

NEXT IAS

anubhav-2025

(To be filled by candidate)

TEST CODE : ANV2503

Test Date : 03/08/2025

Name of Candidate: ANANYA RANA Mobile No.Roll No. : CAVA25ECL1569 Start Time 1:30 pm End Time 4:30 pmDate of Examination: 3rd AUG 2025 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

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, Roll No, Mobile, etc. in the space allocated.
3. Candidate is expected to attempt all 20 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 इसे एक नई QCA पुस्तिका से बदल लें।
2. अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, 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 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। अपठनीय लेखन से बचें।
7. QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:

FOR OFFICE USE ONLY

<u>Student Concerns / Query</u>	<u>Evaluator's Feedback / Response</u>
1	1
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2	2
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3	3
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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

 <p>Topper's Copy</p>	 <p>Common mistake and Correct Filled QCAB</p>
 <p>Copy Scanner App</p>	 <p>Next IAS Test Centre Location</p>

MACRO COMMENTS

The Purpose of MTS 2.0 Score Improvement Program (SIP) is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

Q1.

Introduction	Body	Conclusion

Q2.

Introduction	Body	Conclusion

Q3.

Introduction	Body	Conclusion

Q4.

Introduction	Body	Conclusion

Q5.

Introduction	Body	Conclusion

Q6.

Introduction	Body	Conclusion

Q7.

Introduction	Body	Conclusion

Q8.

Introduction	Body	Conclusion

Q9.

Introduction	Body	Conclusion

Q10.

Introduction	Body	Conclusion

Q11.

Introduction	Body	Conclusion

Q12.

Introduction	Body	Conclusion

Q13.

Introduction	Body	Conclusion

Q14.

Introduction	Body	Conclusion

Q15.

Introduction	Body	Conclusion

Q16.

Introduction	Body	Conclusion

Q17.

Introduction	Body	Conclusion

Q18.

Introduction	Body	Conclusion

Q19.

Introduction	Body	Conclusion

Q20.

Introduction	Body	Conclusion

आपके विचार में भारत के कर ढाँचे में सुधार के हालिया प्रस्ताव भारत के कर उत्पावकता और कर आधार को बेहतर बनाने में किस सीमा तक सहायक होंगे? (उत्तर 150 शब्दों में दीजिए) 10 अंक

How far do you think the recent proposals to reform India's tax structure will help in improving India's tax buoyancy and base? (Answer in 150 words) 10 marks

Tax buoyancy is defined as the change in tax revenue collection with change in rate structure while tax base is defined as the number of taxpayers in proportion to total population of the country.

Recent proposals to reform tax structure

- ↳ announced in Budget 2025-26
- ↳ no tax on annual incomes upto 12 lakh
- ↳ Rate rationalisation according to incomes
- ↳ One time relief on all tax disputes upto 25k

Recent proposals will help improve tax buoyancy and base

- ① More adherence to tax payment. Due to tax savings (eg) upto 80 thousand tax savings estimated.
- ② Increasing ambit of tax payers by preventing tax evasion.
- ③ Increased compliance of payments. due to simplified payment framework.
(eg) ITR filling - pre-filled

- ④ More disposable incomes will cause more spending and increase in indirect tax collection. (GST)
- ⑤ Decreasing legal disputes with tax dept. will increase productivity in tax compliance matters.

Some challenges remain

- ① Potential of savings may increase due to uncertain geo-political world order.
- ② Tax evaders may still find loopholes to evade tax payment.
- ③ Increase in spending may not be in capital goods.
- ④ Need of big data analytics to understand impact of tax rate rationalisation.

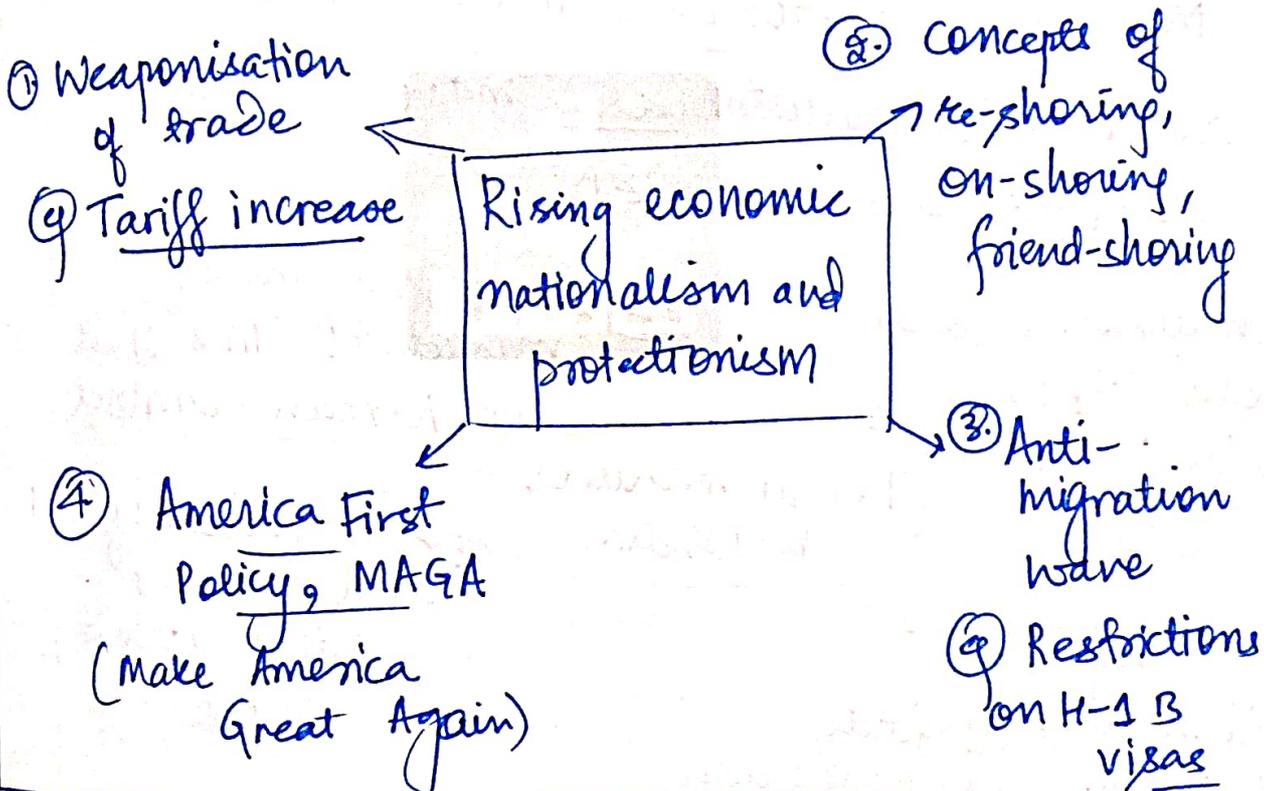
These tax reforms have brought relief to the 'middle class' and is expected to increase tax revenue via efficient use of AI and improved vigilance to prevent evasion.

2.

आर्थिक राष्ट्रवाद और संरक्षणवाद की बढ़ती प्रवृत्तियाँ भारत की वैश्विक व्यापार प्रतिस्पर्धात्मकता को कैसे प्रभावित करती हैं? इन चुनौतियों से निपटने के लिए भारत ने हाल ही में क्या उपाय किए हैं? (उत्तर 150 शब्दों में दीजिए) 10 अंक

How do the rising trends of economic nationalism and protectionism affect India's global trade competitiveness? What recent measures has India taken to navigate these challenges? (Answer in 150 words) 10 marks

Recently, Trump 2.0 administration has announced 25% tariff on goods exports from India along with some unspecified penalties for buying oil from Russia.



Impact on India's global trade competitiveness

- ① Historically, advantageous sectors hit with high tariffs.
- ② Steel, Aluminium — 50%.
- ③ Threat of round-tripping of goods from China

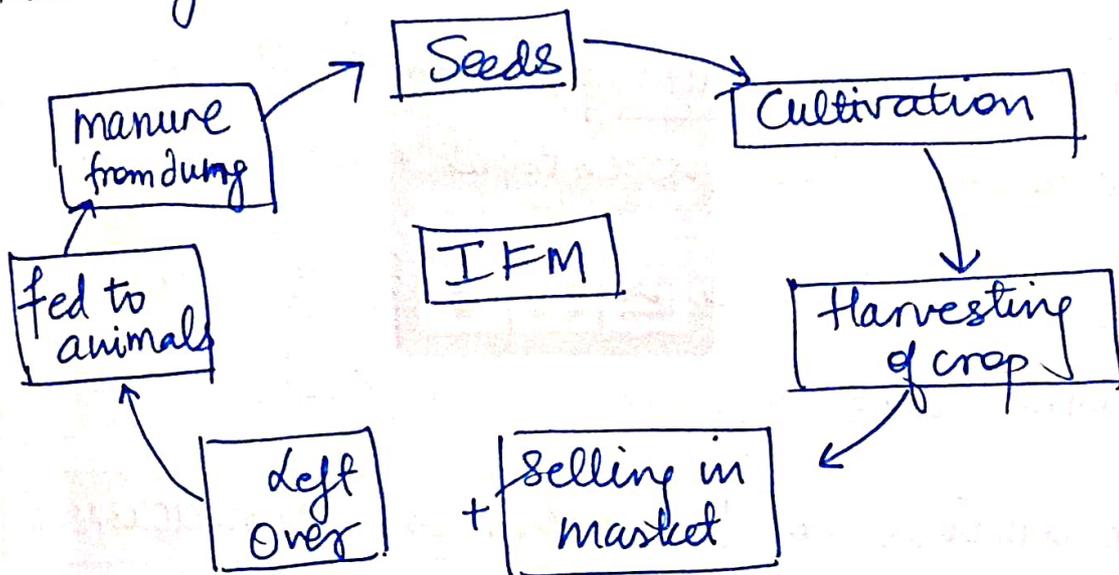
- ① dumping of cheap goods in Indian market
- ② Trade differential reduced with competitors like Bangladesh, Vietnam - Textile sector
- ③ Impact on pharma sector - Threats of tariffs upto 200%. [India is known as pharma of world]
- ④ May impact domestic industries like automobile industry as majority of exports are to USA.
- ① Conclusion of deal with UK, ongoing with EU & USA
- ② Recent measures by India
- ③ Provision of anti-dumping duty against China
- ④ Diversifying oil imports @ Qatar, Latin America - Venezuela
- ⑤ Diversification of markets @ PM's visits to African countries

India continues to tread this delicate path with strategic autonomy. Further, it should ensure to sign Bilateral Trade Agreement with USA but keeping 'Indian First' policy as priority

कृषि उत्पादकता में सुधार लाने और कृषि के पर्यावरणीय प्रभाव को न्यूनतम करने में एकीकृत कृषि प्रणाली (IFM) की भूमिका का परीक्षण कीजिए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

Examine the role of Integrated Farming System (IFM) in improving agricultural productivity and minimizing the environmental impact of agriculture. (Answer in 150 words) 10 marks

Integrated Farming System refers to coordination of different activities like allied agricultural practices, streamlining of upstream and downstream linkages into the agricultural activities.



Role of IFM in improving:

(I) Agricultural productivity

(1) Use of green manure - prevents excessive chemicals to soil, improving productivity.

(2) Allied sectors improve farmer's incomes

④ cattle, poultry etc.

③ Reduction in costs as much of raw material is completely utilised.

④ Efficient allocation of resources

⊕ no double expenditure on animal feed.

⑤ Improves sources of avenue for market linkages. ⊕ Green manure sold in market

(II.) Environmental impact

① Circular economy promoted and reduction in wasteful expenditure.

② Reduction in carbon footprint as logistics are efficiently utilised.

③ Promotion of environment consciousness among farmers promotes behavioural nudge for others.

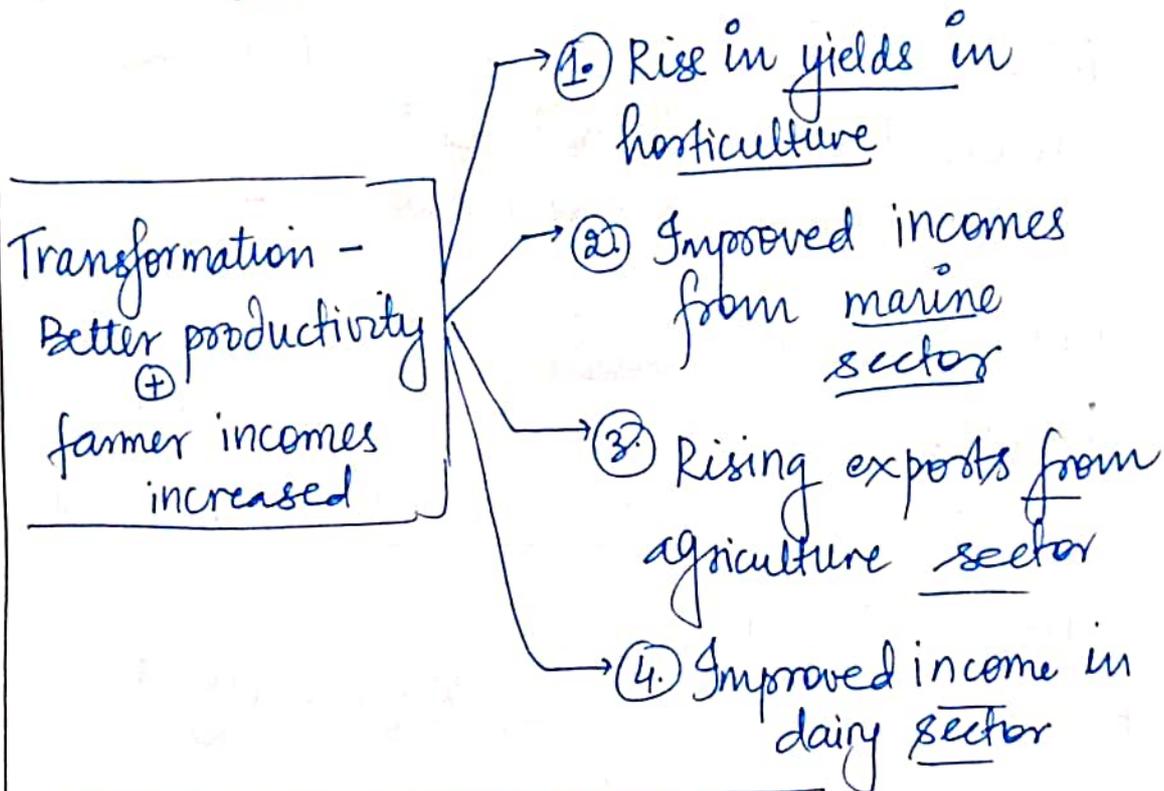
④ Reduction in soil salinity - improving conditions of water bodies and ground water.

IFM is a breakthrough by which farmers can also move from Green Revolution to Evergreen revolution

4. हाल ही के वर्षों में, भारतीय कृषि बेहतर उत्पादकता और किसानों की आय में सुधार की दिशा में एक परिवर्तन का साक्षी रही है। कृषि को अधिक लाभकारी और संधारणीय बनाने के लिए सरकार द्वारा कौन-से संस्थागत और संरचनात्मक सुधार किए गए हैं? (उत्तर 150 शब्दों में दीजिए) 10 अंक

In recent years, Indian agriculture has been witnessing a transformation towards better productivity and improved farmer incomes. What institutional and structural reforms have been undertaken by the Government to make agriculture more rewarding and sustainable? (Answer in 150 words) 10 marks

According to Agricultural census (2015)
average monthly income of farmers in
India is ₹ 10,200/-.



Institutional reforms by GoI

- ① Promotion of Farmer Producer Organizations to increase economies of scale for farmers
- ② Focus on value addition in food processing

- (eg) PM- Sampada Yojana, Food Parks
- (3) Push for microirrigation via Per Drop More Crops Scheme - drip irrigation.
- (4) Focus on diversification of crops
- (eg) Horticulture - MIDH scheme
Pulses
Palm oil - NMEO-OP
- (5) Millet popularisation + via PM's speeches, Union Budget initiatives.
(International Year of millets - 2023 by UN)

Structural reforms

- (1) Deployment of technology - (eg) launch of Digital Agricultural Mission, PM-Kisan app.
- (2) Better early warning systems - Project Mausam, by IMD.
- (3) Digitalization of land records - PM Svamitra scheme - better access to credit
- (4) Promotion of exports via value addition - investment in cold chain

India's agriculture sector is moving towards 'Green & Tech-savvy' production

वायु रक्षा प्रणालियाँ कैसे कार्य करती हैं? भारत के पास वर्तमान में कौन-कौन-सी विभिन्न वायु रक्षा प्रणालियाँ हैं?

(उत्तर 150 शब्दों में दीजिए) 10 अंक

How do Air Defence systems work? What are the various air-defence systems that India currently possesses? (Answer in 150 words) 10 marks

India recently showcased the prowess of its air-defence systems in operation Sindoore.

Working of Air Defence systems

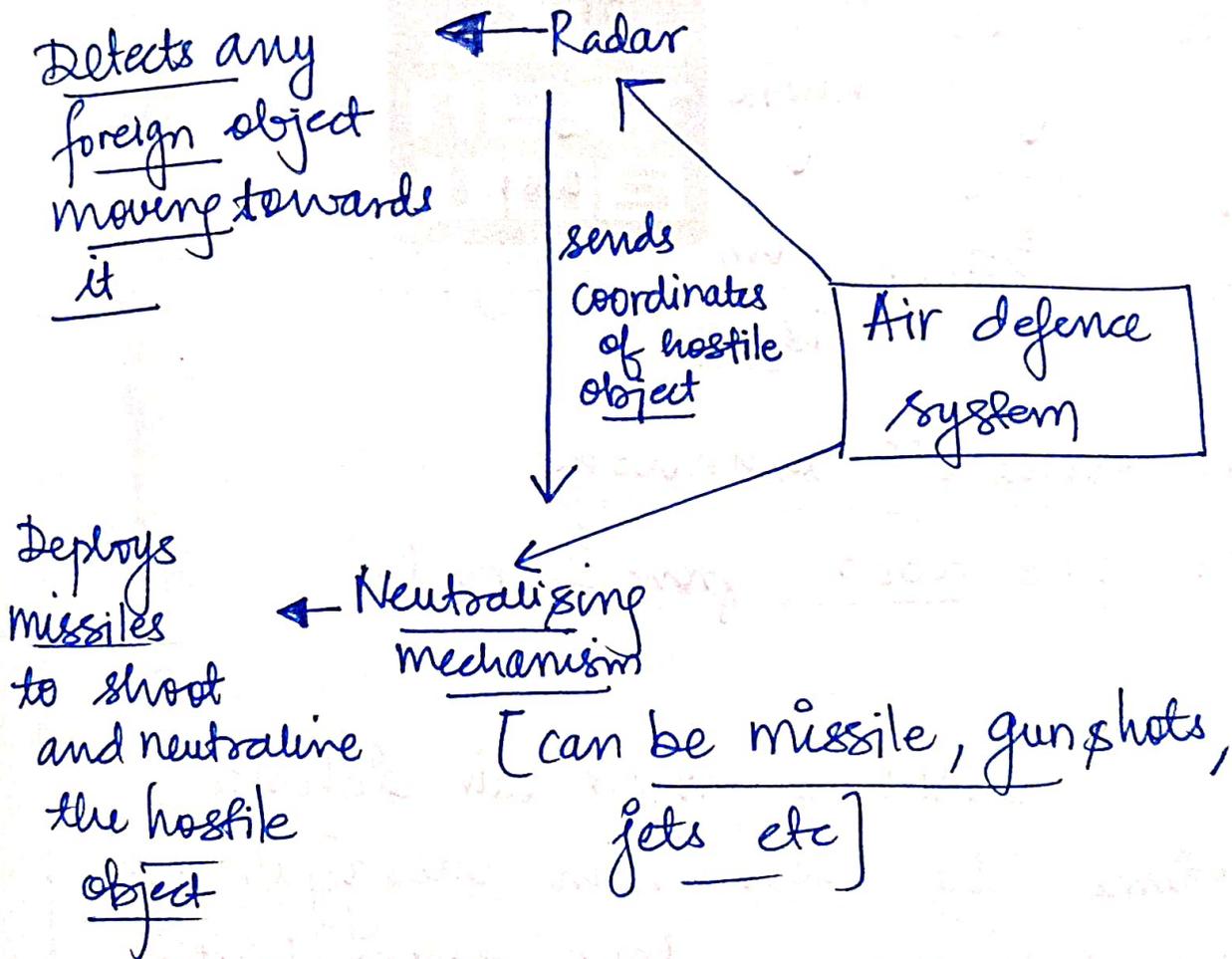
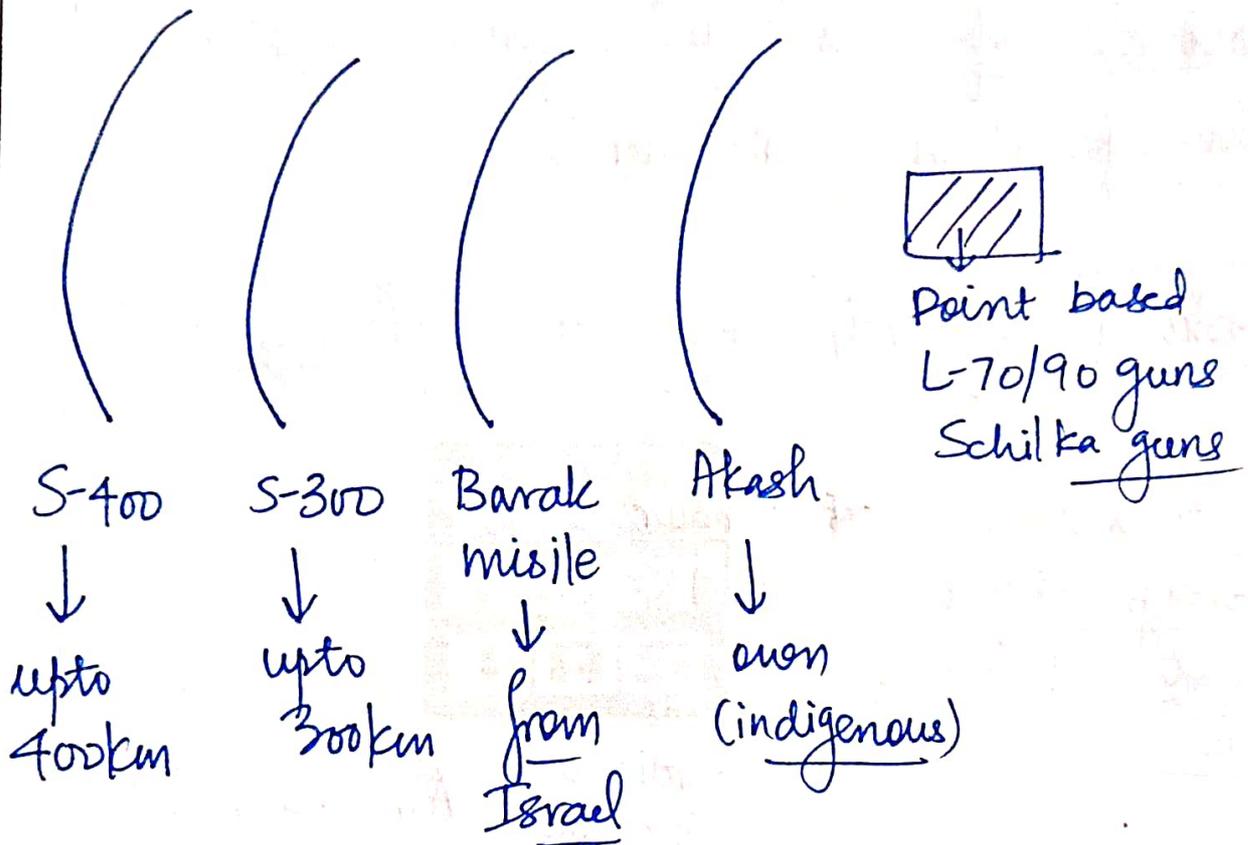


Fig: Air defence systems

India's layered / tiered structure of Air defence



Some stand off technology

① Spice 2000 (from Israel).

India deployed air defence systems to overwhelm enemy air-space and protect its own thus demonstrating the strengths of 'Atmanirbhar Bharat'

आनुवंशिक विकारों के उपचार में आरएनए संपादन (एडिटिंग) की क्षमता पर चर्चा कीजिए। डीएनए संपादन की तुलना में इसके क्या लाभ हैं?
 Discuss the potential of RNA editing in treating genetic disorders. What are its advantages over DNA editing?
 (उत्तर 150 शब्दों में दीजिए) 10 अंक
 (Answer in 150 words) 10 marks

RNA is the genetic material of various retroviruses that can be deployed to treat genetic disorders. It can also be used in m-RNA vaccines (Pfizer and Moderna (COVID))

Potential of RNA editing in genetic disorder treatment

- ① Easy to modify thus reduces efforts in medication / treatment
- ② Personalised treatment by matching it with needs of patients.
- ③ No threat of genetic mutation as no change in DNA.
- ④ Easy to deploy as do not need invasion into nucleus.
- ⑤ Treating auto-immune diseases (e.g. Psoriasis etc.)

⑥ Rare disease treatment which require specialised editing in RNA.

Advantages of RNA editing over DNA editing

- ① No potential threat of passing of changes to offsprings
- ② DNA editing is more complex as it requires changes in chromosomes.
- ③ Multiple uses depending on tweak in RNA while DNA gene editing is specific.
- ④ Easy to deliver @ using nano liquid lipid particles.

RNA editing can be further improved to treat rare diseases which are really costly for people of global south to ensure healthcare equity.

7. अनियोजित विकास और बुनियादी ढाँचे के ढहने के कारण नगरीय क्षेत्र आपदाओं के प्रति अधिक सुभेद्य होते हैं। चर्चा कीजिए।
ऐसी आपदाओं के प्रति नगरीय समुत्थानशीलता बढ़ाने के लिए आप कौन-सी रणनीतियाँ प्रस्तावित करते हैं?

(उत्तर 150 शब्दों में दीजिए) 10 अंक

Urban areas are more vulnerable to disasters due to unplanned growth and infrastructure collapses. Discuss. What strategies do you recommend to enhance urban resilience to such disasters?
(Answer in 150 words) 10 marks

Recently, a bridge over Mahisagar river in Pune collapsed leading to deaths and infrastructure damage.

Urban areas - more vulnerable

(I) Unplanned growth

① Decreasing drainage system
and causing concretisation of green spaces

② Bangalore floods

③ Deficits in clearance systems

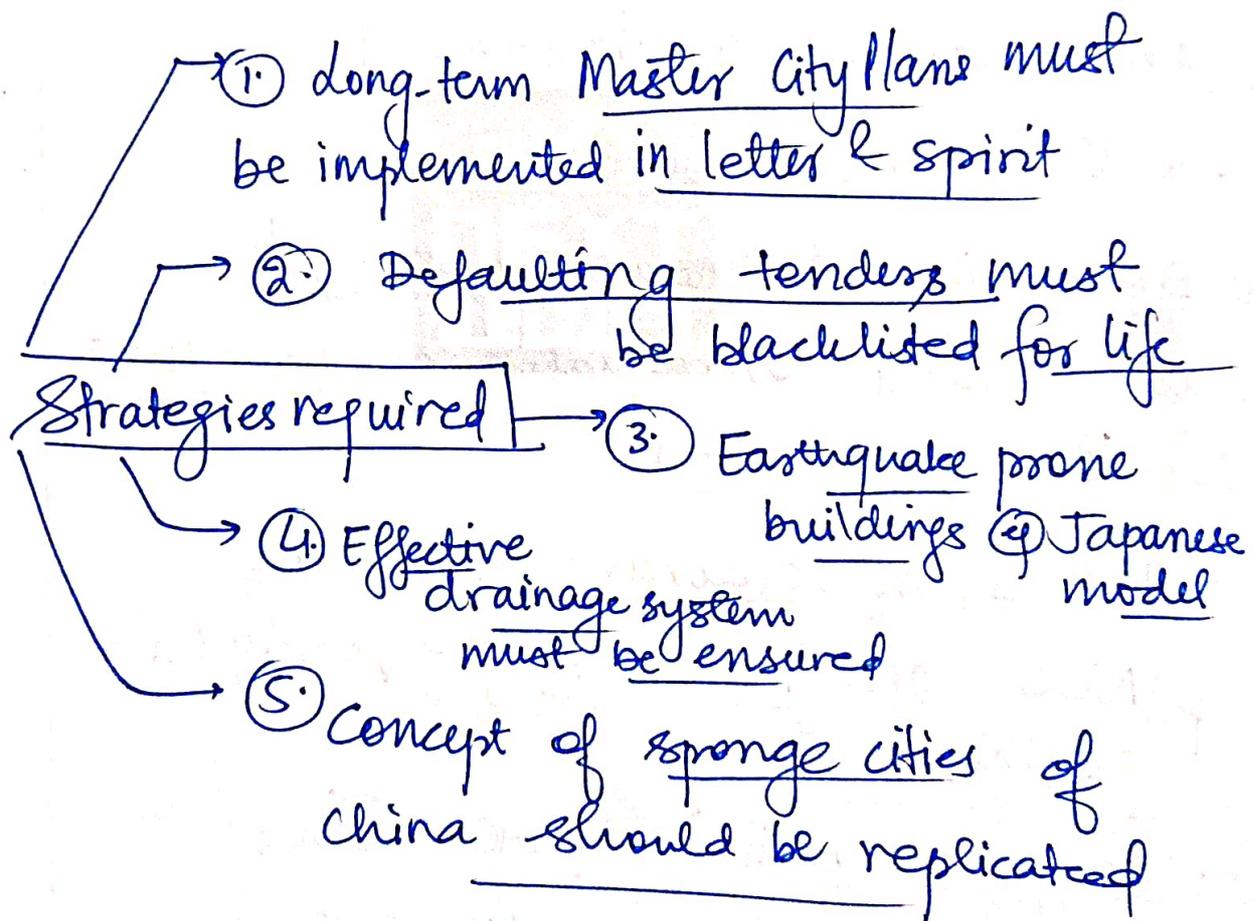
④ NOC certificates for fire safety in Delhi

⑤ Congested buildings increasing threat to damage in event of disaster.

⑥ High population density and proliferation of slums with unhygienic practices

(II) Infrastructure collapse

- ① Low quality material used due to corrupt practices @ Mosbi bridge collapse
- ② Technical know-how is missing @ 90° bridge turn in Madhya Pradesh
- ③ Profit motive given highest priority @ Bihar's bridge collapsed 3 times while under construction.



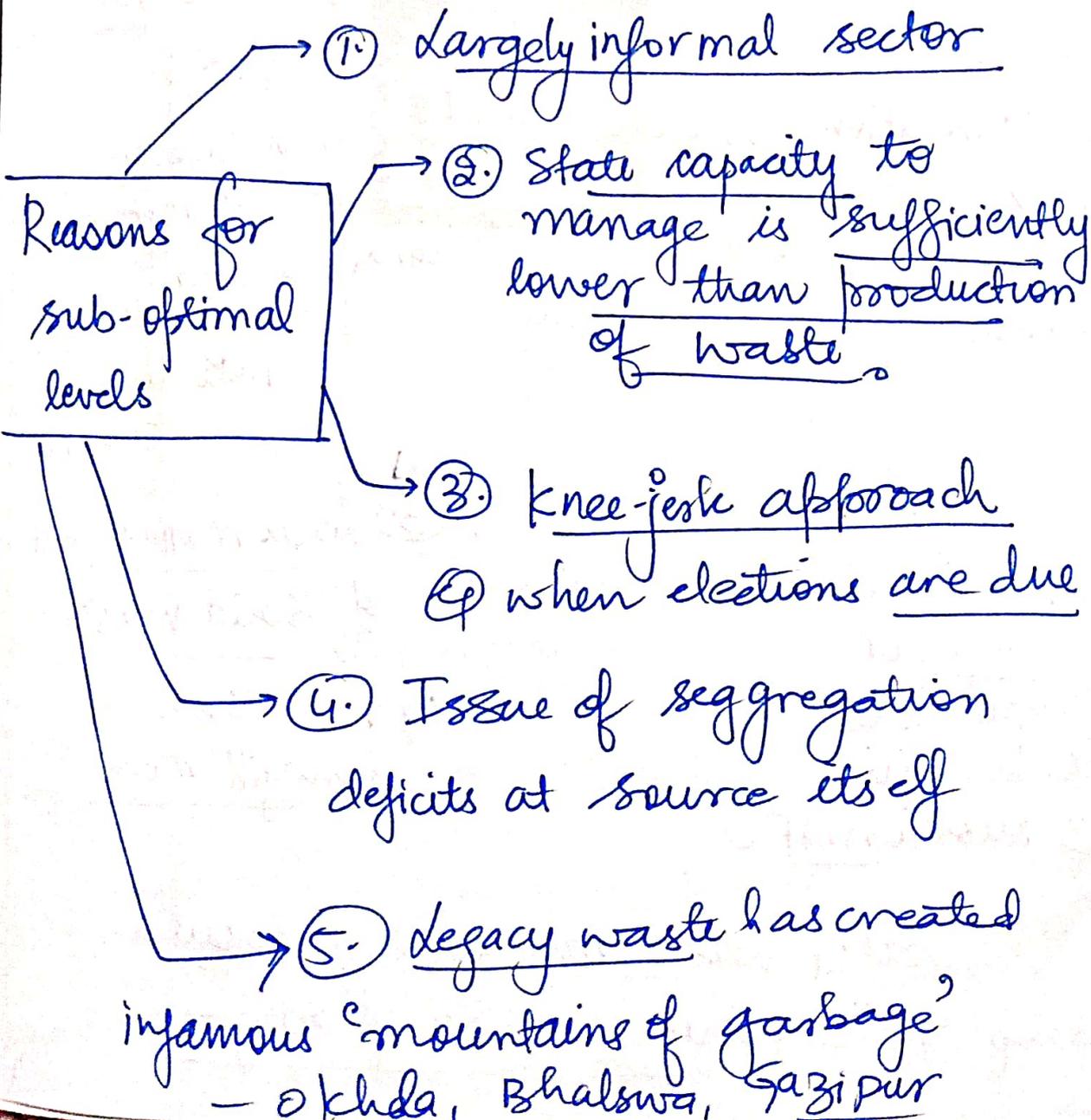
The urban spaces can become disaster resilient only if PURA model of development is employed. Smart cities can only exist if Smart Villages are encouraged

8. स्वच्छ भारत मिशन की सफलता के लिए इसकी महत्ता के बावजूद, भारत में ठोस अपशिष्ट प्रबंधन अब भी उपेक्षित (Sub-optimal) स्तर पर है। इस संदर्भ में, प्रभावी ठोस अपशिष्ट प्रबंधन हेतु दीर्घकालिक प्रौद्योगिकीय और संस्थागत समाधान सुझाए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

Despite its criticality for the success of the Swachha Bharat Mission, solid waste management in India remains at a sub-optimal level. In this context, suggest long-term technological and institutional solutions towards effective solid-waste management.

(Answer in 150 words) 10 marks

Solid waste management in India is facing dual challenges of legacy waste as well as present deficiencies in policy making.



① Establishment of more waste to wealth plants

② Conversion into biomethane (of municipal waste)

Long-term technological solutions

④ Conversion to bio-gas

③ Solid waste management plants with vermicomposting facility

① Segregation of waste at source should be mandatory

Long-term institutional solutions

② Inclusion of informal sector rag-pickers into formal chains

④ Behavioural nudge for responsible consumption
④ Mission LIFE

③ Local management of solid waste rather than landfill model

Solid waste management would help India achieve goal of SDG-6

9. "सोशल मीडिया आधुनिक युद्ध में एक नए आयाम के रूप में उभरा है, जो अभिभाष्यों को आकार दे रहा है, धारणाओं को प्रभावित कर रहा है तथा राष्ट्रीय सुरक्षा को प्रभावित कर रहा है।" इस संदर्भ में, समकालीन संघर्षों में सोशल मीडिया की भूमिका का विश्लेषण कीजिए।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

"Social media has emerged as a new frontier in modern warfare, shaping narratives, influencing perceptions, and impacting national security". In this context, analyse the role of social media in contemporary conflicts.

(Answer in 150 words) 10 marks

Social media can become a major player in furthering psychological warfare also known as 5th front of warfare.

Social media - new frontier in:

Modern warfare, shaping narratives &

influencing perceptions

① Wider reach

② 24x7 hour

③ Faster

④ 900 Million internet users in India

access

dissemination of information

Role of social media in contemporary conflicts

① Part of China's 3-war strategy

- psychological, media and legal

④ about Indian borders

② National security challenges - Spread

of fake information @ Muzzafarnagar Riots
Manipur violence, 2023.

- ③ Increasing social unrest among diverse populations @ Nagpur violence in 2025
- ④ Creation of echo chambers by amplifying skewed opinions.
@ creation of post-truth society
- ⑤ Virality based monetization and spread of misinformation.
@ By Pakistan during operation Sindoor.
- ⑥ Context invisibilization to create disharmony among society.

The phenomenon of 'infodemics' created by social media can be managed by deploying fact-check units like PIB & encouraging 'cyber hygiene' among citizens.

10. सीमा सुरक्षा बल (BSF) ने अपने क्षेत्राधिकार और रणनीतिक महत्त्व, दोनों में ही सीमा प्रबंधन और आंतरिक सुरक्षा ढाँचे के संदर्भ में उल्लेखनीय विकास किया है। BSF की भूमिका और अधिदेश की व्याख्या कीजिए। सीमावर्ती राज्यों में कार्य करते समय बीएसएफ को किन समस्याओं का सामना करना पड़ता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

The Border Security Force (BSF) has evolved significantly in its jurisdiction as well as its strategic importance in border management and the internal security framework. Explain the role and mandate of BSF. What are the issues BSF faces while operating in the border States? (Answer in 150 words) 10 marks

Border Security Force is a Central Armed Police Force responsible for guarding Indo-Pak and Indo-Bangladesh borders.

Evolution of BSF

Jurisdiction

- ⊛ Increased presence in Border states
- ⊙ from 20 km to 50 km in West Bengal from border

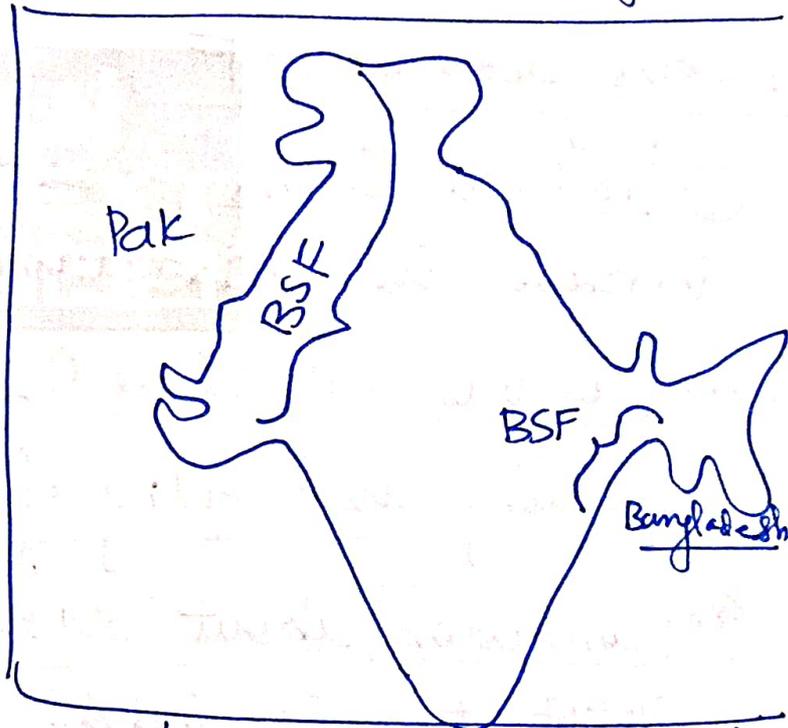


Fig: Deployment of BSF

Strategic importance

- ① Prevent illegal migration from Pak & B'desh
- ② Handle non-tradition threats
 - ↳ narco trafficking

③ Expanded role - during operation Sindoor
 (eg) in Akhnoor of J-K.

Role → ① Guard borders from external threat
 → ② Prevent infiltration

Mandate → ① Keeping people in border areas safe
 → ② Establishing trust based relations with public

Issues faced by BSF

- ① Federal issues - states objecting to increase in jurisdictional area of BSF.
- ② Conflicts with State Police - regarding handling and filing of FIRs
- ③ Confusion about cases in which infiltrator is held.
- ④ Knowledge deficit about terrain of state topography.

BSF has always acted as 'Prahari' of Indian borders and continue to do so with enhanced CIBMS tools like users etc

11. भारत की संवृद्धि गाथा असमानता और मध्यम आय-जाल की दीर्घस्थायी चुनौतियों से प्रभावित है। चर्चा कीजिए। मध्यम आय के जाल से बाहर निकलने और समावेशी एवं सतत आर्थिक संवृद्धि सुनिश्चित करने के लिए भारत को किन उपायों का पालन करना चाहिए, इस पर प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

India's growth story is marred by persistent challenges of inequality and the middle-income trap. Discuss. Highlight the approaches India should follow to escape the middle-income trap and ensure inclusive and sustainable economic growth.

(Answer in 250 words) 15 marks

World Inequality Report by Oxfam International has referred India as one of the most unequal society and economy.

India is on verge of becoming the 4th largest economy by the end of 2025 yet it is experiencing high inequality and threats of middle-income trap.

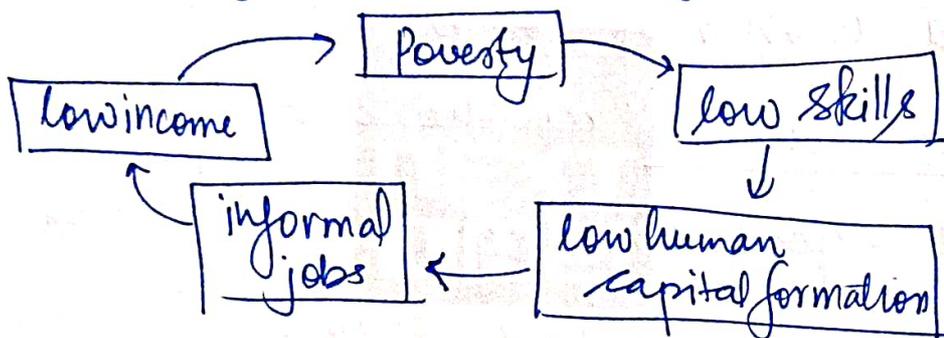
Reasons for high inequality and middle income trap threat

(I) High inequality

① Lack of adequate success of land reforms
↳ due to administrative corruption,
lack of political will etc.

② 86% of farmers in India are still small and marginal

- ② Failure of top-down / downward filtration theory due to tax evasion, middlemen syndrome etc
- ③ Huge population and limited resources
 eg 1.46 billion population (most populous)
 ⊕ subsidy burden (3Fs - fuel, food, fertilizer)
- ④ Poverty-debt vicious cycle



(II) Threat of middle income trap

- ① Premature de-industrialization due to rising labour costs, lack of innovation
- ② Large informal sector with lack of opportunity of better life style
- ④ 86% of workers in India - informal sector
- ③ Problem of dwarfism where small firms continue to remain small
 eg 79% of firms employ less than 100 people

- ④ Problem of Lacademia industry de linkage creating semi-skilled, semi-literate individuals
- ④ Skills India Report 2025 - Only 55% of graduates are employable
- ⑤ Lack of integration into Global value chains ④ We are just mobile assemblers with no value addition

→ ① Creative Disruption (Joseph Schumpeter)
↳ where new innovations in production can create more jobs.

→ ② Focus on industry relevant skilling
④ AI, Robotics etc

Approaches needed → ③ Investment in labour
- intensive sectors
[Economic Survey 2019]

→ ④ Concept of ~~easy~~ stakeholder capitalism
(Klaus Schwab) - where corporates follow BRSR guidelines (by SEBI)
(Business Responsibility & Sustainability)

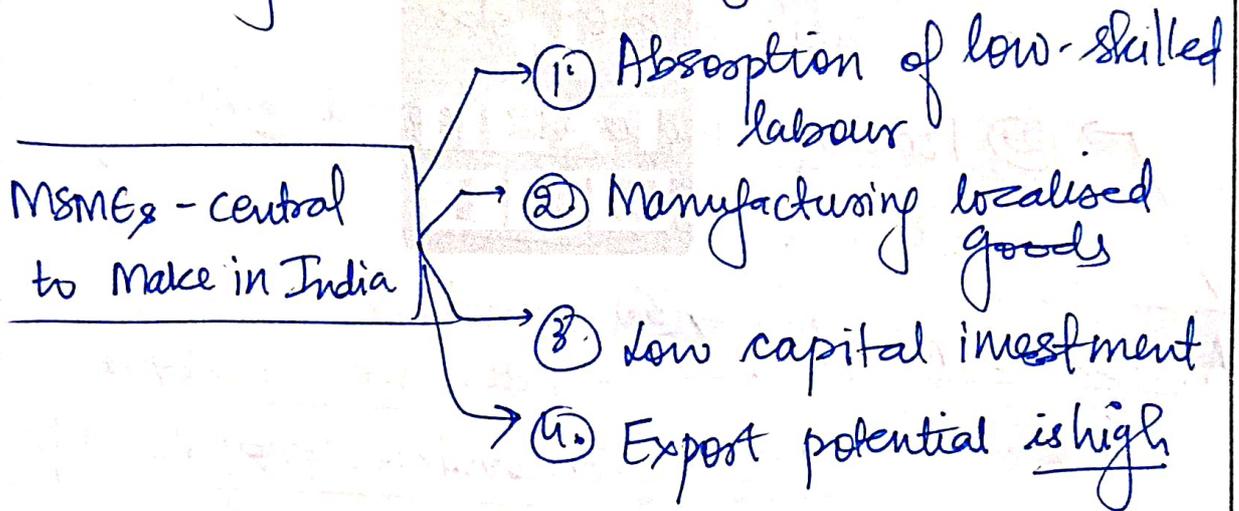
Thus, India needs to transform itself into industrial workhorse to solve problems of inequality & middle income trap

12.

MSMEs (सूक्ष्म, लघु एवं मध्यम उद्यम) "मेक इन इंडिया" पहल की सफलता के केंद्र में हैं, फिर भी उन्हें आमाप वर्धन और औपचारिक आपूर्ति शृंखलाओं में एकीकरण में चुनौतियों का सामना करना पड़ रहा है। चर्चा कीजिए। MSMEs (सूक्ष्म, लघु एवं मध्यम उद्यमों) को अधिक समुत्थानशील और प्रतिस्पर्धी बनाने के लिए आवश्यक संरचनात्मक सुधार (उत्तर 250 शब्दों में दीजिए) 15 अंक प्रस्तावित कीजिए।

MSMEs are central to the success of the Make in India initiative, yet they face challenges in scaling up and integrating into formal supply chains. Discuss. Suggest structural reforms needed to make MSMEs more resilient and competitive. (Answer in 250 words) 15 marks

MSMEs in India contribute 30% to manufacturing and 40% to exports from India, yet they face challenges in achieving economies of scale.



Challenges faced by MSME in scaling up and integrating into formal chains

(1) Lack of adequate capital access.

(2) no collateral, lack of awareness, banks are hesitant.

- ② Challenges in payments as large companies often delay payments @ working capital issues.
- ③ Deficit of managerial skills to expand businesses.
- ④ Information asymmetry about market intelligence @ products demanded in export market.
- ⑤ Problem of dwarfism where MSMEs willingly remain small to continue taking govt. benefits.
- ⑥ Informed Huge compliance burden for getting formalised @ buying GST number, filling quarterly taxes etc.
- ⑦ Rigid labour codes that would require pre-requisites for expanding business.
@ restrictions on women working in night shifts
- ⑧ Product branding is lacking and access to e-commerce is restricted @

- Structural reforms needed**
- ① Increasing turnover and investment limits for MSMEs achieved in Union Budget FY26
 - ② Improving access to working capital @ TREDS scheme
 - ③ Availability of collateral free credit
@ PM-Mudra
 - ④ Access to e-commerce for business expansion
@ ONDC
 - ⑤ Implementation of New labour codes to relax rigidness
 - ⑥ Promote skilling and branding of products @ ODOP scheme

MSMEs are economic engine of India's growth story. Their success will ensure India's goal of Viksit Bharat @ 2047

13.

“प्रधानमंत्री कृषि सिंचाई योजना (PMKSY) का लक्ष्य 'प्रति बूँद अधिक फ़सल' प्राप्त करना है, फिर भी भारत में सिंचाई दक्षता अभी भी उपेक्षित बना हुआ है।” आलोचनात्मक विश्लेषण कीजिए। इसके कार्यान्वयन को सुदृढ़ बनाने के लिए किन सुधारों की आवश्यकता है? (उत्तर 250 शब्दों में दीजिए) 15 अंक

“The Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) aims to achieve 'more crop per drop', yet irrigation efficiency in India remains suboptimal.” Critically analyse. What reforms are needed to strengthen its implementation? (Answer in 250 words) 15 marks

Pradhan Mantri Krishi Sinchayee Yojana was introduced to improve irrigation efficiency by adoption of micro-irrigation techniques like drip irrigation; yet its results are far from intended objectives.

Achievements of PMKSY

- ① Increase in area under micro-irrigation (e.g.) 83.5 lakh ha [MoJS]
- ② Acting as behavioural nudge for farmers
- ③ Push for moving away from water guzzling crops like Rice (e.g.) in Haryana ~~area~~

④ Irrigation efficiency remains suboptimal

- ① Total area under irrigation is less (e.g.) only 51% of total cultivable area is under ~~an~~ irrigation (Economic Survey)

- ② Skewed focus on rice and sugarcane especially in Haryana, Punjab
- ③ 1 kg rice needs 3000-4000 l. of water
- ③ Low adoption of micro-irrigation
- ④ only 18.8% of total cultivable area
- ④ High cost in installation where 86% of farmers are still small & marginal
- ⑤ Maintenance cost and technical skills are also lacking among majority of farmers.

Reforms needed to improve irrigation efficiency

- ① Push for micro-irrigation adoption via PPP or CSR activities
- ② Credit rate intervention schemes for farmers for adoption of micro-irrigation

- ③ Motivating farmers for crop diversification
 - eg) Better MSP on pulses and focus on horticulture value addition
(PM-Sampada Yojana)
- ④ Govt-handholding for initial period of maintenance costs
- ⑤ Promoting extensive training on handling micro irrigation systems
- ⑥ Push for rain water harvesting in an on-farm localised manner eg) Madhya Pradesh
- ⑦ Providing parametric insurance against micro-irrigation infrastructure failures

These steps will not only improve irrigation efficiency but will also reduce 'virtual water export' to promote climate resilient agriculture

14.

तिलहन और दलहन के बढ़ते आयात ने इनकी कृषि को अलाभकारी बना दिया है। इस कथन के आलोक में, भारत में तिलहन और दलहन के उत्पादन और उपभोग को बढ़ावा देने के लिए आवश्यक कदमों का विशदीकरण कीजिए।

(उत्तर 250 शब्दों में दीजिए) 15 अंक

The rising import of oilseeds and pulses has made their cultivation unremunerative. In the light of this statement, elucidate the steps needed to promote the production and consumption of oilseeds and pulses in India.

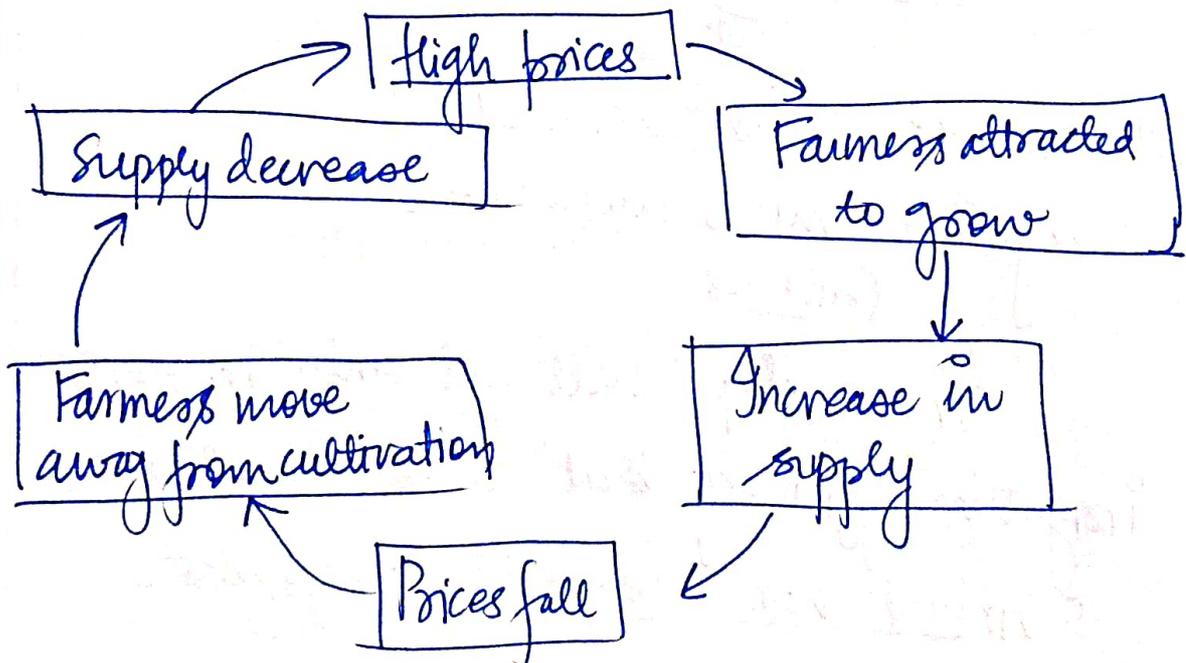
(Answer in 250 words) 15 marks

India is the largest importer of oilseeds and largest producer, consumer & importer of pulses in the world.

Rising import of oilseeds and pulses

① Hurts domestic farmer as these imports compete with domestic production

② Cob-web phenomenon for pulses.



- ③ No assured MSP for palm-oil (the major proportion of oil seeds imports)
- ④ Lack of R&D in oil seeds due to technological fatigue and concerns about health implications.
- ⑤ DMH-Mustard Dhara -II not yet commercially allowed.
- ⑥ Cereal centric cultivation reduces area for cultivation of pulses and oilseeds

Steps needed to improve consumption

① Focus on nutritional security via POSHAN initiative
 ⑥ Pulses rich source of protein.

② Behavioural nudge via celebrity ambassadors

③ Value-addition in pulses - cookies.

④ Move to healthy oils (ICMR guidelines)

① Crop diversification via incentives

② Better MSP on pulses and oilseeds

③ Increasing export potential via value-addition.

④ ~~More~~ investment in 'Brand India'

Steps needed to improve production

③ Improving R&D and allowing GMOs after adequate safeguards

④ Decentralised procurement need to be encouraged to improve wages for farmers

⑤ Adoption of technology - drones, precision farming etc.

Schemes like NMEO-Oil Palm and

PM-Asha can offer farmers the essential push to grow oilseeds and pulses.

Moreover, technology fatigue also need to be resolved to improve their production

15.

मेघ बीजन के पीछे के वैज्ञानिक सिद्धांतों की व्याख्या कीजिए। वायु प्रदूषण और वैश्विक तापन के उपशमन में इसकी भूमिका पर प्रकाश डालते हुए, इसकी संभावित सीमाओं पर चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

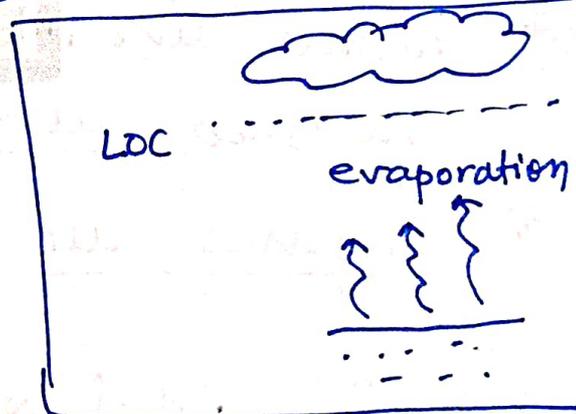
Explain the scientific principles behind cloud seeding. Highlighting its role in alleviating air pollution and global warming, discuss its potential limitations.

(Answer in 250 words) 15 marks

Cloud seeding refers to inducing rain in a particular area by artificially providing for conditions for precipitation.

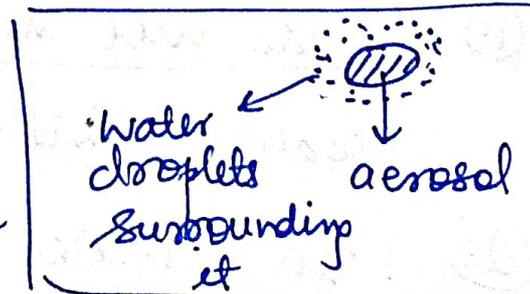
Scientific principles behind cloud seeding

→ Clouds are formed above line of Condensation due to loss in latent energy (LOC)



→ Their formation is aided by presence of aerosols around which seeding could occur.

→ When size of these water droplets increase beyond control, they precipitate out.



* In cloud seeding, this seeding is done using spraying of silver iodide where water droplets form around them & precipitate later

Example: Used in Saudi Arabia in 2024.

Role of cloud seeding in alleviating air pollution

- (1) Precipitation removes air pollutants
- (2) Particles like PM 2.5 and PM 10 are washed down from air.
- (3) Improves air quality.

Role in global warming

- (1) Clouds have high albedo - thus reduce insolation.
- (2) Rain creates moderating effect on weather.

(3) Improves tree cover in area of rain thus causing more carbon sequestration → reducing global warming.

(1) May disturb natural formation of cloud function.

(2) Unintended consequences — may cause droughts in other regions

Potential limitations of cloud seeding

(4) No significant proof that it reduces global warming

(3) May increase floods due to uncontrolled rain

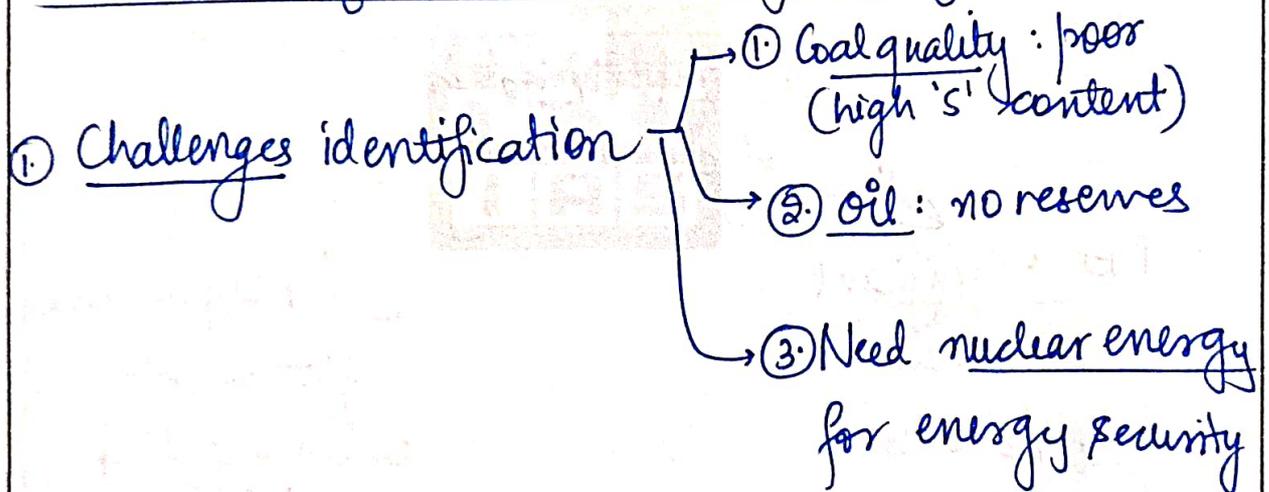
(e) Saudi Arabia witnessed floods

Cloud seeding may become a reliable method in future. For this high intensity researches and analysis of long-term data are sine-qua-non

16. भारत के त्रि-चरणीय परमाणु ऊर्जा कार्यक्रम के क्रमिक विकास का विवरण दीजिए। थोरियम-आधारित तृतीय चरण को साकार करने के क्या लाभ और रणनीतिक अनिवार्यताएँ हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक
- Give an account of the evolution of India's 3-Stage Nuclear Power Programme. What are the advantages and strategic imperatives of realising the thorium-based third stage? (Answer in 250 words) 15 marks

India's 3-stage Nuclear Power programme was envisaged by Dr. Homi Jahangir Bhabha to assure India its energy security.

Evolution of India's 3-stage programme



② Issues within nuclear energy

Uranium
(^{235}U)

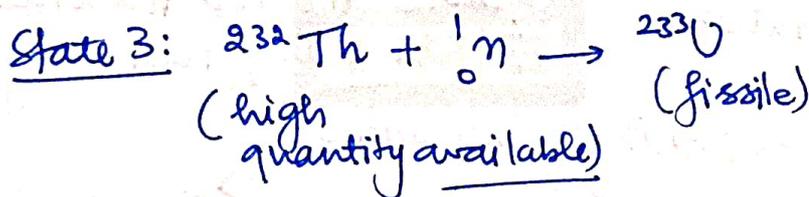
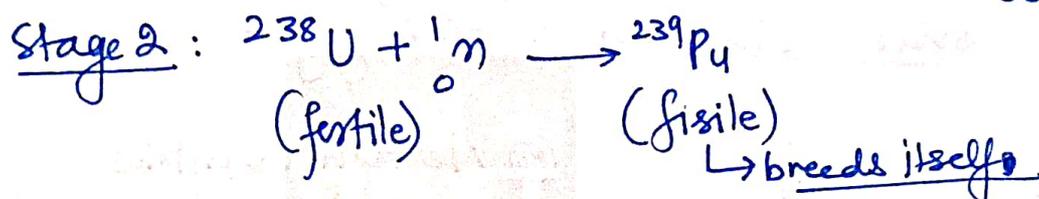
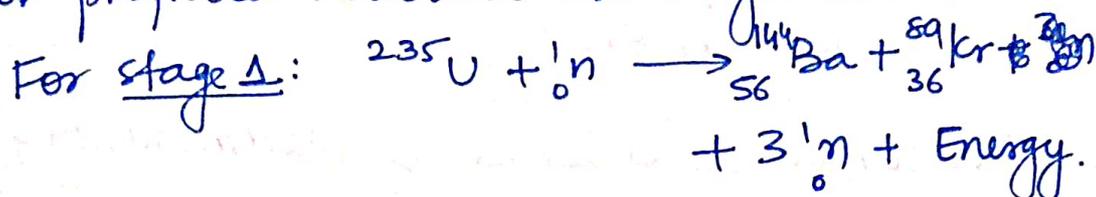
↓
low reserves in India

Thorium (from Monazite sand)
↓
nearly 85% reserves at costs of Kerala, Goa etc

③ Thus, came the 3-stage programme

- (a) Pressurised heavy water reactor \rightarrow ^{235}U (enriched)
 (b) Fast Breeder Reactor \rightarrow ^{238}U to ^{239}Pu
 (c) Advanced Heavy Water Reactor \rightarrow ^{232}Th Used

These proposed reactions are as follows:



Advantages of realising third-stage

- ① Energy security without depending on imports of Uranium.
- ② More safety as products produced are less radioactive.
- ③ Reduction in cost required for enrichment of Uranium
 — ie- no enrichment required.

④ Promotion of international collaborations as countries are moving towards nuclear energy.

⑤ Addition to Green Energy - Target to add 100 GW by 2047
(Nuclear Energy)

⑥ Overcoming challenge of intermittancy of solar and wind energy.

① No threat of nuclear proliferation

② Western countries more inclined towards sharing technology

Strategic imperatives

⑤ Set example in green energy addition

④ Promotion of self-reliance

③ Insulating from weaponisation of energy

'Vishwaguru'

② Tariffs from USA on buying oil from Russia

India has recently started loading fuel for FBR stage and time is not far when India will start 3rd stage too to realise 'leading power' status

17.

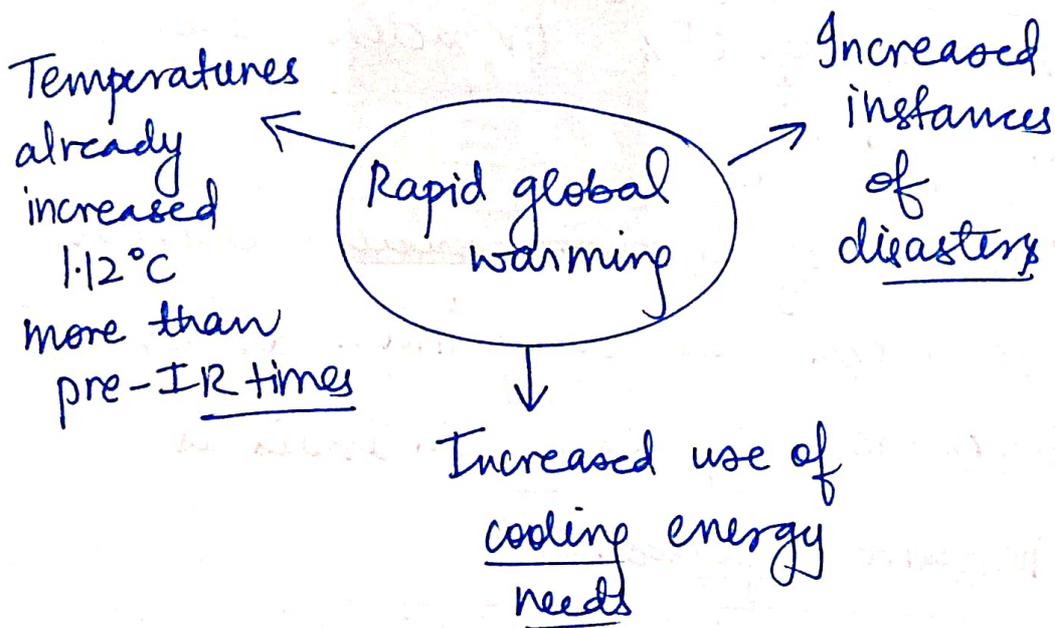
हाल ही के अध्ययनों से संकेत मिलता है कि 2014-2024 का दशक अब तक का सबसे गर्म दशक और 2024 अब तक का सबसे गर्म वर्ष रहा है। तेजी से बढ़ते वैश्विक तापन के आलोक में, जलवायु परिवर्तन का जैव-विविधता पर क्या प्रभाव पड़ेगा? पारिस्थितिक समुत्थानशीलता और प्रजाति विविधता के संरक्षण को सुनिश्चित करने के लिए आवश्यक उपायों पर चर्चा कीजिए।

(उत्तर 250 शब्दों में दीजिए) 15 अंक

Recent studies indicate that the 2014-2024 decade is the warmest decade and 2024 is the warmest year on record. In the light of rapid global warming, what are the impacts of climate change on biodiversity? Discuss the measures needed to ensure ecological resilience and conservation of species diversity.

(Answer in 250 words) 15 marks

2024 has been ~~also~~ categorised as warmest year on record by WHO and Asian continent is heating twice as fast as world's average.



Impacts of climate change on biodiversity

① Loss of habitat due to rising temperatures.

② It has been found that temperate vegetation is shifting polewards

- ② Increased ocean acidification | triggering mass coral bleaching
 (eg) Great Barrier Reef of Australia witnessed recently.
- ③ Death of species | due to unbearable heat (eg) Melomys - 1st such species
- ④ High frequency of disasters (eg) heat waves, GHOEs impacting lives of living beings.
- ⑤ Attack of invasive species decreasing biodiversity as competition for sources increase (eg) Keekar in India is invasive species.
- ⑥ Destruction of food chains | impacting ecological stability.

Measures needed

- ① Move to green energy and adoption of electric vehicles (eg) FAME Scheme, National Hydrogen Mission.

- ② Investment into climate resilient infrastructure @ Developed countries should contribute \$300 bn to Loss & Damage Fund
- ③ Promoting international collaboration @ CDRI, ISA etc
- ④ Following Efficient Building code to reduce cooling requirements and carbon footprint.
- ⑤ In-situ & ex-situ protection of biodiversity @ National Parks, Zoological Gardens etc
- ⑥ Attaining Paris Agreement Goals in letter & spirit
- ⑦ Adoption of Mission LIFE for responsible consumption & production

The Triple challenge of climate change, increasing pollution and decreasing biodiversity calls for international collaboration at war footing. We must remember 'Either we flourish together or perish together !!'

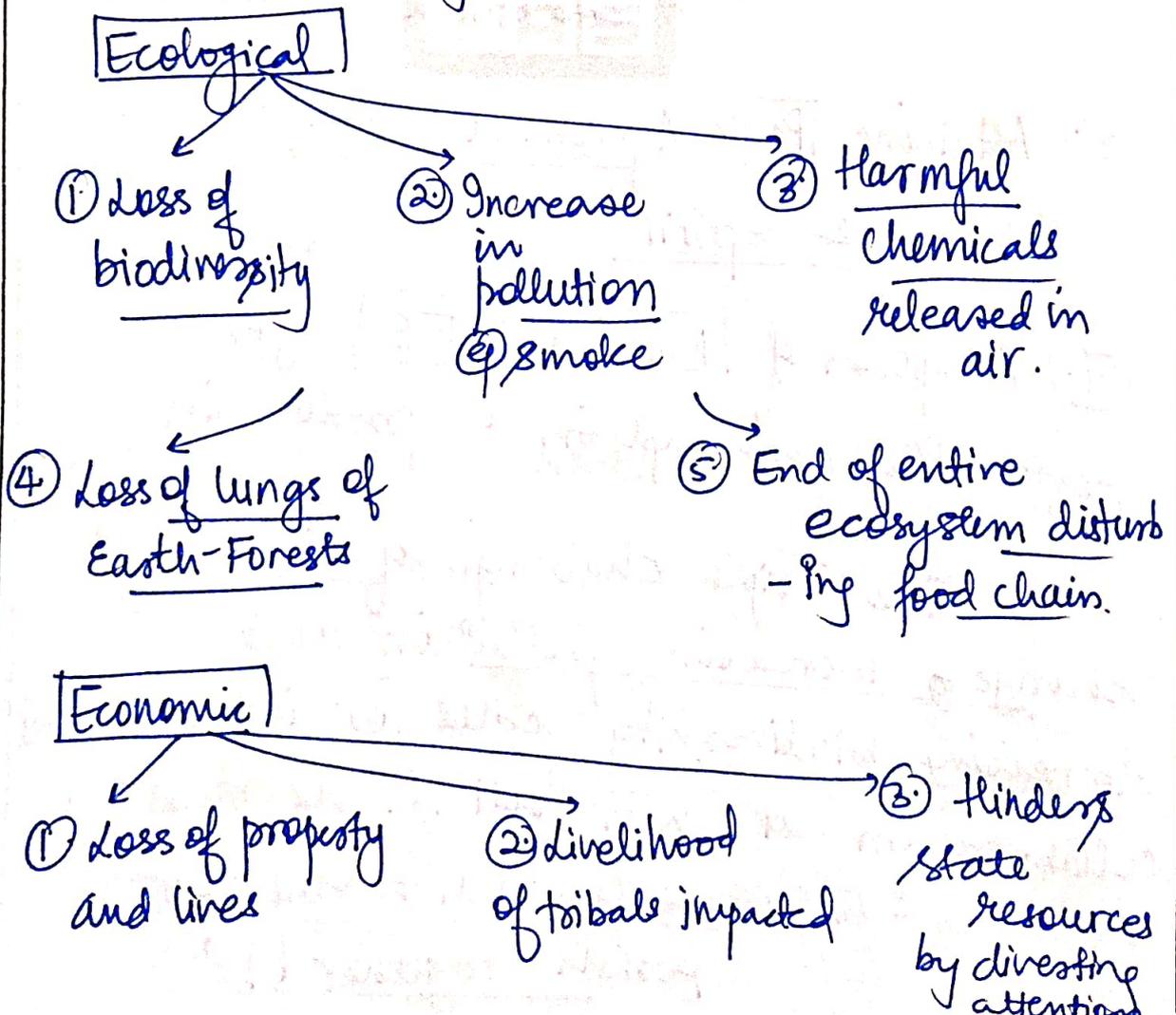
18.

भारत में वनाग्नि की आवृत्ति और तीव्रता में वृद्धि हो रही है, जिससे गंभीर पारिस्थितिक और आर्थिक चुनौतियाँ उत्पन्न हो रही हैं। वनाग्नि के विभिन्न कारणों का वर्णन कीजिए। भारत में वनाग्नि की रोकथाम और प्रबंधन के लिए क्या उपाय किए जाते हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

Forest fires in India are increasing in frequency and intensity, posing severe ecological and economic challenges. Describe the various causes of forest fires. What measures are followed to prevent and manage forest fires in India? (Answer in 250 words) 15 marks

Recently, India witnessed forest fires in Uttarakhand while at global level Los Angeles forest fires created havoc for many days.

Forest fires - increasing in frequency, severe challenges



A) Natural:

① Extreme heating of dead and dry leaves

B) Anthropogenic

① Use of cigarettes etc. in forests

② Local winds

③ Santa Ana winds for Los Angeles forest fires



② Deliberate setting of fire

③ malicious intent

③ For shifting cultivation

Measures needed to prevent forest fires in India

① Deliberate burning of forests is a punishable offence.

② Segregation of dry leaves before onset of summer

③ Nature-based solutions by

collaborating with tribals.

- ④ Prevention of shifting cultivation near protected forests.

Measures followed to manage forest fires

- ① Deploying fire ~~army~~ brigades to put off fire.
- ② Preventing further spreading by cutting off area.
- ③ Rescue and rehabilitation of wild life and humans
- ④ Spraying of chemical like Phos-check (pink-coloured powder) - fire retardant: (water ⊕ ammonium phosphate ⊕ dye)

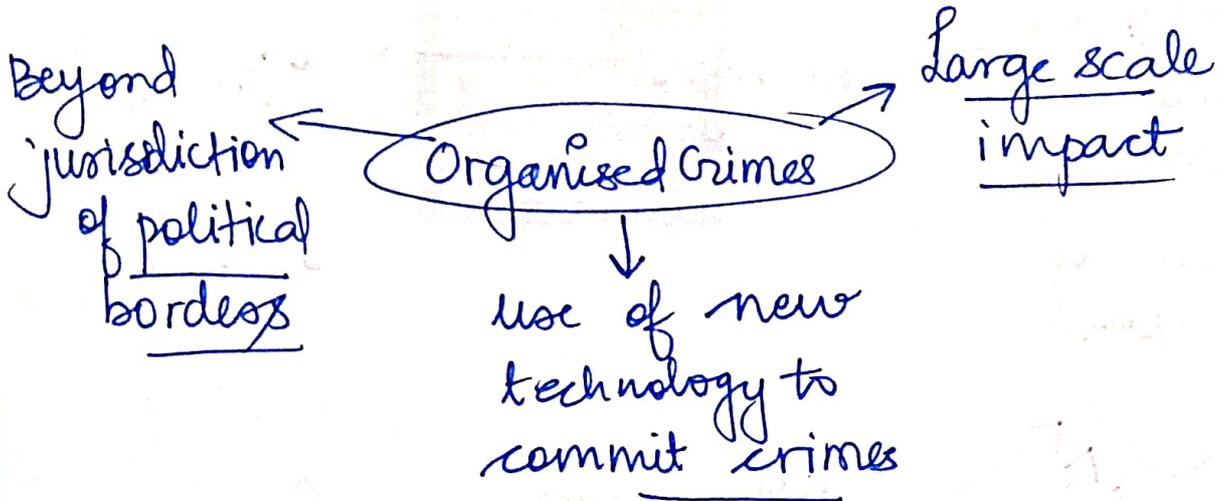
Forest fires can become a major hazard if not managed efficiently. Need of the hour is to prevent the root cause by following green energy transition.

संगठित अपराध क्या हैं? संगठित अपराध और आतंकवाद के बीच संबंधों पर चर्चा कीजिए। ये संबंध भारत के लिए आंतरिक सुरक्षा संबंधी चुनौतियाँ कैसे उत्पन्न करते हैं?

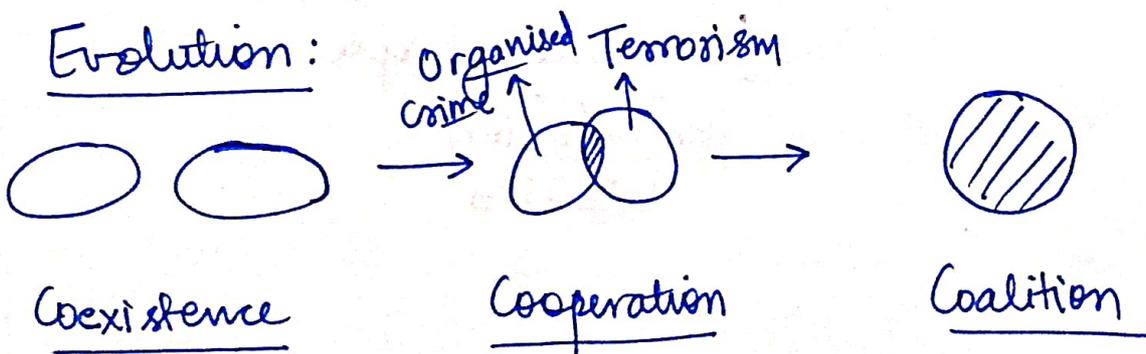
What are organized crimes? Discuss the linkages between organized crime and terrorism. How do such linkages pose internal security challenges to India?

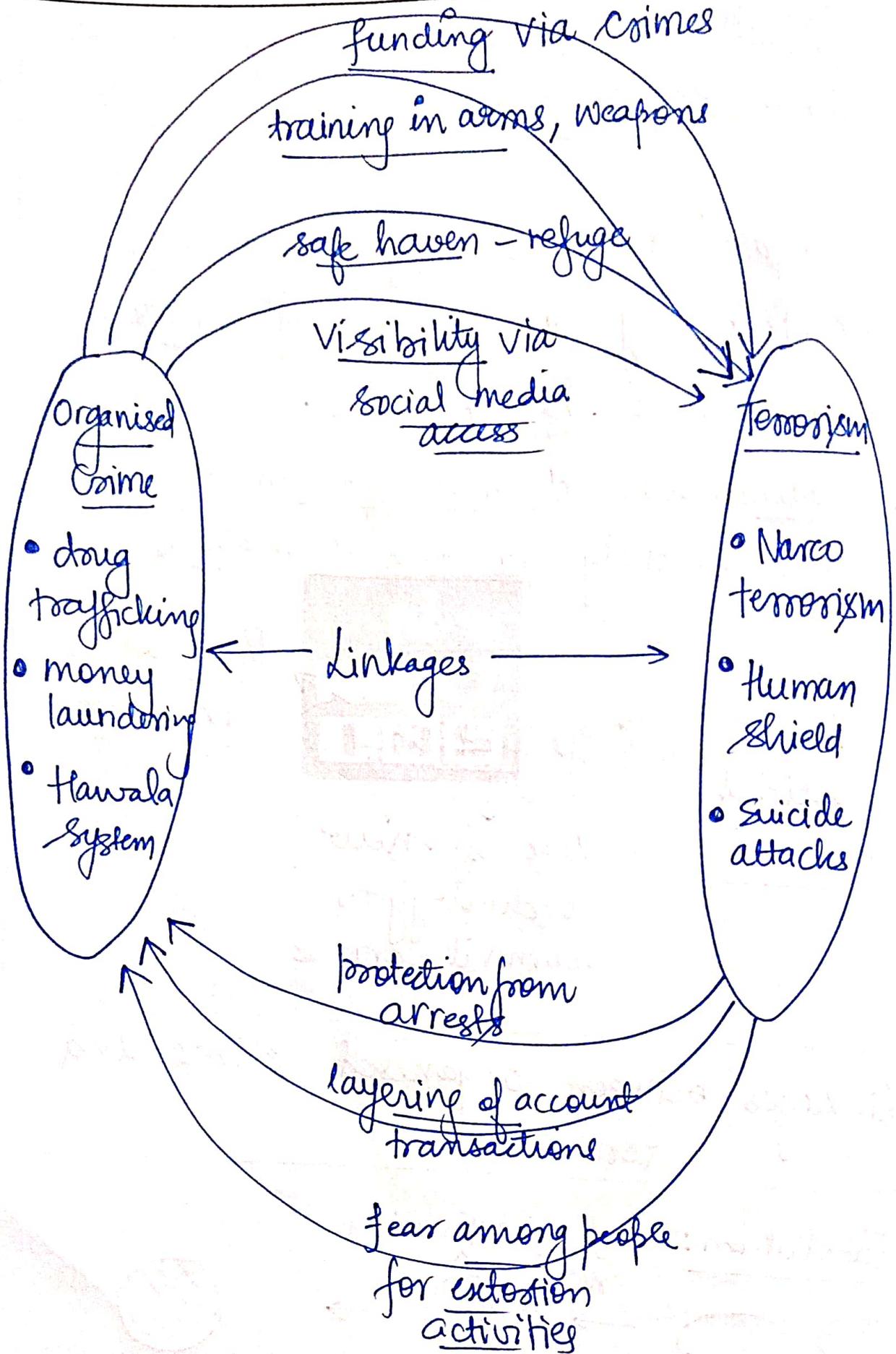
(उत्तर 250 शब्दों में दीजिए) 15 अंक
(Answer in 250 words) 15 marks

Organised crimes refer to crimes committed by a highly sophisticated group where hierarchy is absolutely maintained with clear delegation of crime activity for each member.



Linkages between organised crime and terrorism





→ ① Black money created from
proceeds of crime used for
terror training (e) LeT, Jaish etc

→ ② Drug trafficking increasing
drug addiction among youth
→ decreasing demographic dividend
(e) Punjab - cross border drones

Internal security
challenges for
India

→ ③ Counterfeiting
currency to
fund Naxals
(e) Chhatis gash.

→ ④ North East violence due
to castles of arm traffickers
(e) NSCN (I-M) faction.

→ ⑤ Creating social unrest by
spreading enmity (e) Parasulahalgaam
attacks.

India need to leverage the platform
of FATF to ensure there is 'No money
for terror' and such syndicates are destroyed

NEXT IAS

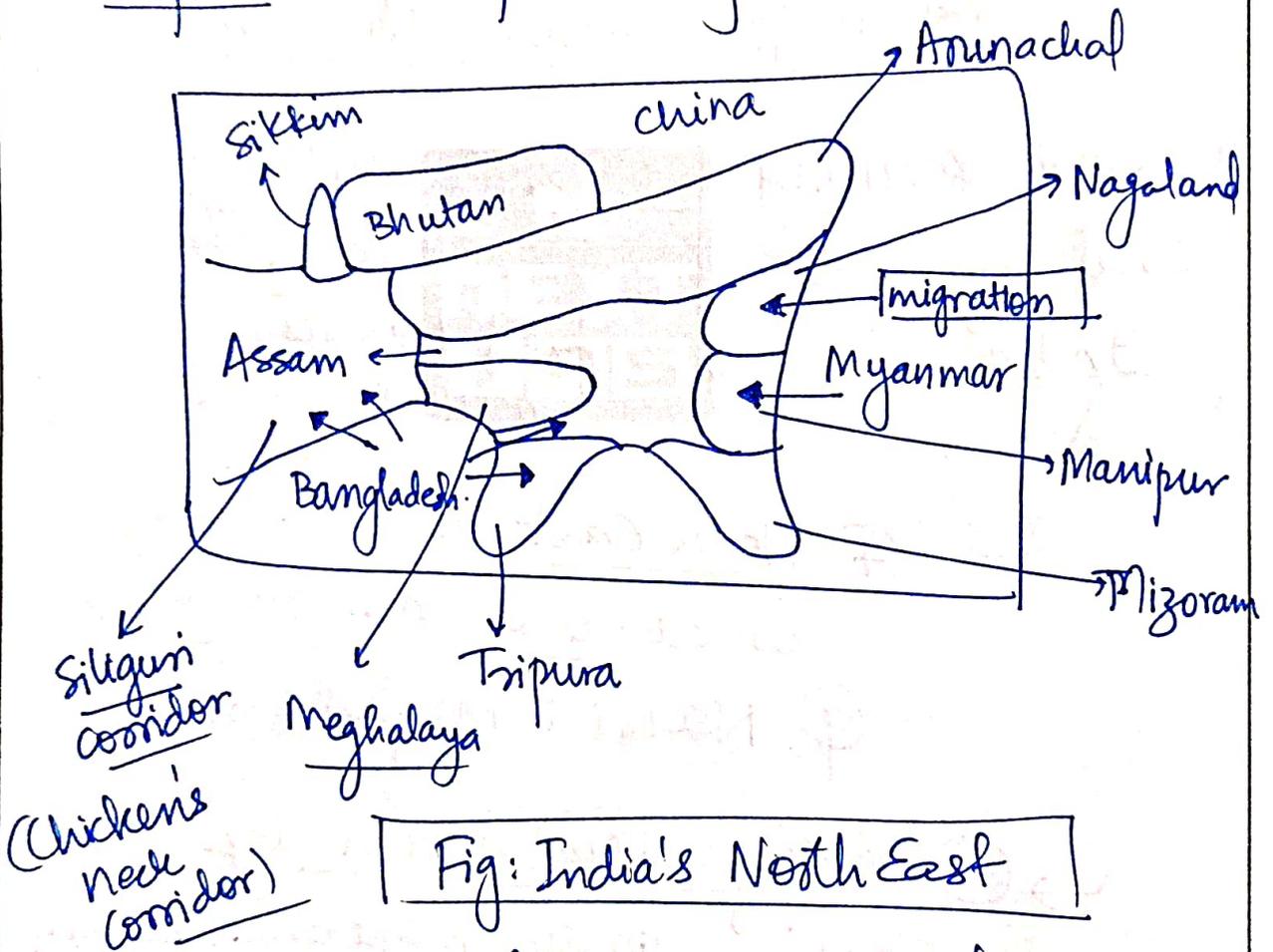
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20.

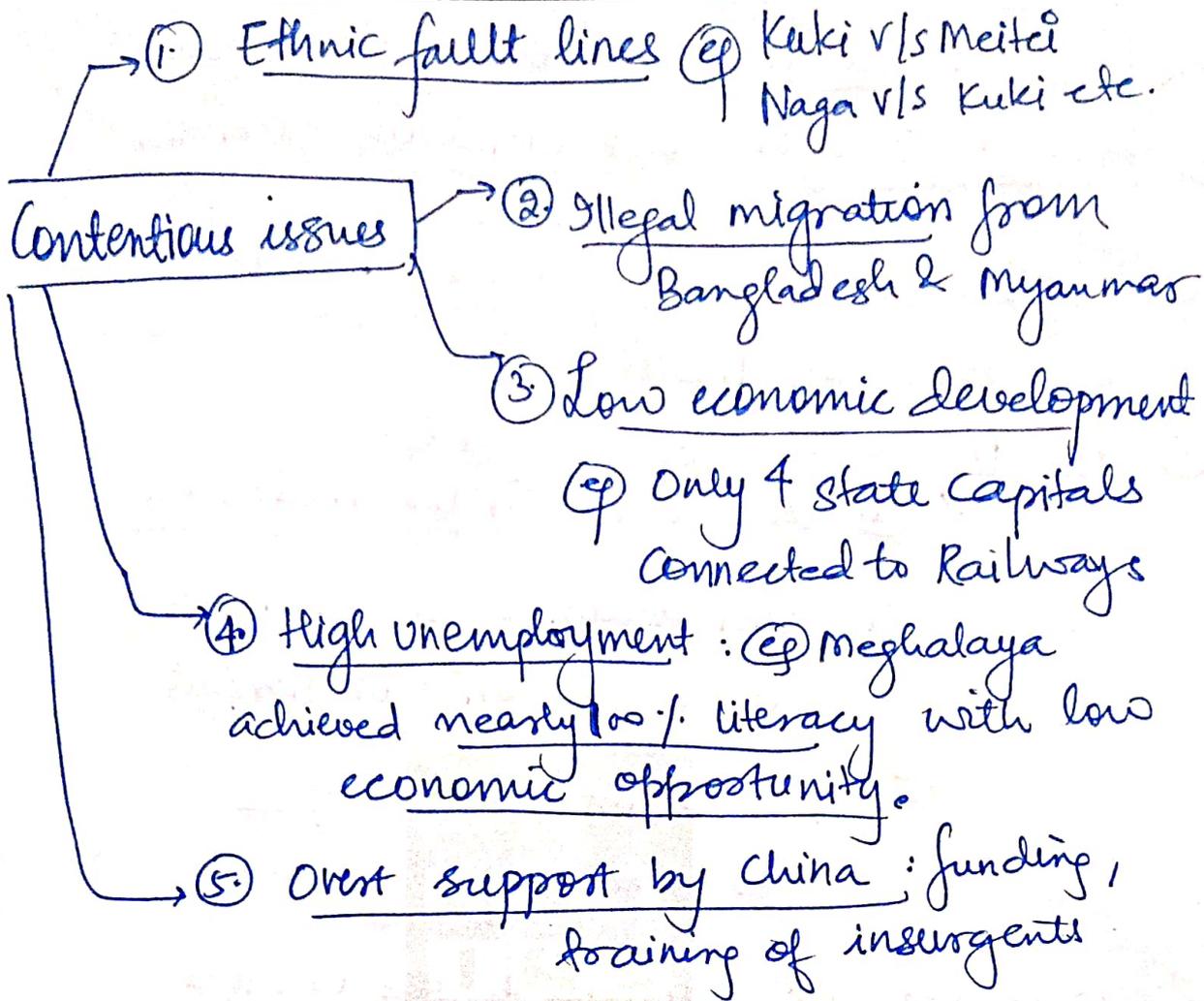
भारत का उत्तर-पूर्वी क्षेत्र विवादास्पद मुद्दों और सुरक्षा चुनौतियों से परिपूर्ण है। इस क्षेत्र में वर्तमान में व्याप्त विभिन्न सुरक्षा चुनौतियों का परीक्षण कीजिए। इन चुनौतियों से निपटने हेतु किए जाने वाले उपायों पर चर्चा कीजिए।
(उत्तर 250 शब्दों में दीजिए) 15 अंक

India's north-eastern region is fraught with contentious issues and security challenges. Discuss the steps to counter these challenges.
(Examine) the various security challenges currently prevailing in the region. Discuss the steps to counter these challenges.
(Answer in 250 words) 15 marks

Recently, President's rule has been extended for another six - months in Manipur due to prevailing sensitivities.



→ : Illegal migration from Bangladesh and Myanmar



Security challenges prevailing

- ① Arms and drug trafficking via porous borders of Myanmar.
- ② Cold peace established, ready to blast into chaos any time.
(eg) unmindful borders by Colonial powers
- ③ Unholy nexus between bureaucrats - mafias and politicians decreasing states capabilities.

NEXT IAS

Candidates must
write on this mar

④ Cultural and Demographic Threats
 ⊕ Assam carrying out eviction drives

⑤ Distrust among people leading
 to birth of insurgents.

⑥ AFSPA issue ⊕ Manipur
 → I. Law and order maintenance

① Strict action against insurgents
 ⊕ Operation Hot Pursuit

② Promotion of CIBMS
 for checking illegal migration

Steps needed → ③ Adequate & responsible use
of AFSPA

④ Suspension of FMR
 (Free Movement Regime)

→ II. Economic development

① Investment in infrastructure

② Economic opportunities ⊕ PM-
Van dhan Yojana

③ Healthcare upgrade

SAMADHAN strategy will be efficient
 to win hearts & minds of people