casualties rise gradually, Ex-Gratia amount would severely eat up DM funds, if notified.
- ④ Loss of flexibility to state govt.

Heat waves should get notified in DM Act 2005 earliest. Until that happens, states should release comprehensive SOPs like UP govt: District wise Plans

(1st in country)

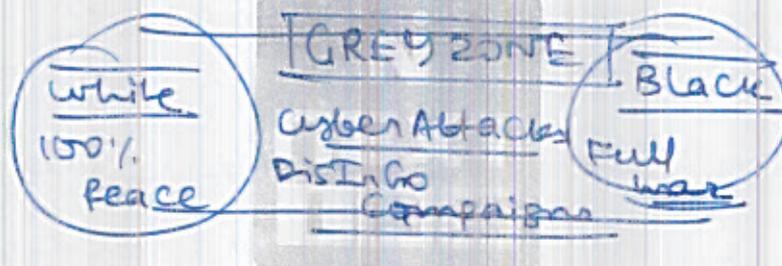
9. भारतीय सशस्त्र बलों द्वारा हाल ही में तैयार किए गए 'साइबर-अंतरिक्ष अभियान (Cyberspace operations) के लिए संयुक्त सिद्धांत' से पारंपरिक ऑपरेशनों के साथ-साथ ग्रे जोन युद्ध दोनों के लिए साइबर-सुरक्षा स्थिति मजबूत होगी। परीक्षण कीजिए।

(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)

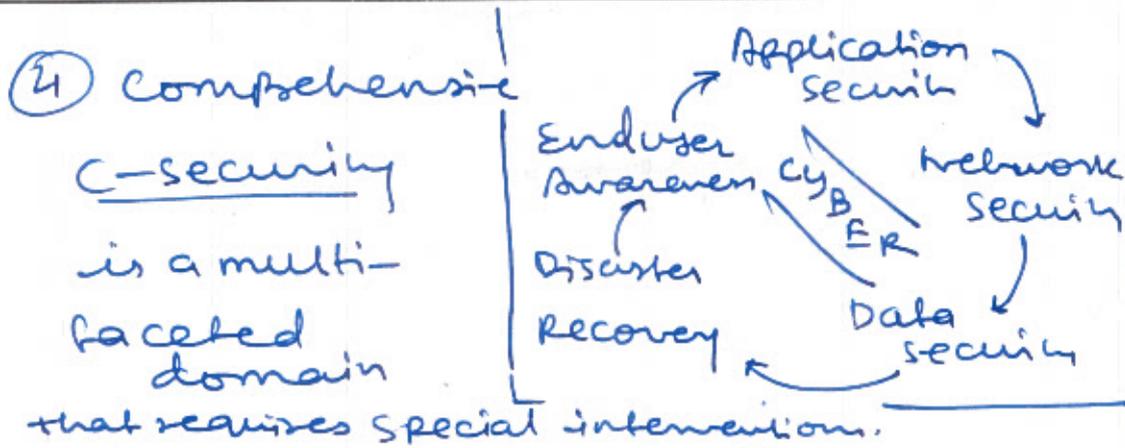
21st century is no more the era of trifecta of traditional warfare: Land, water, Sky; but has evolved into Grey zone warfare:



Significance of recent Doctrine :

(A) Conventional

- ① Symantec Report: India is 3rd worst affected country by Cyber Attacks.
- ② Increase in complexity & types (Denial of services, Phishing, etc.)
- ③ Loss of money, Digital Financial scams, etc. > detrimental to Economic & fin. stability of India



⑤ Gray zone warfare

① Attack prevention on critical Infrastructure (Ex: AIIMS ransomware attack by China)

② DisInfo: campaigns being fueled by State & State sponsored platforms.

(Pak in JK)

① lack of dedicated legal provision (as highlighted by UK govt Report)

Challenges Remaining

② failure to implement 2013 cybersec. policies

↳ 5,00,000+ trained professionals

↳ Fiscal Incentives to adopt C-sec measures.

& Way Ahead

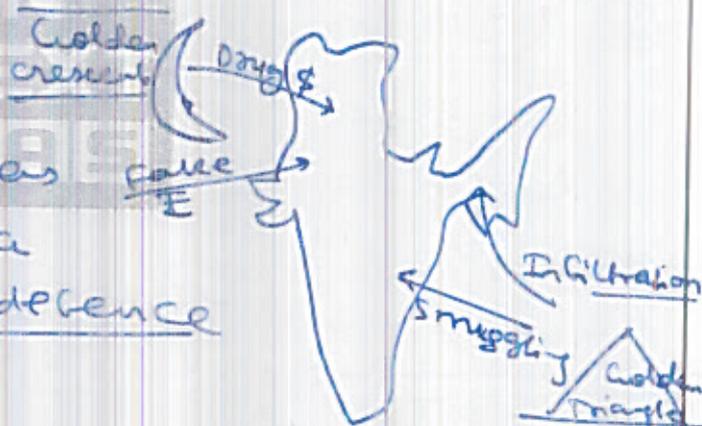
time is critical to adopt Industry-academia — Govt collaboration as depicted in Kerala's Cyber Dome Project.

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, controversy arose over extending BSF's mandate to upto 50 km from Intl. borders toward Inland territory.

Necessity of such move

① The recent violence in Bangladesh has necessitated a strong Border defence security.



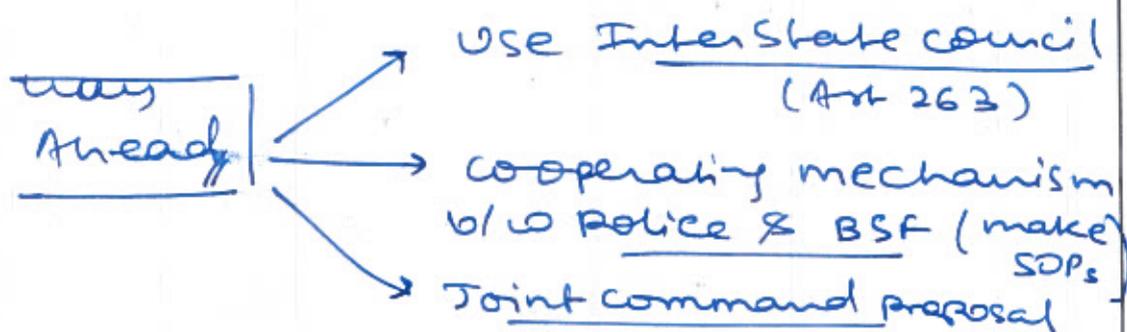
② BSF is trained & specialized for it & requires greater territorial autonomy to fully implement search & oversight operations. BSF: Border security challenges.

③ To understand & break linkages of Border crimes with organized crime racket in state.

④ to counter OCWs (overboard workers), it is critical for BSF to understand area enough.

Potential Challenges :

- ① Federal Disputes (Ex: West Bengal protests)
- ② Challenges of cooperation b/w State Police & Armed Forces.
- ③ Loss of autonomy & territorial coverage of state authorities.
- ④ confusion & vacuum will promote anti-social elements.

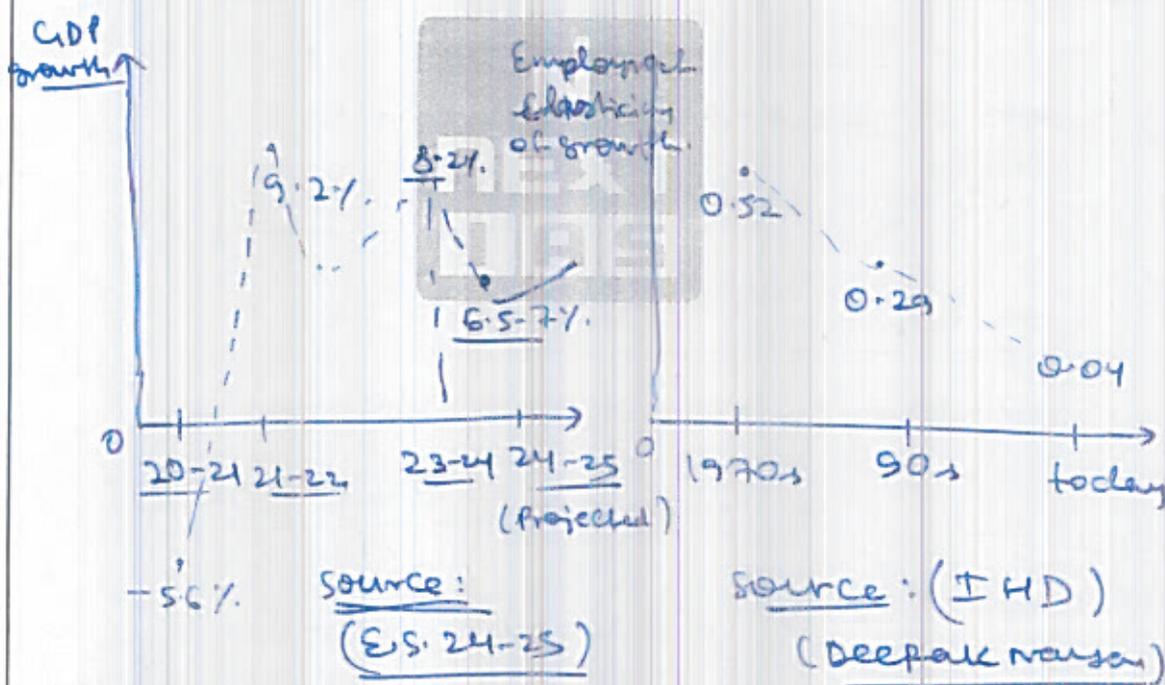


Comprehensive Border Security is critical to overall national security. measures like CIBMS, etc. in addition to other measures are critical as per Shekatkar Committee

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 समावेशी 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)

Although, India experienced a handsome 8.2% Real GDP growth in 23-24, yet unemployment woes dampens the joy.



- ① neared ₹ 4 Trn economy, but > 5% unemployment (PLFS, 2023-24) CWS data
- ② Jobless growth → 'Job-less Growth' (R. Rajan)
- ③ Poor Inclusive growth fueled by top 10% & more able ones.

Structural unemployment

Concept

↳ Refers to a situation where there is a significant skill gap in job supply & demand profile:

↳ Jobs are available, workers are available; but most workers lack the skill set required for the job.

Implications / Relevance

① Youth unemployment has (>83% of total unemp.) rapidly ballooned (as per IMF)
↳ waste of demo. potential

② Amongst youth, educated youth saw more rapid rise in unemp.

③ This got reflected in poor performance of manufacturing sector (only 18% to GDP)

④ Quality of Employment suffers

PLFS; 2024:

Self Employed:
75% w/force

⑤ This subdues our Eco. growth potential which is ~ 10-12% p.a.

(Arvind Panabaiya, 16th Cr.)

Required Policy measures

① Skilling & upskilling to youth

(S Ramodrai Panel → I T I level
↓ reforms

② Promoting labour-

intensive Industries

(like Footwear, Textile)

perc. based
remuneration)

③ Higher Education Reforms

(Focus on Industry relevant skills)

↳ NEP 2020 implementation

④ Improving Pedagogy, assessment
+ Enhanced Industry-collab;

(Ex: Anand Mahindra made chairman
of Andhra Skills Univ.)

Thus, Structural Unempt. is a
major hinderance to our unempt.
scenario, which must be
'skill-tackled' to unleash our
Economic Potential.

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

(15 अंक, 250 शब्द)

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 marks, 250 words)

MSMEs act as the 'Silent Engines' of India's Developmental journey with ^{not} only Economic growth but significant developmental distribution.

Role in Regional Growth

- ① Situated wide-spread across Suburbs, villages, etc.
- ② Don't require very heavy capital ~~req~~ → Easier & rapid setup.
- ③ Employ a significant chunk of vulnerable popⁿ: women, Dalits, etc.
- ④ create interlinkages (Backward by creating demand for Agri goods; Forward by supplying mech. tools, etc.)
- ⑤ create Infrastructural investments & forces govt to do so too..

- ⑥ MSMEs comprise of roughly
→ 6 cr units, employing over 12 cr.
people.
- ⑦ Supports Agri-Diversification,
Rural growth, SHG support, etc.

MSMEs : Tech. Advancement &
Industrial Diversification

- ① MSMEs can act as feeder units
to larger MNCs and develop
specialization.
- ② Different and niche MSMEs
tend to invest in R&D to develop
more cost effective solutions.
- ③ MSMEs can invest in Employee
skill training ⇒ fosters innovation
- ④ MSMEs use local resources and
develop Economies of scale
↳ can invest more @ technology
↳ cater to numerous verticals (diversify)

- ⑤ collaboration & networking
(External Economies of scale)
- ⑥ Flexibility in operations offers
MSMEs the desired potential.

measures Read:

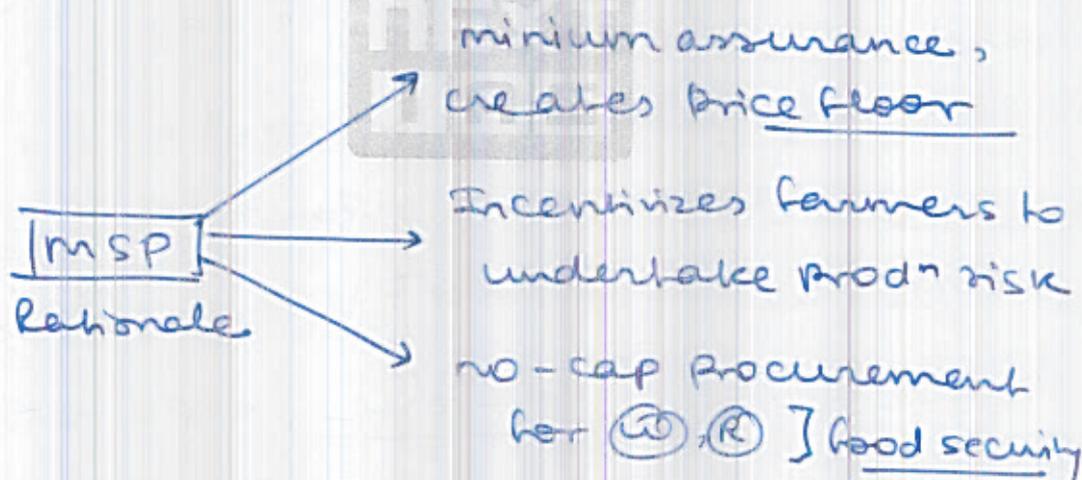
- ① Credit support: weak link of
MSMEs (TIMA: Triple bind
issue)
- ② Poor scale due to wrongly
framed policies (Exemptions to
smaller units → dwarfism, E.S. 17-18)
- ③ Poorly trained workforce needs to
be catered to.
Schemes like RAMP (collab of
World Bank), RAISE and
CLCS-TUS (Credit linked Capital
Subsidy for Tech. up gradation scheme)
are some of the measures taken
in this regards.

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 is announced by CCEA upon CACP recommendations; currently being 1.5 (A₂ + FL). However, demands were raised recently to legally guarantee it at 1.5 C₂.



Legalization: Favour (protect from price shocks)

- ① will eradicate us from (W, R) Rice monoculture: Assured procurement equally → agri diversification (crop blind procurement)
- ② would prevent distress sale under pressure of middlemen

As farmers would be assured of MSP price.

- ③ Dalwai Committee only 15-40% of final prices reach farmers (will improve after legal.)
- ④ Declining productivity of Agri may get even out post diversification.

Legalization: Against

① Riscal Bomb: currently, MSP subsidy \approx ₹2 lakh cr. p.a. \Rightarrow shoot to around \approx ₹10 lakh cr. p.a. (NITI, R. Chand)

② WTO issues, Amber Box, De-minimis support

③ Food Inflation will spike

④ Public Investment in Agri. would suffer upon MSP legalization
 \hookrightarrow subsidies mostly benefit larger farmers (Dalwai Co.)

⑤ Dependency Syndrome &

⑥ Breakdown of Agri markets; futures, etc. contracts will suffer.

making system more efficient

- ① Improving MSP - support schemes
(MIS, PM-AASHA, etc)
- ② From Price - based support to
Income based support (Ex: PM KISAN)
 - ↳ benefits small farmers alike
 - ↳ WTO compliant support.
- ③ Enhancing Public Investment in
Agri
 - ↳ storage & cold storage
(MIDH scheme,
Agri-Infra Fund)
 - ↳ transport & marketing for
better price discovery)
- ④ Promoting Food Processing.
- ⑤ Crop Insurance to deal with
emergencies. (Fasal Bima)

Legalizing MSP is not the
ultimate panacea but requires
more comprehensive approach.

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 सुझाइए। (15 अंक, 250 शब्द)

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 marks, 250 words)

India's Targeted PDS initiative ensures food security for over 80 cr. vulnerable population of India. FCI plays a key role in the same.

Role of FCI in PDS :

(i) Procurement

↳ Around ~ 330 mn. tonnes of grains get procured annually to make buffer stock for emergencies.

(ii) Transport & Storage until it is handover to state agencies.

(iii) Running Fair Price Shops

↳ Ensuring last mile delivery of food supplies to vulnerable.

(iv) Ensuring price floor is created informally, etc.

Challenges of FCI - PDS :

- (i) Improper Storage & wastage
↳ ₹90,000 cr. p.a. (NITI Aayog)
- (ii) Leakages & diversion
before reaching Fair Price shops.
- (iii) Quality of foodgrains being distributed is pitiable at least.
- (iv) Skewed Procurement & leads to monoculture. Wheat Rice (open system)
- (v) Corruption; Bureaucratic Rigidity
(No Ration if no card)

Proposed Reforms

SHANTHA Ks. Committee

- (i) Digitalization (End to End)
↳ use Blockchain & digitize from Procurement to final distribution.

② Reduce Coverage

↳ to ~ 40 cr. roughly
(truly vulnerable population)

③ Storage augmentation

↳ Involve Rural PACs,
Incentivize PAF

④ Increasing Decentralized
procurement by incentivizing
State authorities

⑤ Social Audits for
accountability.

Case Studies

Bihar : Reduced leakages via
Food Coupon Experiment

Tamil Nadu : GPS based tracking of
trucks, messages to residents.

Thus, TPDS is a key intervention
but suffers from numerous issues
which needs immediate
resolution.

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)

With recent technological developments & govt support like NanoTech Mission nanotech has emerged as critical tool in Agri productivity & food security.

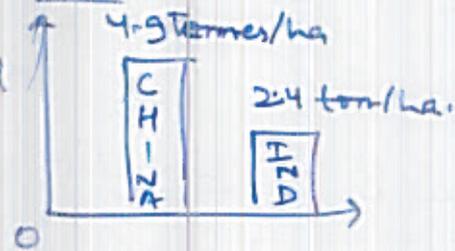
Role in Agri Prod. & Food sec. :

① Poor Productivity of India

↓ Despite higher ^{rice yield} arable land,

② due to small land

size 1.08 ha (avg); mechanization is difficult & scalability issues occur.



③ using nano fertilizers (like nano/Bottled urea); yield can be substantially improved as it has better absorption than conventional urea

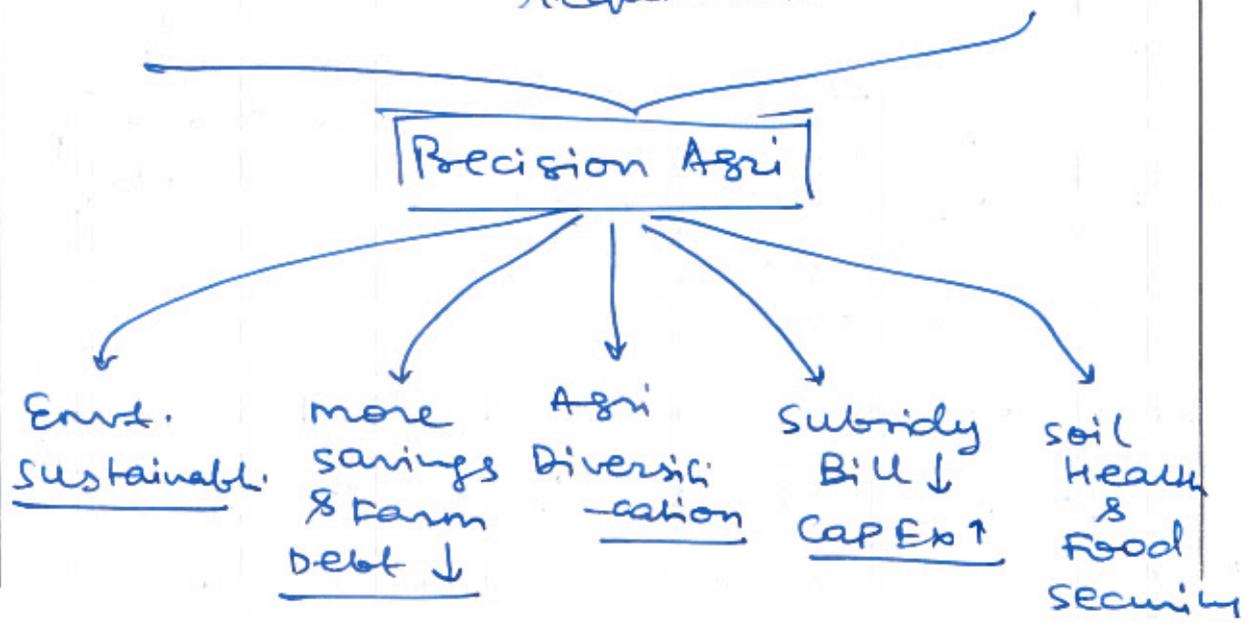
④ It is also cheaper and requires

less quantity of fertilizer \Rightarrow Rationalized fertilizer use
 \downarrow

Envst. @ Cap Exp \downarrow \leftarrow more cost savings
Productivity boost @ Long Run

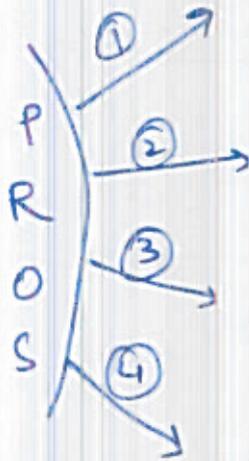
⑤ Climate change threats can be better tackled :

<u>Pre Sowing</u>	<u>Pre Harvest</u>	<u>Post Harvest</u>
① Nanotech based laser for ground leveling	① Nanosensors for <u>monitoring moisture</u> , <u>Pest Infestation</u>	① sensors in cold storage
② <u>Assessing soil profile</u> , choice of <u>crop</u> , etc.	② weather prediction	② Nanotech for nanobots in <u>Irradiation technology</u> (Nuclear Intervention)
	③ <u>crop ripening</u> , etc.	
	④ fertilizer requirements	



Recent Development : Nano/Bottled urea by IFFO

Easier transport, storage & application



Soil health ;

N	P	K
13	3	11

 } current fertilizer use
Ideal:

4	2	1
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Subsidy burden ↓ ; less leakages

Promotion of Agri R&D, etc



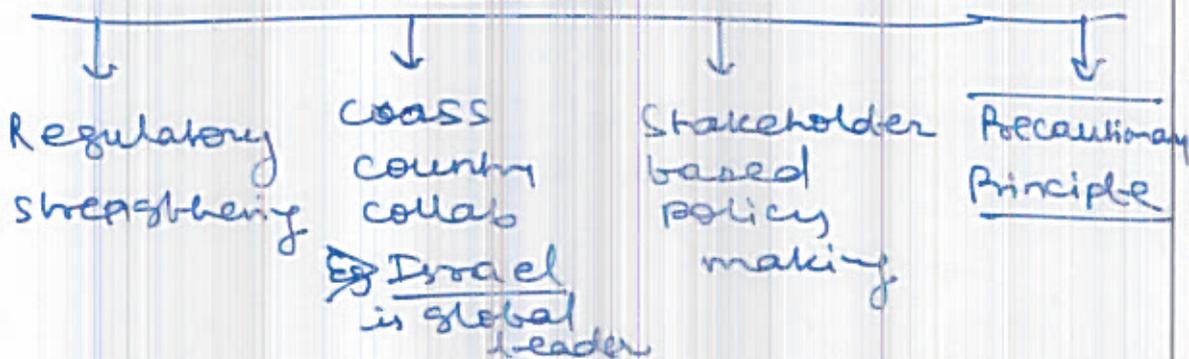
Bioaccumulation, Biomagnification threats

Nanotoxicity via runoff into nearby streams

lack of awareness, hesitancy

Poor Agri Extension network & ltd. Institutional reach.

Way Ahead

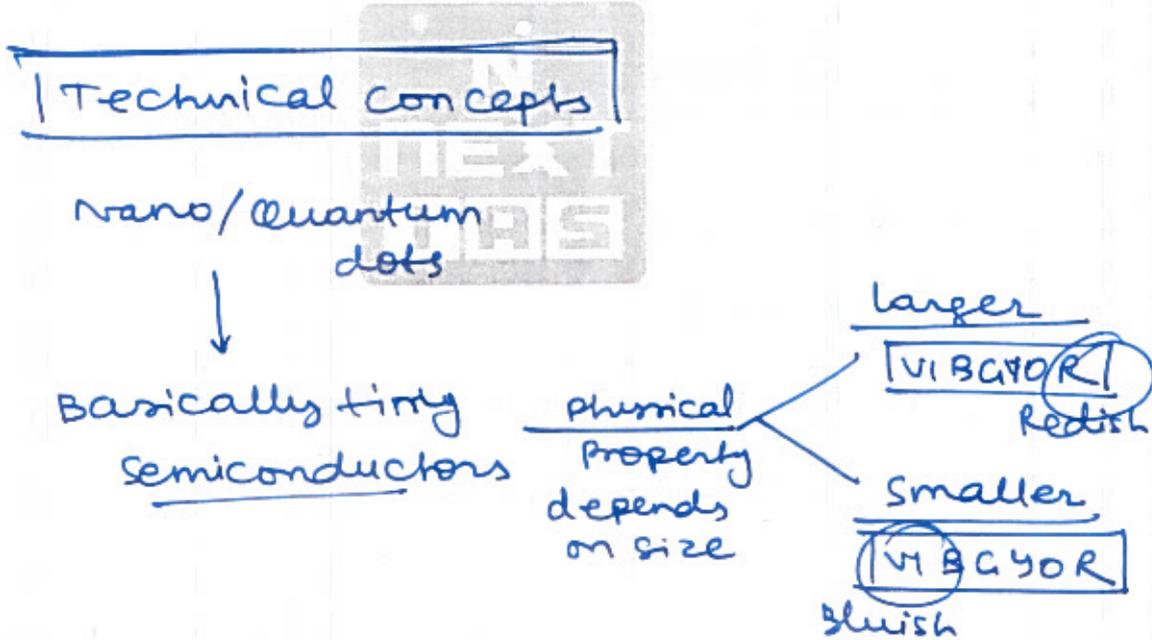


time to implement Richard Feynman's quote seems ripe : "There is so much potential at the molecular level."

16. 2023 का भौतिकी का नोबेल पुरस्कार क्वांटम डॉट्स के संश्लेषण की खोज के लिए एकिमोव, ब्रस और बावेन्डी 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)

"The invention of Quantum Dots is expected to significantly revolutionize the way our lives work today".

— Nobel Committee
2023

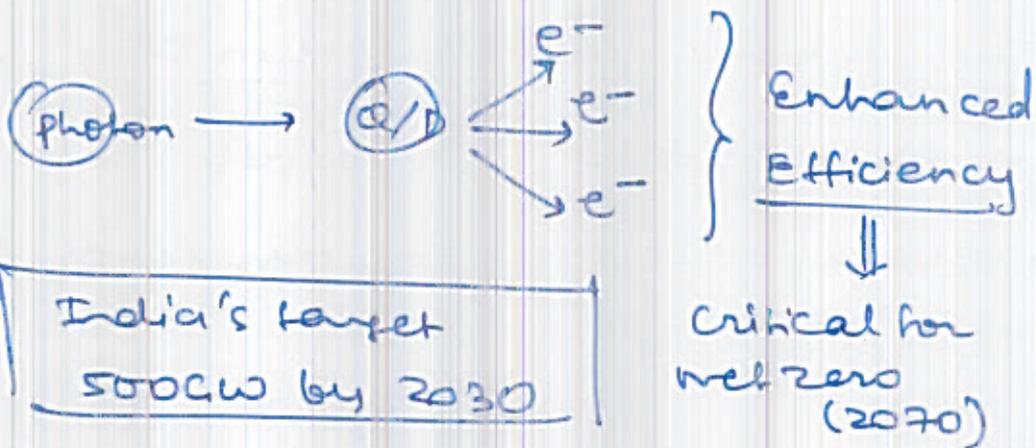


Applications

① Solar Energy Efficiency

- a) ↪ Early a singular photon could excite a singular electron only.
- b) ↪ now a singular photon would

excite a quantum dot \rightarrow will excite multiple electrons.



c)

India's target
500GW by 2030

critical for
net zero
(2070)

②

Entertainment Industry

a) \rightarrow considered as successor to LED technology

b) \rightarrow will significantly improve pixels resolution \Rightarrow significant visual enrichment & deeper colours

③

Healthcare Industry

3.1

Diagnosis

\rightarrow Q-Dots can be sent as probe into investigating issues like cancer, tumors, etc

3.2

Exciting the Q-Dots with laser
 \rightarrow crystal clear diagnosis.

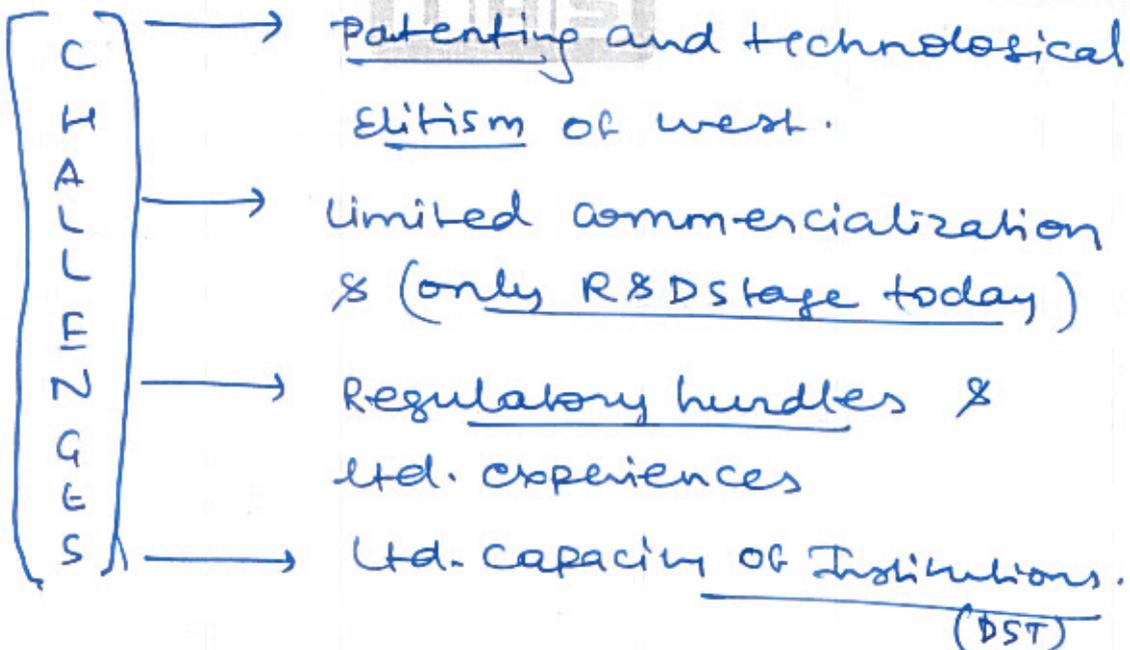
3.3 Easier drug delivery by attaching it with the probe.

④ Can significantly reduce Industrial & mining disasters by providing better

⑤ Space sector : Improved Audio-visual communication; boost to both upstream & downstream services

⑥ Semiconductor manuf. boost.

⑦ Nuclear Irradiation



Q-Dots must be domestically incentivized to boost Atmanirbhar & create a domestic Ecosystem of R&D and Growth.

17. भारत में जैव विविधता संरक्षण में आरक्षित क्षेत्रों (Protected areas) की भूमिका का मूल्यांकन कीजिए। भारत की जैव विविधता को संरक्षित करने में राष्ट्रीय उद्यान, वन्यजैव अभयारण्य और बायोस्फीयर रिजर्व (जैवमंडल निचय) कितने प्रभावी 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)

The historic WPA, 1972 set India upon a golden path of Biodiversity Conservation: both In-Situ & Ex-situ.

Role of Protected Areas in Biodiv. cons.

- ① Explicit Bans on Poaching, Hunting & Killing
(Ex: Leopard popn in India increasing but globally reducing)
- ② Providing a safer habitat allowing organism to prosper @ their ecological niche.
Ex: Asiatic Lion @ Gir
- ③ Genetic Diversity Preservation by cross habitat interaction
Ex: Tiger translocation @ Madhav N.P.

④ Preservation of Exotic species

Ex: Indian Laurel Tree (Telangana)

⑤ Providing Suitable climatic Conditions

and Favorable living conditions
to thrive.

Eg: Sambhar @ MP, Raj.

⑥ Community Engagement ;

Joint Forest management, etc.

eg: KBR corridor, Odisha

⑦ R&D Promotion @ Peripheral
areas (outside core areas)

⑧ TKDL : Empowering traditional
knowledge of local communities.

However, challenges remain :

① Hunting, poaching incidents

Eg: Kaziranga, Assam.

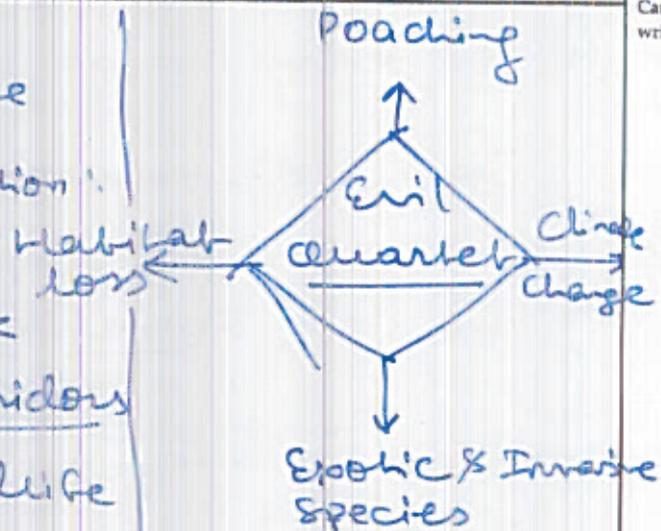
② man-Animal Conflicts :

Ex: Elephants @ Nilgiris of Kerala.

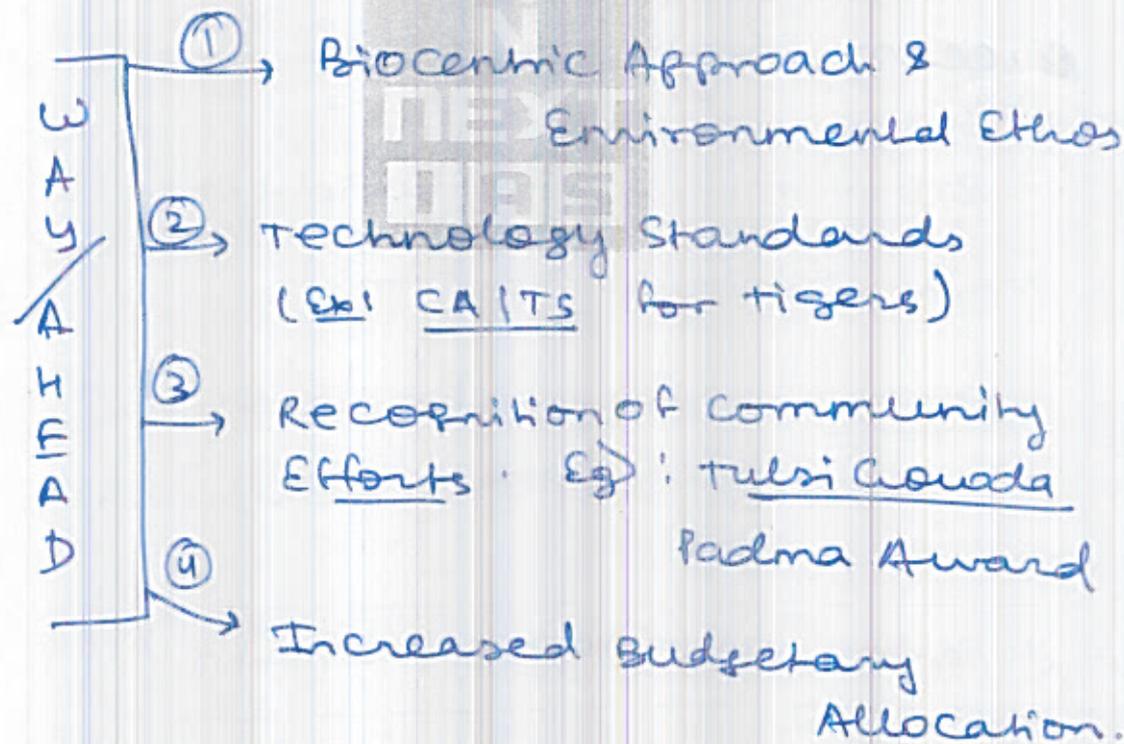
③ Climate Change

induced destruction:

④ Unfinished work upon Eco-corridors & death of wildlife during crossing.



⑤ Bureaucratic approach of IfoS; conflict with Gram Sabha.



National Parks like Kaziranga, etc.

are working on State of Art tech.

like Satellite Phones, etc. and this

raises the bar high for other conservation Authorities.

18. 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?

(15 अंक, 250 शब्द)

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 marks, 250 marks)

As per Lancet Report; over 18% of total deaths in India gets caused by hazardous air pollution levels (caused by ephemeral PM concentration).

Causes (High PM & Ozone Pollution)

- ① Traditional Biomass burning releases unburnt carbon, ground level ozone, etc.
- ② Poor prevalence of exhaust tech in vehicles (ex: Catalytic Converters)
- ③ Construction but without proper adherence to CPCB directives.
- ④ winters:
'Parsi' / Paddy waste burning due to multiple factors.

⑤ Energy Generation

↳ over 70% from Thermal units
(Energy)

↳ Coal oxidation, $\boxed{\text{SO}_2 + \text{NO}_x}$

↓
VOCs

Ozone + Photochemical Smog

⑥ Poor implementation of Norms for Industrial Emissions

(Eg): Poor prevalence of scrubbing,
Electrostatic Precipitation

Steps taken by govt & Analysis

① NCAP (National Clean Air Prog.)

a) ↳ 132 non attainment
cities wrt NAAQS

b) ↳ 40% Emission (PM)
reduction by 2026

② Promoting EVs (FAME scheme)

③ Ujjwala Yojana

Pending Issues

↳ Efforts have
failed to show
desired results.

↳ 12/15 cities
in WHO's world's
most polluted
cities.

↳ Laxity in
Implementation
& monitoring.

④ Thermal unit norms w.r.t SO₂, NO_x

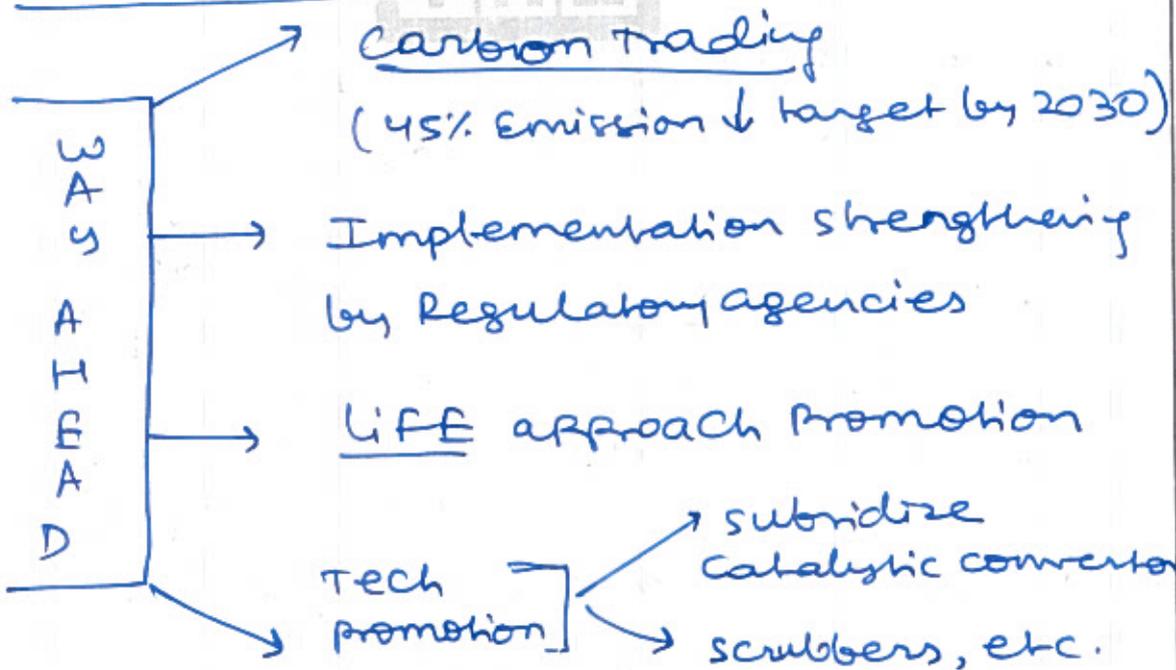
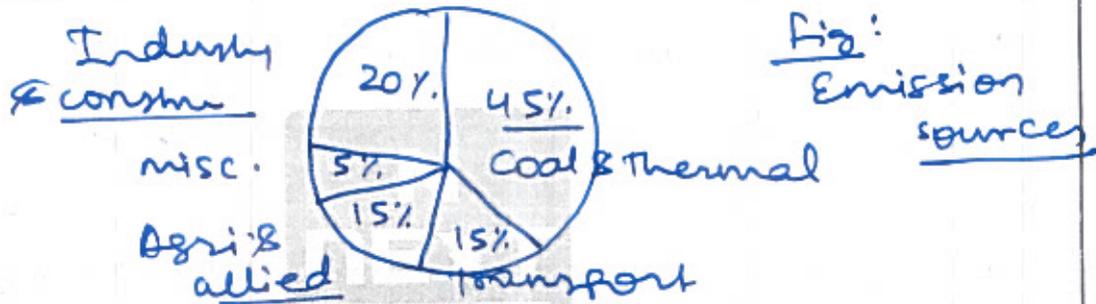
⑤ Fly Ash regulation

⑥ Green H₂ Promotion

⑦ safer waste disposal norms.

↳ Poor capacity of ULBs w.r.t waste mgmt

↳ lack of Integrated Planning.



SC has ruled that Clean Env't. is part of Right to life under Art. 21 which provides dignity & meaning of living.

19. अंतर्राष्ट्रीय नारकोटिक्स नियंत्रण बोर्ड (INCB) रिपोर्ट 2023 दक्षिण 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 सुझाइए। (15 अंक, 250 शब्द)
- 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 marks, 250 words)

During 2021-2023; over 3,000 cr+ worth of illegal drugs was seized at Mundra Port, Gujarat. This highlights the extreme backlog of Drug Menace in South Asia.

Rising Drug Menace in South Asia

- ① Rise of Taliban & drug racket
 - ② Fall of Democracy @ Myanmar.
 - ③ Covert support of China in supply of API (Active Pharma Ingredient)
 - ④ Pak's effort of bleeding India via 1000 cuts: South targeting.
 - ⑤ Poorly demarcated border with Bangladesh, Bhutan, etc.
 - ⑥ Drug Culture: Western Mimicry.
- 

Challenges Presented to India

- ① Economic
 - (i) Conversion of land away from Agri
 - (ii) Loss of Exchequer funds
 - (iii) FDI ↓ ; GDP ↓ as Black Economy Illicit drugs ↑
- ② Societal
 - (i) Drug Addiction in youth & wastage of D/Dividend.
 - (ii) Even children are getting exposed.
- ③ Political
 - (i) Drug money finances Insurgency & separatist movements.
 - (ii) Security threats from outside & within Borders.
- ④ Technological
 - (i) Use of Drones, E-commerce to supply Drugs cross borders.
 - (ii) Use of darknet to trade
- ⑤ Loss of Institutional accountability and Integrity of India.

Multi Pronged Approach

Supply side

① Legal

NDPS Act, 1987
provides a broad
legal framework

② Institutional

↳ NCB created
under NDPS, 1987
↳ collaborates with
various agencies.

③ Border Area Mgmt

CIBMS implemented
upon Shekatkar
Committee
report.

Demand side

① Demand Reduction

↳ Awareness
Campaigns @
school, colleges

② De-Addiction Camps

↳ Along with Post
Rehab monitoring.

Overall motto
of 'Nasha
Mukta Bharat
Abhiyan'

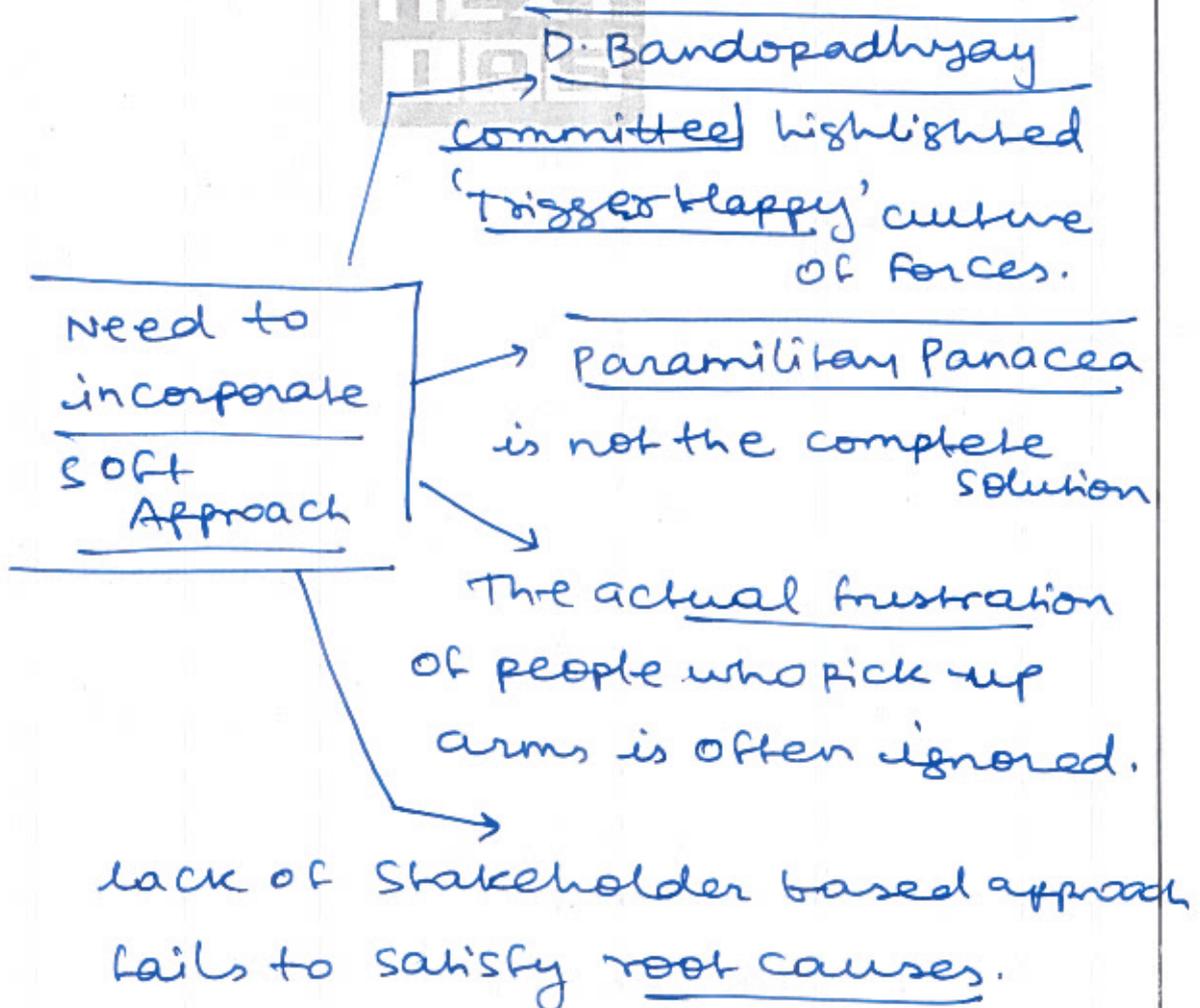
Drug-menace is categorically
threatening for a fragile nation
like India which constantly
faces numerous security threats.

Implementing multi-pronged approach
is need of hour.

20. 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)

As per recent MHA update; LWE violence ↓ed by 40%. and around 28% reduction in casualty in past 10 yrs & Red corridor shrunk to < 25 districts showing rapid progress in LWE eradication.



Root causes of LWE

Govt measures

① Governance deficit

- ↳ non implementation of FRA, 2006
- ↳ PESA, 1996

Social Audit Promotion

② Economic Backwardness

↳ Infra deficit

Physical social

- ↳ Roads, Telecom
- ↳ Health
- ↳ Edⁿ

Special package worth ₹10,000 cr. for Infra creation

③ Land Reforms failure

↳ ₹15,000 cr. allocated in 24-25 Budget to promote land Reforms by state

④ Socio-cultural

- ↳ caste based discrimination
- ↳ Tribal deprivation

PM - VISHWAKARMA

⑤ Industrial & mining disputes

Janajatiya Chawadives

5.1 ↳ Forced Eviction without Proper Rehab.

5.2 ↳ Non-implementation of LARR, 2013 to ensure 4x compensation

Complementing with Hard Measures

① Border contacts

- ↳ UBMS, etc. being implemented
- ↳ Cross border IT operations
with Bhutan,
Muzanma.

② Special Forces

- ↳ States like Andhra Pradesh
have raised Greyhound Spl.
forces for expert dealing.

③ Technological Boost

- ↳ Breaking communication contacts
- ↳ Curbing social media misuse
& propaganda

There have been increased instances of All-women cadres like Krantikari Mahila Sangathan which depict deep rooted anguish towards non-inclusive development. The [SAMADHAN] strategy of govt. needs to be comprehensively implemented.

NEXT IAS

Space for Rough Work

NEXT IAS

Space for Rough Work

NEXT IAS

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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.

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2. Write your registration number and other particulars, in the space provided on the cover of QCA Booklet.
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4. For rough notes or calculation, the last two blank pages of this booklet should be used. The rough notes should be crossed through afterwards.
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NEXT IAS

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- <ol style="list-style-type: none"> 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- <ol style="list-style-type: none"> 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 स्थान 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
<ol style="list-style-type: none"> 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 मैक्रो टिप्पणियों 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।

