

NEXT IAS

RECEIVED**25 AUG 2024**

anubhav 2024

(To be filled by candidate)

TEST CODE : ANV2403**Test No. : 03**Name of Candidate: RITIKA CHITLANGIA Mobile No. [REDACTED]Roll No. : AIN 24 GCRA 075 Start Time 9:00 End Time 11:57 amDate of Examination: 25/8/24 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
11.	15	
12.	15	
13.	15	
14.	15	
15.	15	
16.	15	
17.	15	
18.	15	
19.	15	
20.	15	
TOTAL MARKS - 150		

GRAND TOTAL -/ 250**EVAL CODE:** **EVAL DATE:****GENERAL INSTRUCTIONS**

- 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.
- Candidates must mention all relevant details like Name, Email, Roll No, Mobile, etc. in the space allocated.
- Candidate is expected to attempt all 20 questions within the given timeline.
- Answers must be written in the medium authorized at the time of admission.
- 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.
- Please write neatly. Avoid illegible writing.
- Do not write/mark irrelevant matters in the QCAB.

सामान्य निर्देश

- 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 इसे एक नई QCA पुस्तिका से बदल लें।
- अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा।
- अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 20 प्रश्नों के उत्तर-लेखन का प्रयास करें।
- प्रत्येक उत्तर, प्रवेश के समय चुनी गयी भाषा के माध्यम में ही लिखे जाने चाहिए।
- 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।
- कृपया साफ-सुथरा लिखें। अपठनीय लेखन से बचें।
- QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:**FOR OFFICE USE ONLY**

Student Concerns / Query

1

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



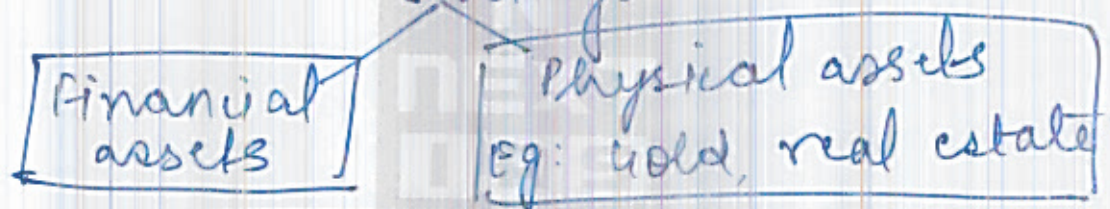
IMPROVEMENT SUGGESTIONS

1. घरेलू बचत भारतीय अर्थव्यवस्था की संवृद्धि में किस प्रकार योगदान देती है? क्या आपको लगता है कि घरेलू बचत दर में गिरावट भारतीय परिवारों में ऋणग्रस्तता और संकट में वृद्धि का संकेत देती है? (उत्तर 150 शब्दों में दीजिए) 10 अंक
- How do household savings contribute to the growth of the Indian economy? Do you think that the recent fall in household savings rate marks a rise in indebtedness and distress among Indian households?

(Answer in 150 words) 10 marks

Household savings comprises an important segment of the domestic sovereign debt, contributing nearly 40% of the debt profile.

Components of Household savings



Contributions to growth

- 1) Supplements to the government debt profile $\Rightarrow$ nearly 60%.
- 2) Provides the financial flows towards the real estate market $\Rightarrow$ 55% of household debt.
- 3) Reduces reliance on the foreign borrowings $\Rightarrow$ eases pressure on capital account.

- 4) increases productive capacity of economy $\Rightarrow$ stocks & bonds.
- 5) Responsible for healthy bank deposits rates. $\Rightarrow$ creation of capital assets.

Fall in Household Savings Rate

Nearly 40% of the households are indebted $\Rightarrow$ worrying sign:

- ① vulnerability to income shocks and inflation risks.
- ② Rise in bank NPA's.
- ③ Due to reduced Household rates, banks are facing the worst deposit crunch in 20 years.
- ④ lesser capital creation $\Rightarrow$ recessionary tendencies.

Thus, reforms by RBI to regulate household debt is needed, by increasing interest rates, high premiums and bank resolution mechanisms.

2. भारत के एफडीआई (FDI) क्षेत्र में उल्लेखनीय गिरावट देखी जा रही है। वे कौन से कारक हैं जो विदेशी निवेशकों के बीच भारत में निवेश करने के प्रति आशंका उत्पन्न कर रहे? सरकार द्वारा इस गिरावट की प्रवृत्ति को उलटने/रोकने के लिए कुछ सुधरात्मक उपाय सुझाइए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

India's FDI sector is seeing a significant downward trend. What factors are causing apprehensions among the foreign investors to invest in India? Suggest some corrective measures that must be taken by the Government to reverse the falling trend.

(Answer in 150 words) 10 marks

In 2022-23, nearly \$4 Bn of FDI came in, which registered a fall of nearly 43%, as compared to the previous year.

Factors causing apprehensions

- 1) skill mismatch $\Rightarrow$ only 5% of Indians have formal job training.
- 2) Fragmented supply chains $\Rightarrow$ adds (20-30%) extra cost from manufacturers to consumer.
- 3) Inconsistent policy frameworks $\Rightarrow$ ease of doing business rank 63 (World Bank).
- 4) vulnerability of Indian stock markets $\Rightarrow$ fall by 6.5% due to election results.
- 5) High taxation policies $\Rightarrow$ Angel tax etc.

Corrective measures

- 1) Export oriented growth $\Rightarrow$ labour intensive sectors like textiles, footwear etc.
- 2) consistent policy reforms to attract FDI. $\Rightarrow$ PLI. Make in India etc.
- 3) Regularised, simplified and single window clearance systems for FDI approvals.
- 4) currency stabilisation by RBI's foreign exchange management
- 5) Taxation rationalisation to attract FDI.
- 6) Infrastructure creation $\Rightarrow$ Shakti Mala, Pawan Mala etc. to reduce logistics cost from 18% to 11%.

Thus, schemes like National Infra Pipeline, increased automatic route FDI's are steps in right direction.

3. कृषि सब्सिडी भारत में फसल विविधता, फसल प्रतिरूप और कृषि संभारणीयता को किस प्रकार प्रभावित करती है?
(उत्तर 150 शब्दों में दीजिए) 10 अंक

How do farm subsidies impact crop diversity, cropping patterns and agricultural sustainability in India?
(Answer in 150 words) 10 marks

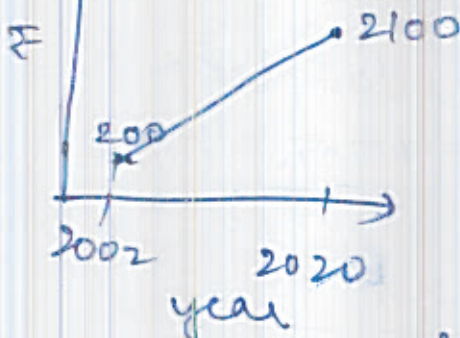
subsidies are indirect and direct incentives given to farmers on food, fuel and fertilisers, costing nearly 2-2.5% of GDP.

Impact of subsidies

(A) Crop Diversity

1) subsidies have led to rice-wheat predominance.

Eg: ↑ wheat subsidy ⇒ 2 major crop cycle.



- 2) Reduced the diversity in terms of millets, oilseeds, pulses etc.
3) Surplus of rice-wheat.

(B) Cropping Pattern - yearly spatial sequence of crops in a given year.

- 1) MSP and subsidies on fertiliser and fuel $\Rightarrow$ 11 million Ha of rice and wheat.
- 2) subsidised chemical inputs and irrigation extension $\Rightarrow$ water intensive crops even in dry areas.

Eg: canal command Area of Raj $\Rightarrow$ paddy.

(c) Agricultural sustainability

- 1) ground water depletion in Punjab (161%), Haryana (141%) $\Rightarrow$ fuel subsidy $\Rightarrow$ tube well revolution.
- 2) chemical inputs like fertilisers $\Rightarrow$ 137 mHA from 0.5 mHA b/w 1997 and 2020. due to 0.51% GDP on fertiliser subsidy.
- 3) reduced nutritional security.
- 4) salinisation and acidification in green revolution areas.

Thus, subsidies have increased productivity and farmer's income, but has costed a huge physical & fiscal strain.

4. "परिशुद्ध कृषि" के सिद्धांतों पर चर्चा करते हुए, परिशुद्ध कृषि में "इंटरनेट ऑफ थिंग्स" के उपयोग को विस्तार से समझाइये।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

While discussing the principles of "precision agriculture", elaborate on the uses of "Internet of Things" in precision agriculture.
(Answer in 150 words) 10 marks

Precision Agriculture refers to the targeted, controlled and standardised application of inputs in ensuring optimum resource utilisation.

Principles of Precision Agriculture

- 1) Targeted application.
Eg: Drip irrigation applies droplets of water along the root zone of plants.
- 2) Technological solutions $\Rightarrow$ dependent on AI, ML, Robotics, sensors, etc for resource use.
Eg: FASAI $\Rightarrow$ sensor for yield estimation.
- 3) Optimised resource efficiency
Eg: Bubble irrigation reduces water wastage by 90% (FAO).
- 4) Improved uptake by plants $\Rightarrow$

precise fertiliser application increase
urea uptake by 30%.

⇒ Reduced cost of inputs.

Internet of Things' in Agriculture

1) weather monitoring and forecasting

Eg: Krishi Decision support system
↳ IoT.

2) Integrated farming ⇒ seamless
resource comm. between livestock
and crops.

Eg: Stellaps solution for livestock
management.

3) Farm updates and information
dissemination.

Eg: Kisan suvidha IoT.

4) Water resource monitoring ⇒
IoT measurement of groundwater
stocks.

5) Establishing communication
linkages.

thus, IoT, despite of high costs,
low agri tech penetration, still
remains necessary.

5. लघु मॉड्यूलर नाभिकीय रिएक्टर (SMR) क्या हैं? लघु मॉड्यूलर नाभिकीय रिएक्टरों को पारंपरिक नाभिकीय ऊर्जा संयंत्रों का सुरक्षित विकल्प क्यों माना जाता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

What are Small Modular Nuclear Reactors (SMRs)? Why are SMRs considered a safer alternative to conventional Nuclear Power Plants? (Answer in 150 words) 10 marks

India envisions to reach 63000 MW of nuclear energy production by 2032, for which small modular reactors are key.

Small Modular Reactors

These are nuclear fission reactors, of capacity less than the conventional reactors, which makes them safer, cheaper and more efficient than conventional reactors.

Features of SMR

- ① less land requirement $\Rightarrow$ easy land procurement measures.
- ② Reduced consumption of nuclear fuel like uranium $\Rightarrow$ indigenous and self-sufficient production, that does not invoke IAEA's limitations.

- ③ safety is better because of smaller core, less heat generation and controllable use of nuclear material.
- ④ Optimised costs of establishing SMR as they can be built with nearly 1/3rd cost of conventional reactors.

safety as compared to conventional reactor

SMR	conventional reactor
① <u>less</u> consumption of <u>nuclear fuel</u> .	① <u>more</u> consumption of <u>nuclear fuel</u> .
② <u>shut down</u> quickly $\Rightarrow$ <u>calm down</u> <u>cooling</u> of <u>reactor</u> in case of <u>leakages</u> .	② Takes time to shut down $\Rightarrow$ <u>leakages</u> of <u>nuclear radiation</u> .

Thus, SMR's can be the pathway through which India achieves its target of 10 GW of nuclear energy by 2030.

6. विश्व भर में जूनोटिक रोगों की घटनाओं में अकस्मात वृद्धि में किन कारकों का योगदान है? जूनोटिक रोगजनकों के कारण होने वाली महामारियों के हालिया उदाहरणों पर प्रकाश डालिए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

What factors have contributed to the sudden rise in the incidences of zoonotic diseases across the globe? Highlight the recent examples of pandemics caused by zoonotic pathogens.

(Answer in 150 words) 10 marks

Zoonotic pathogens are the cause for infectious epidemics, the rate of which has increased manifold. (WHO)

Factors

- 1) Increased population density in urban areas $\Rightarrow$ 17% lives in slums $\Rightarrow$ higher transmission rates and increased immunodeficiency.
- 2) warmer and wetter climates $\Rightarrow$ increase the conductivity for micro-organism growth.
- 3) Melting of ice-sheets $\Rightarrow$ release of zombie virus near the Baikal lake, Russia.
- 4) Increased human-wildlife contact due to land encroachments Eg: Africa

3) Antibiotic Resistance $\Rightarrow$ uncontrolled use of antibiotics $\Rightarrow$ compromised immunity.

Pandemics

① Monkey Pox Virus $\Rightarrow$ originated in Africa, travelled across the world, infecting nearly 10 million people.

② COVID-19 $\Rightarrow$ largest pandemic in the century $\Rightarrow$ nearly 20 million deaths worldwide.

③ Lumpy Pox Virus $\Rightarrow$ livestock epidemic which has infected millions of cattle.

Solutions

One Health Approach
[
- Rely on vaccines
- climate conservation
- reduced human-wildlife conflict.

Thus, zoonotic diseases need to be treated as a new threat to humanity.

7. भारत में बड़े सामाजिक-धार्मिक समारोहों और समागमों में भीड़ नियंत्रण की प्रमुख चुनौतियों पर चर्चा कीजिए। एनडीएमए के "सामूहिक समारोहों के आयोजन स्थलों के लिए भीड़ प्रबंधन योजना की तैयारी हेतु सुझावात्मक रूपरेखा" के आलोक में, भगदड़ की घटनाओं को रोकने के उपाय सुझाइए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the major challenges of crowd control in large socio-religious gatherings and congregations in India. In the light of NDMA's "Suggestive Framework for Preparation of Crowd Management Plan for Events Venues of Mass Gathering", suggest measures to prevent stampede incidents. (Answer in 150 words) 10 marks

India has faced numerous crowd control failures, the most recent one in hathras, which led to death of nearly 167 people.

Challenges in crowd control

- 1) Lack of scientific exit plans and route demarcations in socio-religious gatherings.
- 2) Flouting of rules and inoptimum carrying capacity of structures.
Eg: Licence of 80 people $\Rightarrow$ crowd lakh in hathras.
- 3) Lack of fire safety norms and availability of fire extinguishers.
Eg: Uphaar cinema, 1997.
- 4) Emotionally charged environment $\Rightarrow$ crowd overwhelming.
Eg: Kumbh Mela 1954.

- 5) Lack of capacity building of the organisers, as well as masses in crowd control situations.
- 6) Weak structural integrity of tents.

Measures

- ① Scientific assessment of the structural integrity of tents.
 - ② Carrying capacity should not be exceeded.
 - ③ Ambulances, medical equipments, Arongya mai kei urbis onsite for disaster management.
 - ④ Police force presence, barricading etc. to control situations.
 - ⑤ Car parking should not be near the gathering.
 - ⑥ Fire fighting equipment and personnel on-site.
 - ⑦ Clear demarcations of exit plans at strategic points.
- Thus, to prevent such failures, these measures need to be adopted.

8. 'संयुक्त राष्ट्र हाई सी ट्रीटी 2015 के पेरिस समझौते की महत्ता और सार्थकता के बराबर है।' इसके संदर्भ में, समुद्री जैव विविधता के संरक्षण और निष्पक्ष व न्यायसंगत संसाधन-साझाकरण के लिए संयुक्त राष्ट्र हाई सी ट्रीटी के महत्त्व पर चर्चा कीजिए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

'The UN High Seas Treaty is comparable to the 2015 Paris Agreement's importance and significance'. In the context of this, discuss the importance of the UN High Seas Treaty for the conservation of marine biodiversity and fair and equitable resource-sharing.

(Answer in 150 words) 10 marks

The Biodiversity Beyond Natural Jurisdiction Treaty of UNCLOS is the parallel of the Paris Agreement, for conservation of marine ecosystems.

Importance of UN High Seas Treaty

(4) Marine Biodiversity

- ① Demarcation of marine protected areas in zones of 'cool-spots' and island territories.
- ② Coral Reef protection.
- ③ Strict checks on illegal, unreported and unregulated fishing.
- ④ Regulation of coastal shipping and marine pollution through waste disposal.

(B) Fair and Equitable sharing of resources

- 1) Just benefit sharing with the indigenous island communities, especially in the Pacific Island states.
- 2) Rights of sustainable use of resources for economic development.

Limitations of Treaty

- ① USA has not ratified the treaty.
- ② India has signed but not ratified the BBNJ Treaty.
- ③ Limited enforcement mechanisms.

Thus, the BBNJ Treaty seeks to fulfill the Pacific SDG - 14 ⇒ life below water, in complementarity with SDG - 13 ⇒ climate change.

9. जनरेटिव एआई (Generative AI) के अवैध प्रयोग से उत्पन्न नए साइबर खतरे क्या हैं? हाल ही में हस्ताक्षरित बैलेचले घोषणा के आलोक में, भारत एआई द्वारा उत्पन्न खतरों के विरुद्ध अपनी साइबर सुरक्षा ढाँचा को किस प्रकार मजबूत कर सकता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

What are the new cyber threats posed by the illicit use of Generative AI? In the light of recently signed Bletchley Declaration, how can India beef up its cybersecurity structure against threats raised by AI? (Answer in 150 words) 10 marks

Generative AI refers to the adversarial networks, capable of creating images, videos, pictures, sound tracks etc. with the help of AI.

Cyber Threats of GAI

- ① Deepfakes ⇒ revenge porn, manifesto doctrations etc.
- ② Cyber kidnapping ⇒ digital voice speeches turned into kidnapping ransom demands.
- ③ IPR issues ⇒ GAI is able to generate content, but it leads to IPR violations.
- ④ Threat calls ⇒ voice dubbed calls for ransom, fees etc ⇒ financial frauds increased by 75% from 2015 (NCRB)

Blitchley Declaration

signed by countries like Britain,
USA, EU, India, China, Japan etc.
for the regulation and global
governance of cyber threats from
AI.

Cyber security measures by India

- ① Legal demarcation of cyber
threats due to QAI $\Rightarrow$ At present,
only IT Act partially addresses
the new cyber threats.
- ② cyber security Task force $\Rightarrow$
comprising ministers from
Melty, MinB, Army, legal experts etc.
- ③ Technological upgradation of
existing infrastructure to
demarcate and distinguish
deepfakes.

Thus, addition of cyber security
to the concurrent list of
the schedule, will help in
enforcement of India's fight against
cyber threats.

10. पड़ोसी देशों में बढ़ते राजनीतिक संकट के कारण भारत की सीमा सुरक्षा गंभीर दबाव में है। विस्तार से समझाइये।
(उत्तर 150 शब्दों में दीजिए) 10 अंक
India's border security is under severe pressure due to the rising political crisis in neighbouring countries. Elaborate. (Answer in 150 words) 10 marks

India's neighbouring countries are undergoing an era of political and economic instability, with severe strain on border security of India.



Strain on Border Security

① Pakistan ⇒ frequent political regime changes with economic closeness to china, proxy terrorism etc.

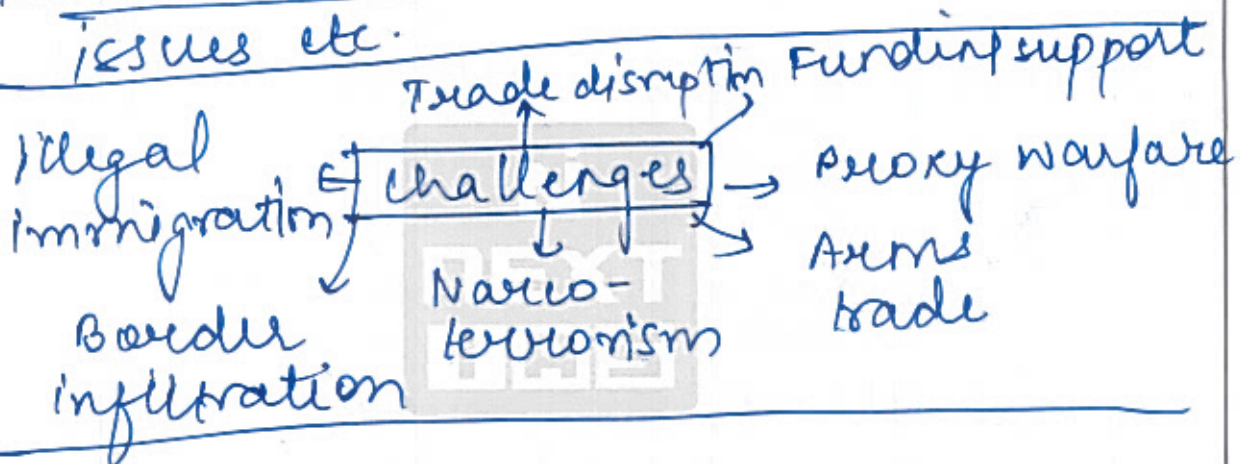
Eg: Sopore Attack 2024.

② Myanmar ⇒ Junta Govt ⇒ illegal migration, narco-terrorism, insurgency in North-east etc.

Eg: Rohingyas in Delhi after opn Insaniyat.

③ Bangladesh $\Rightarrow$ coup by army
and student protests $\Rightarrow$ fall of
govt. $\Rightarrow$ illegal migration,
persecution of hindus, border
disputes.

④ Sri Lanka $\Rightarrow$ economic fragility
has led to outward migration,
Katchathennu island $\Rightarrow$ fishermen
issues etc.



Measures

- ① creation of border infrastructure
like gates, bridges etc. to reduce
infiltration.
- ② use of AI drones etc. to detect
drug smuggling, arms trade etc.
- ③ creates expenditure on skilling
of border security personnel
to deal with multidimensional
challenges.

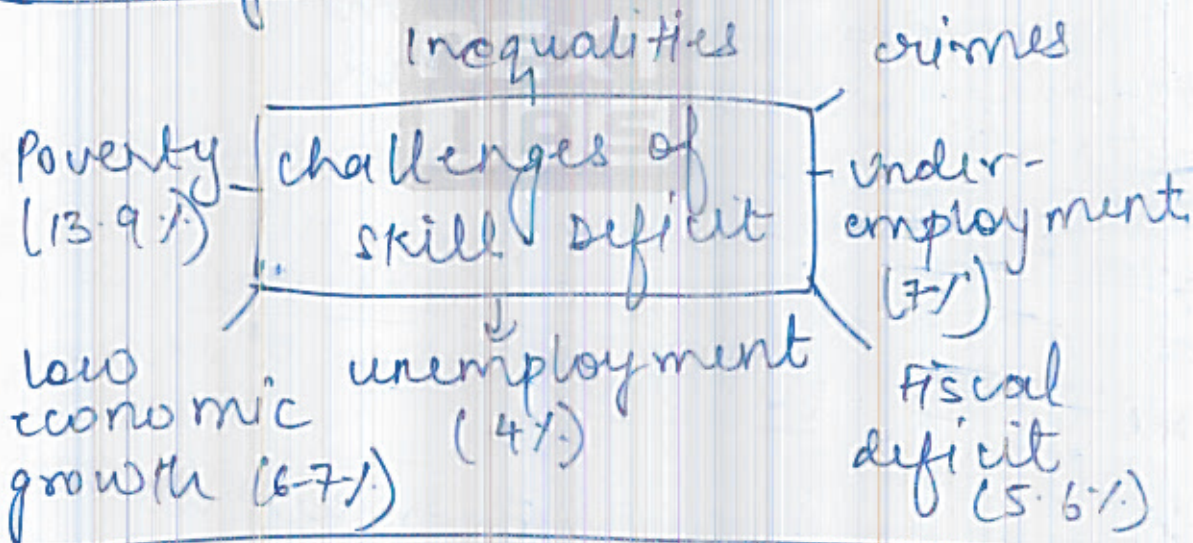
Thus, border security needs to be
india's top priority to ensure safety
of country.

11. "कौशल के बिना व्यक्ति संपत्ति नहीं बल्कि राष्ट्र के विकास पर एक दायित्व है"। प्रासंगिक कौशलों का समावेश भारत के जनसांख्यिकीय लाभों में किस प्रकार योगदान देता है? युवाओं में कौशल अंतर को कम करने के लिए सरकार द्वारा हाल ही में कौन सी पहल की गई है? (उत्तर 250 शब्दों में दीजिए) 15 अंक

"A person without skill is not an asset but a liability on the nation's growth". How infusion of relevant skills contribute to the demographic dividend of India? What recent initiatives have been undertaken by the Government to reduce the skill gap among young Indians?

(Answer in 250 words) 15 marks

India's demographic dividend is about to last 37 years, with nearly 54% of population under 30 years, but only 5% of the population having formal skill training.



Relevance of Skills

- 1) Job training $\Rightarrow$ makes the young popⁿ equipped for the job market.
- 2) Flexibility and mobility within market sectors $\Rightarrow$

skills enable one to switch jobs as per market demand.

- 3) Reducing unemployment and underemployment.
- 4) Tackling the phenomena of 'employed poverty' $\Rightarrow$ graduate level engineers even less than ₹10000/month.
- 5) Market diversification. Eg:
Female employment in FPI.
- 6) Capitalisation on 4th Industrial Revolution $\Rightarrow$ nearly 40% of jobs are under threat due to AI.

Initiatives for Skill Development

- 1) PM - Kaushal Vikas Yojana-3.0
↳ Training in vocational skills.
like digital tech, coding,
financial markets etc.
- 2) Recognition of prior learning

certificates under NIPON Shakti scheme.

3) National skill development mission - aims to train 400 million youth by 2030.

4) PM - Vishwakarma Yojana $\Rightarrow$ training kits to tradition artisans to upskill themselves, with ₹500 daily stipend.

5) Establishment of vocational courses on robotics, AI etc.

Need for reforms

1) skill mapping and census.

2) increased mobility between higher education and skill training.

3) increasing employability.
 $\Rightarrow$ only 45%. (India skills report).

Thus, for India to become the skill capital of the world, skill training remains imperative.

12.

भारतीय विमानन क्षेत्र में देश में परिवहन का प्राथमिक साधन बनने की अपार संभावनाएँ हैं। भारत के विमानन क्षेत्र में संवृद्धि को बढ़ावा देने वाले कारक क्या हैं? इस क्षेत्र के समक्ष आने वाली चुनौतियों पर प्रकाश डालिए और इसमें सुधार के उपाय सुझाइए।
(उत्तर 250 शब्दों में दीजिए) 15 अंक

The Indian aviation sector has immense potential to become the primary mode of transportation in the country. What are the factors propelling growth in India's aviation sector? Highlight the challenges that the sector faces and suggest measures for improvement.

(Answer in 250 words) 15 marks

The Indian aviation sector comprises nearly 30% of the transportation profile, with a CAGR of 11%.

Factors for growth of Aviation Sector

- 1) increased infrastructure penetration $\Rightarrow$ 200 small airports and airstrips.
- 2) increased per-capita income $\Rightarrow$ increased by 300% from 1991.
- 3) market competitiveness $\Rightarrow$ affordability of air transport.
- 4) Awareness and government incentives $\Rightarrow$ Kirishi Rail & Uddan scheme; UDAN $\Rightarrow$ regional airports; Viability

Cap funding etc.

5) increased connectivity by the aviation sector $\Rightarrow$ 100+ domestic routes with increased flight frequency.

6) Globalisation $\Rightarrow$ 279% increase in flights to Latin America, central Asia (previously under-served areas).

Challenges

1) Poor operation and maintainance of airport infrastructure $\Rightarrow$ only 20% of the airports are regularly updated & maintained $\Rightarrow$ Fall of roof at Delhi's 141 airport.

2) High gestation period $\Rightarrow$ 35 years + $\Rightarrow$ reduces the private enthusiasm to serve remote areas.

- 3) safety concerns.
- 4) lack of PPP in aviation sector.
- 5) low penetration of aviation sector in geographically remote terrains $\Rightarrow$ North-East.

Measures

- 1) increased PPP collaborations for airport construction, maintenance, risk sharing and operations.
 - 2) Increased safety of aviation sector.
 - 3) Route diversification to increase profitability of operations.
 - 4) DGCI should ensure fair market practices to avoid monopolisation in the aviation sector.
 - 5) FDI approvals should be automatic and single window clearances.
- Thus, schemes like UDAN are steps in right direction.

13. किसान उत्पादक संगठन (एफ.पी.ओ.) कृषि-नवाचार के इंजन हैं। इस संदर्भ में, कृषि में विखंडन और आधुनिकीकरण के अभाव की समस्या के समाधान में एफ.पी.ओ. की भूमिका की चर्चा कीजिए। कृषि में एफ.पी.ओ. की भागीदारी को बढ़ावा देने के लिए सरकार द्वारा की गई पहलों पर प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक
- Farmer Producers' Organizations (FPOs) are engines of agri-innovation. In this context, discuss the role of FPOs in addressing the issue of fragmentation and lack of modernization in agriculture. Highlight the initiatives the Government took to promote the participation of FPOs in agriculture. (Answer in 250 words) 15 marks

Farmer producer Organisations are collective cooperatives, wherein the farm producers collate their produce and act as a single consumer and purchaser entity.

Role of FPO's in fragmentation and modernisation of Agriculture.

- 1) simplified and rationalised supply chains $\Rightarrow$ As per FAO, fragmented supply chains cause 20-30% increase in farmer's cost.
- 2) Greater autonomy with the FPO's to avoid market exploitation.
- 3) Reduction of farm leakages and better price discovery mechanisms $\Rightarrow$ APMC mandis

lead to poor price discovery at present.

- 4) Increased agri tech penetration within FPO's $\Rightarrow$ greater diffusion of information and adoption.
- 5) Extension of farm services and market information $\Rightarrow$ individual farmers access only 11% of agri-marketing.

Challenges of FPO's

- 1) Poor awareness and education among illiterate farmers about benefits of FPO's.
- 2) Lackadaisical government effort to organise and strengthen FPO's.
- 3) Inner conflicts among FPO's $\Rightarrow$ issues of transparency and accountability.
- 4) Lack of regular elections and non-consensus based decision

making within FPO's $\Rightarrow$ caste and gender dynamics of FPO's.

Government Initiatives

- 1) Multistate Cooperative Societies Act, 2020 $\Rightarrow$ to encourage the cooperativization of FPO's.
- 2) Matsya Kisan Sahkari Samiti $\Rightarrow$ FPO's in coastal fishing and aquaculture.
- 3) Beej Sahkari Samiti $\Rightarrow$ seed villages, and improvement in seed replacement rate.

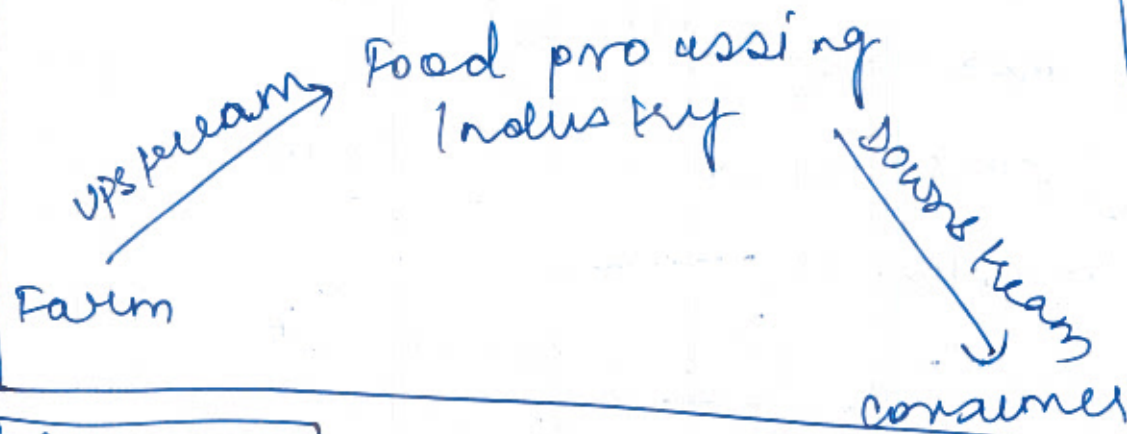
Thus, FPO's have the potential to increase productivity, production and farmer's income.

14. भारतीय अर्थव्यवस्था के सबसे मजबूत विकास इंजनों में से एक होने के बावजूद, कुछ अपस्ट्रीम और डाउनस्ट्रीम मुद्दे हैं जो भारत में खाद्य प्रसंस्करण उद्योगों के विकास को प्रभावित कर रहे हैं। चर्चा कीजिए। भारत में खाद्य प्रसंस्करण उद्योगों के समग्र विकास को मजबूत करने के उपाय सुझाइए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

Despite being one of the strongest growth engines of the Indian economy, there are certain upstream and downstream issues ailing the growth of food processing industries in India. Discuss. Suggest measures to strengthen the overall growth of food processing industries in India. (Answer in 250 words) 15 marks

Food processing industries is one of the brightest spots of Indian agriculture - Industry interface, with 2% of GDP, 20 lakh employed and 25% of export share.

Challenges in food Processing sector



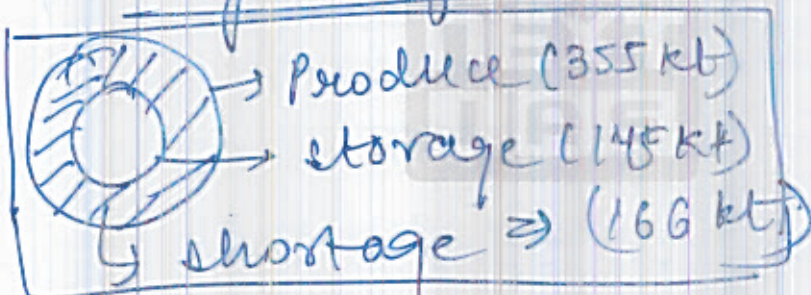
Upstream $\Rightarrow$ Farm to Industry...

- ① small size of landholdings $\Rightarrow$ nearly 70% of the holdings are less than 1Ha in size.

② Mono cropping $\Rightarrow$ 11 mHA under rice-wheat $\Rightarrow$ low supply of high value crops like fruits, vegetables etc.

③ Inefficient procurement mechanisms $\Rightarrow$ 11% of farmers have no access to market informations (FAO).

④ Inadequate cold chain and storage infrastructure



⑤ Downstream $\Rightarrow$ From Industry to consumers.

① Poor logistics infrastructure $\Rightarrow$ costs 15% of GDP (world avg - 8%).

② Poor road and railway connections $\Rightarrow$ nearly 45% of rural roads are not paved.

- ③ Packaging losses $\Rightarrow$ 40% due to poor quality.
- ④ low marketability in urban areas $\Rightarrow$ only IFFCO and KRIBHCO etc.
- ⑤ less value addition due to limited diversification and technological upgradation.
- ⑥ Informalisation of FPI $\Rightarrow$ 80%.

Measures -

- Technology upgradation
- unified farm gate procurement
- skill building of FPIs
- cheap credit availability to FPIs
- Rural industrialisation.
- Infrastructure creation.

Thus, schemes like PM-Kisan Sampada Yojana, FPI under PLI, PM-Formalisation of micro-food processing are correct.

15. कृषि विज्ञान व सांख्यिकी के क्षेत्र में क्रमशः डॉ. एम.एस. स्वामीनाथन और डॉ. सी.आर. राव के योगदान से भारत को क्या लाभ हुआ? (उत्तर 250 शब्दों में दीजिए) 15 अंक

How was India benefitted from the contributions of Dr M.S. Swaminathan and Dr C.R. Rao in the fields of agricultural science and statistics respectively?

(Answer in 250 words) 15 marks

India has been blessed with renowned scientists and award-winning novels, that have elevated the farmer's and policy's developments.

Contributions of Dr. M.S. Swaminathan

(A) Scientific

1) Gene development ⇒ salt tolerant mangroves
2) Rice development ⇒ short stature, fertilizer responsive, HYV seeds
i.e. Pusa Basmati.

3) Growth of fertilizer efficiency and water use efficiency.

(B) Ecological Economics

1) Energy Green Revolution - increase in production in perpetuity ⇒

hallmark for nature based farming like conservation agriculture, zero-tillage farming etc.

2) Relied on 4C's of farming i.e. conservation, cultivation, commercialisation and consumption.

6) Policy Inputs

1) National commission on Farmers
↳ recommended legalisation of MSP, with C2 + 50% formula.

2) Establishment of ICRIER and ICRA.

3) Legalisation of Plant Protection and Farmer's Rights Act, 2001.

4) Disaster management - drought code, flood code etc.

Contributions of C.V. Rao in statistics

1) Establishment of the National sample survey Organisation and Indian Statistical Institute, Kolkata.

2) Devised the methodology for census data collection, post-independence.

3) Gave the methods of calculation for GDP estimates.

4) Helped in collection and refinement of data used by earliest while planning commission.

Thus, the Bharat Ratna winning scientists like swaminathan & Kao have changed India's developmental landscape.

How is Artificial Intelligence (AI) challenging the overall intellectual property paradigm? How can AI be balanced with intellectual property to foster innovation and incentivize creations and inventions? (Answer in 250 words) 15 marks

Artificial Intelligence is one of the great gifts of the 21st century, but at the same time, there have been numerous IPR challenges due to AI.

AI and IPR challenges

① Fragmentation of content
manufacturer and AI designer.

eg: Poet → Tech company
 ↓
 poem → AI ⇒ who will get IPR?

② Opaque functioning of AI algorithms $\Rightarrow$ No accountability for APR violations.

③ Generative AI's songs, stories,
content etc. raises question on
the originality of intellectual
piece.

④ IPR violations due to algorithm leakages, code duplications and corporate espionage.

⑤ Technology v/s human IPR issues.

Balancing of AI and IPR

① Clear respect for IPR holders for generative AI content.

② Legal strengthening of mechanisms to handle complex nature of AI v/s human IPR issues.

③ Global declarations like Osaka Track, GPAI, Blutheley declaration to establish consensus between AI manufacturers and content generators.

④ Strengthening of algorithm security to ensure minimal leakages.

Thus, AI and IPR need to go hand in hand, to ensure sanctity of the IPR regime, as well as innovation and incentivisation of AI industry.

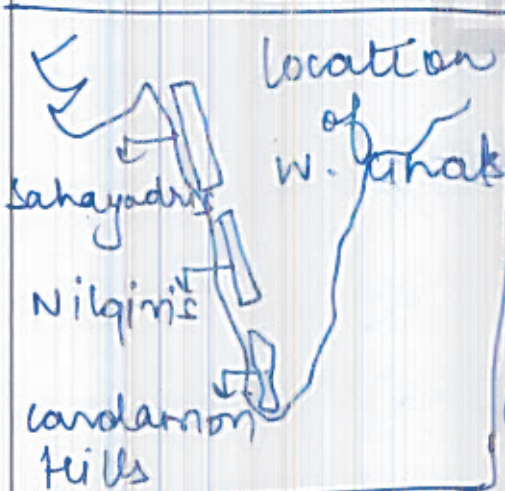


17. भारत की जैव विविधता को परिरक्षित और संरक्षित रखने में "पश्चिमी घाट" के महत्व पर प्रकाश डालते हुए, इस नाजुक और परिस्थितिक रूप से संवेदनशील क्षेत्र के सामने आने वाले खतरों पर चर्चा कीजिए। पश्चिमी घाट परिस्थितिकी तंत्र की सुरक्षा के लिए भारत सरकार द्वारा किए गए उपायों को विस्तार से समझाइये। (उत्तर 250 शब्दों में दीजिए) 15 अंक
- Highlighting the significance of "Western Ghats" in preserving and conserving the biodiversity of India, discuss the threats faced by this fragile and ecologically sensitive Region. Elaborate on the measures taken by the Government of India to protect the Western Ghats ecosystem. (Answer in 250 words) 15 marks

Western Ghats covers 6 states of India, encompassing nearly 3000 Km of coastline, hosting 37% of endemic diversity, and sequestering 10% of the CO₂ emissions of India.

Significance of Western Ghats

- ① Western Ghats forms India's 1/4 biodiversity hotspots.



⇒ high degree of biodiversity as well as endemism.

- ② Western Ghats host numerous Biosphere reserves and protected areas.

Eg: Silent Valley, Nilgiri B.R., Chinniputhur sanctuary, Ernakulum shola forests etc.

- ③ Prime area for speciation ⇒

discovery of new species of
dragon fly, fishes etc.

④ High diversity of endangered
species → eg: Nilgiri Tiger.

Threats faced by Western Ghats

- 1) Mining and deforestation ⇒
nearly 45% of the tropical rainforests
are under threat from
illegal logging.
- 2) Water and air pollution ⇒
increasing concentration of
PM_{2.5} and PM₁₀, CO₂, CO etc.
- 3) Invasive alien species due to
changing climates ⇒ eg:
Lantana camara in Nilambur
Sanctuary.
- 4) Droughts ⇒ nearly 60% of
Western Ghats experience
water scarcity during summer
months.

5) Increasing human wildlife conflict.
Eg: wild boar in Kerala.

Measures

1) constitution of committees like:

→ Wadgil Panel

→ Kasturirangal Panel.

2) Demarcation of environmentally sensitive zones, under EPA, 1986.

3) State level laws to prohibit mining and deforestation.

4) Establishment of protected areas like wildlife sanctuaries and national parks.

Thus, the need is to implement the recommendations of Wadgil Panel, joint forest management and pristine protection of natural environment.

18. जलवायु परिवर्तन पर संयुक्त राष्ट्र फ्रेमवर्क कन्वेंशन (UNFCCC) के पक्षकारों के सम्मेलन (COP) के 28वें सत्र के प्रमुख निष्कर्षों का वर्णन कीजिए। COP-28 के दौरान भारत द्वारा शुरू की गई ग्रीन क्रेडिट पहल की क्या विशेषताएँ हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

Describe the major outcomes of the 28th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the features of the Green Credit Initiative launched by India on the sidelines of COP-28?

(Answer in 250 words) 15 marks

The UNFCCC conference of Parties 28th session was held in the UAE, which led to the Dubai Declaration, for stopping temperature rise by 1.5°C.

Outcomes of COP 28

- 1) operationalisation of the loss and damage Fund, which was established in the Warsaw COP.
- 2) Pledging by the global north → \$100 Bn by 2030 for the climate change mitigation and adaptation of the poor and developing countries.
- 3) Pledge to increase the nuclear energy by 3x by 2030 →

Atoms 4 Energy

- 4) Dubai document on sustainable Agriculture.
- 5) signing of the National Cities River Alliance between NGBRA and Mississippi River Development.
- 6) Lead IT 2.0 $\Rightarrow$ between India and Sweden, joined by Japan and UAE.
- 7) Decarbonisation charter for oil and gas by 2030 $\Rightarrow$ signed by corporates, CSO's etc.
- 8) consensus on 'Phasing out' of fossil fuels by 2070.

Features of the Green Credit Initiative

- 1) launched by India in cop-28, to accelerate and streamline channels of credit for

environment conservation.

2) Green credits will be available for 8 activities:

- Clean energy
- sustainable agriculture
- waste disposal schemes
- mangrove restoration
- green infrastructure
- conservation of endangered species
- water and air pollution management.

3) Green Credit Initiative will be managed by National Institute for Forestry Research.

4) It is a voluntary scheme.

Thus, India's constant efforts to meet its Panchamrit goals has earned it the 7th Rank in Environment Performance Index.

19. शेल कंपनियों ने भारत में धन-शोधन (मनी लॉन्ड्रिंग) के खतरे में किस तरह योगदान दिया है? क्या धन-शोधन रोकथाम अधिनियम, 2005 में हाल ही में किए गए संशोधनों से ऐसी शेल कंपनियों के साथ ग्राहकों की लेन-देन संबंधी प्रकृति की समस्या का समाधान करने में सहायता मिलेगी? (उत्तर 250 शब्दों में दीजिए) 15 अंक

How shell companies has contributed to the menace of money laundering in India? Do you think recent amendments to the Prevention of Money Laundering Act, 2005 will help address the problem of the transactional nature of clients with such shell companies?

(Answer in 250 words) 15 marks

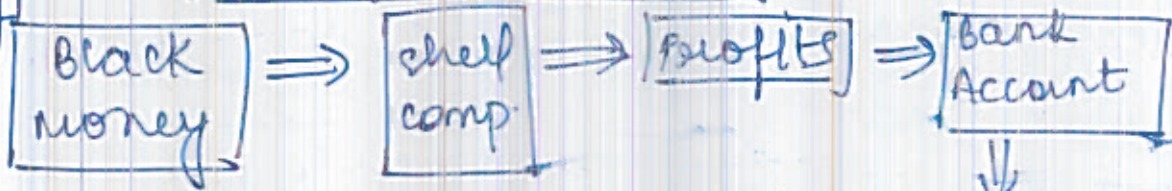
Money laundering costs nearly 5% of the Indian GDP, and creation of parallel black economies, with weak economic stability.

Role of shell companies in money laundering

Shell companies are 'on-paper', superficial companies, with fake profit and accountancy books, zero production or employment.

Money laundering

[Eq]



① The black illegal money is seemingly invested in a shell company.

- ② These companies present superficial on paper profits, that are substantiated through bills, receipts etc.
- ③ As the profits of shell companies are on-paper legal, the money invested in shell company is transferred to bank account, as white money.
- ④ Shell companies even claim tax concessions, holidays etc. which leads to further loss to public exchequer.

Amendments to PMLA

- ① PMLA 2020 strengthens the provisions against transactional nature of shell companies by:
- a) recording the physical production of goods & services to ensure actual production.
 - b) investigation of global shell companies, misutilising OTAA by establishing banking linkages.

c) Use of stringent bail conditions under PMLA to ensure legal penalisation of shell company holders.

Moreover,

d) Recently, the government has strengthened round-tripping and DTAA provisions to reduce global re-routing of black money through shell companies.

Eg: Primary Purpose Test.

However, certain challenges remain like:

- ① low conviction rates under PMLA.
 - ② misutilisation of PMLA to target opposition leaders.
 - ③ Lack of independent investigation mechanisms for shell companies.
- Thus, the PMLA needs to be strengthened further, along with capacity building of police personnel to reduce the menace.

20. चर्चा कीजिए कि अपराध-उग्रवाद गठजोड़ ने पूर्वोत्तर भारत में जातीय संघर्षों और उग्रवाद की वृद्धि में किस प्रकार योगदान दिया है। इस चुनौती से निपटने के लिए कौन से संस्थागत उपाय किए जा सकते हैं?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

Discuss how the crime-insurgency nexus has contributed to the rise in ethnic conflicts and insurgencies in North-East India. What institutional measures can be undertaken to address this challenge? (Answer in 250 words) 15 marks

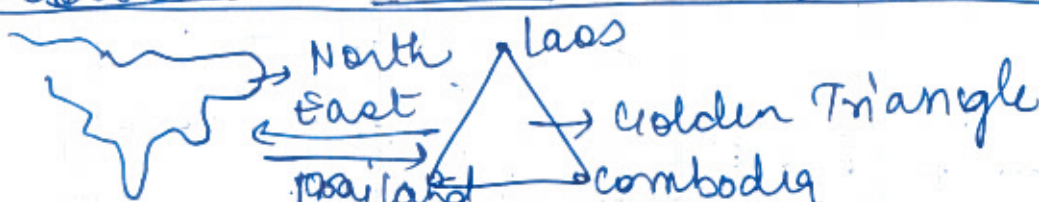
The North-East is undergoing one of the worst phases of crime-insurgency nexus, which has further accelerated the ethnic conflicts in this tribal and ecologically fragile region.

Crime-insurgency Nexus

① Exploitation of the geographical terrain and climatically hazardous areas.

Eg: ULFA operates in remote regions of Assam.

② Narco-terrorism → the crime and drug syndicates have increased penetration of drug abuse → ethnic conflicts



3) Exploitation of development deficits by obstructing infrastructure projects.

Eg: Arson in Manipur during ethnic classes $\Rightarrow$ more than 1700 buildings were burnt.

4) Arms Industry $\Rightarrow$ continued exploitation of the tribal conflicts for business profitability

Institutional Measures

1) Establishment of a particular National Counter-Insurgency War Room $\Rightarrow$ to target the crime-drug syndicates and insurgent groups.

2) Establishment of border police checkposts to neutralise border infiltration and dilution of N.E. demography.

3) stringent anti-insurgency laws $\Rightarrow$ to deter terror attacks.

4) As per the Santosh Hegde committee $\Rightarrow$ AFSPA should be reviewed every 6 months.

5) As per the Justice Jeevan Reddy committee $\Rightarrow$ remove AFSPA and strengthen UAPA to deal with crime-insurgency nexus.

6) Re-construction of infrastructure in critical N-East.

Thus, to ensure the safety and security of India's borders, and to ensure equitable development of North-East, multi-collaborative, cross-sectoral changes are required.

NEXT IAS

Space for Rough Work

Space for Rough Work

NEXT IAS

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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 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
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।

