

NEXT IAS

MAINS TEST SERIES 2.0 - 2025 (FLT)

(To be filled by candidate)

TEST CODE : FLT2503

Test No. : 03

Name of Candidate: Himanshu Singh Mobile No.

Roll No. : MT25FLT RA035 Start Time 10:00 AM End Time 1:20 PM

Date of Examination: 23-06-2025 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, Email, 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, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा।
3. अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 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।

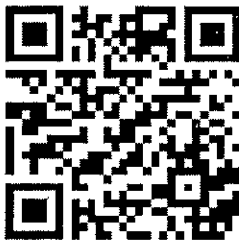
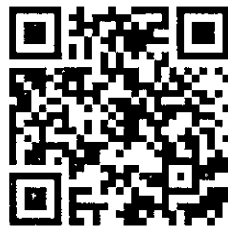
REMARKS:

FOR OFFICE USE ONLY

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

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

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

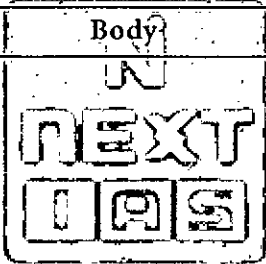
Q6.

Introduction	Body	Conclusion

Q7.

Introduction	Body	Conclusion

Q8.

Introduction	Body	Conclusion
		

Q9.

Introduction	Body	Conclusion

Q10.

Introduction	Body	Conclusion

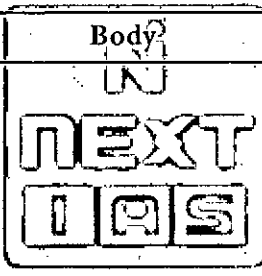
Q11.

Introduction	Body	Conclusion

Q12.

Introduction	Body	Conclusion

Q13.

Introduction	Body	Conclusion
		

Q14.

Introduction	Body	Conclusion

Q15.

Introduction	Body	Conclusion

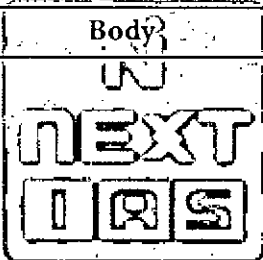
Q16.

Introduction	Body	Conclusion

Q17.

Introduction	Body	Conclusion

Q18.

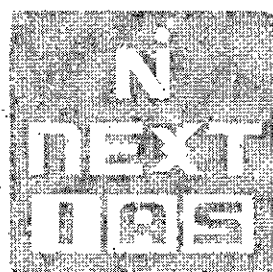
Introduction	Body	Conclusion
		

Q19.

Introduction	Body	Conclusion

Q20.

Introduction	Body	Conclusion





1. सरकारी बजट में जेंडर बजटिंग की ओर हाल ही में किए गये प्रयास महिला सशक्तिकरण के लिए इसके महत्व को दर्शाता है। भारत में जेंडर बजटिंग की दिशा में हालिया पहल और उनके महत्व क्या हैं? (उत्तर 150 शब्दों में दीजिए) 10 अंक
- The recent push towards gender budgeting in the Government Budget reflects its importance for women empowerment. What are the recent initiatives towards gender budgeting in India and their importance? (Answer in 150 words) 10 Marks

Gender budgeting refers to planning and structuring budget keeping gender dimensions in mind. Ministry of women and child development is nodal ~~agency~~ ^{ministry}. In budget 2025-26, Gender budget have been increased to 8.86% of budgeted amount.

Importance for women empowerment

- ① Access to resources, hence increasing welfare -
- ② will provide employment opportunities
 ↓
 Increase in feeling of self worth.
 ↓
 Autonomy in decision making.
- ③ Access to WASH services
 ↓
 Agent of social change in Indian Society.
- ④ Mainstreaming care economy and income support.

Recent initiatives towards gender budgeting $\Rightarrow$

- ① Part A $\Rightarrow$ completely assigned to women (100%)
 $\hookrightarrow$ 18% in 2025-26 budget.
- ② Part B $\Rightarrow$ Women ^{welfare} assigned $\geq$ 30% to 70%
 $\hookrightarrow$ 72% in 2025-26 budget.
- ③ Part C $\Rightarrow$ $<$ 30% for women welfare
 $\hookrightarrow$ 10% assigned in 2025-26 budget.
- ④ under this schemes like
 $\hookrightarrow$ PM matru Vandana Yojana
 $\hookrightarrow$ Mission Shakti
 $\hookrightarrow$ JSM -
 $\hookrightarrow$ Lakhpati Didi etc.

Hence, gender budgeting and recent initiatives are important for inclusive growth as well as achieving SDG-5 (gender equality).



2. बंदरगाह आधारित विकास को भारत में आर्थिक विकास और क्षेत्रीय एकीकरण के प्रमुख चालक के रूप में देखा जाता है। चर्चा कीजिए कि सागरमाला पहल किस प्रकार बंदरगाह आधारित विकास और तटीय अर्थव्यवस्था को बढ़ावा दे सकती है।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

Port-led development is seen as a key driver of economic growth and regional integration in India. Discuss how the Sagarmala initiative can promote port-led growth and the coastal economy.
(Answer in 150 words) 10 Marks

It is often said that "one who controls the sea controls the world". Hence port led development becomes an important component of a country's rise. India has 12 major ports, 205 minor ports.

Port led development key driver of economic growth

- ① Logistics Sector → cheapest mode of transportation and huge volume.
- ② Country's imports like crude oil, fertilisers etc can be met.
- ③ Reduced turn-around time can make Indian exports cheaper.
- ④ Perishable items such as agricultural produce can be exported and reduce the losses.
- ⑤ Employment generation + Global value chain integration.
- ⑥ India's proximity to Malacca Strait

Port led development key driver of Regional integration

- ① It promotes grid development of the region
eg India's connectivity to Central Asia through Chabahar port.
- ② Strategic interests & connectivity
eg Kaladan multimodal project to connect to Northeast using Sittoung port.
- ③ Access to hinterlands and mineral exploration
eg Indian Ocean — PMs, PMN extraction.

Sagarmala initiative to promote port-led growth and coastal economy

- ① Connectivity from India's interiors through Bharatmala.
- ② world class infrastructure in ports.
- ③ Fishing sector → storage & transport.
- ④ Reduced turn around time + ship building industry.

Hence, SAGARMALA initiative works on India's broader goal to enhance blue economy and path to Viksit Bharat 2047.



3. गैर-कृषि अर्थव्यवस्था में पशुपालन के महत्व पर चर्चा कीजिए। पशुपालन को बढ़ावा देने के लिए हाल ही में प्रस्तावित पशुधन जनगणना की क्या आवश्यकता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the importance of livestock farming in a non-farm economy. What is the need for the recently proposed livestock census in promoting animal husbandry?

(Answer in 150 words) 10 Marks

Livestock contributes $\approx 30\%$ of Agricultural GDP and India is largest producer of milk in the world $\approx 25\%$.

Importance of livestock in non-farm economy

- ① Employment generation and income support to farmers
- ② Food security as well and nutritional security of Nation.
- ③ Generation of energy
eg Bio-gas using Gobardhan scheme
- ④ Food processing such as dairy products, meat products.
(eg) Animal in USA.
- ⑤ Women-empowerment is generally in rural areas women are associated with Animal rearing
- ⑥ Exports $\rightarrow$ eg Halari Donkey milk used in cosmetics.

Need for recently proposed livestock census

- ① Measuring the number of species of livestock
- ② Camels and donkeys have been recently declining.
- ③ Extent of policies of schemes and their feedback loop -
- ④ Designing newer data oriented policies -
- ⑤ Assessing the disease preparedness and their mitigating measures -
- ⑥ Investing in research and development by assessing the scope of animal husbandary.
- ⑦ Assessing quality of indigenous breeds and using hybridization for increasing productivity.

Hence, livestock census needs to be completed as soon as possible to enhance agricultural economy -



4. न्यूनतम समर्थन मूल्य किसानों की आय को बढ़ाने में कैसे मदद कर सकते हैं? न्यूनतम समर्थन मूल्य का लाभ प्राप्त करने में किसानों को किन चुनौतियों का सामना करना पड़ता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

How can minimum support prices help in promoting farmers' income? What are the challenges faced by farmers in accessing the benefits of minimum support prices?

(Answer in 150 words) 10 Marks

Minimum support prices are announced by CCFA ^(MSP) on recommendation of CACP. It is announced by 23 crops at present.

MSP in promoting farmer's income

- ① Safety net → In wake of climate change and erratic weather patterns, it can insure farmer's ~~pro~~ income.
- ② MSP can be used as tool for diversification by incentivising production of agro-climatically suitable crops. eg. Millets in North western India.
- ③ Income support for marginal & small farmers

Challenges faced by farmers in accessing the benefits of MSP

- ① Regional disparity — more procurement from Punjab, Haryana, western UP.

- ② Dysfunctional APMC markets and menace of middle men -
- ③ Lack of logistics support and storage facilities makes farmers to sell their produce at farm level -
- ④ Small & marginal farmers
 $\rightarrow$ 86.1% of Indian farmers / 2016 Agri census
 $\Downarrow$
 more skewed towards rich & wealthy farmers

Measures to be taken -

- ① Price deficiency system can be applied to enhance accessibility
- ② Bhavantar bhugtan of MSP
- ③ Reforms in APMC's to root out Athatis selling produce in any state
- ④ Open procurement of wheat & rice to be rationalised.
- ⑤ Shanta Kumar Committee recommendation on MSP & procurement can be applied.

Hence, to maximise benefits of MSP, a barbell strategy can be adopted based on crop diversification and reforms in market.



5. कृत्रिम तंत्रिका नेटवर्क क्या हैं? मशीन लर्निंग और कृत्रिम बुद्धिमत्ता में उनके महत्व पर चर्चा कीजिए।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

What are artificial neural networks? Discuss their importance in machine learning and artificial intelligence.

(Answer in 150 words) 10 Marks

2024 nobel prize in physics was provided for artificial neural networks. Artificial neural networks are ^(ANN) networks that stimulate human intelligence using similar mechanisms to neurons to solve real-world problems.

They use Maxwell-Boltzmann Statistics of statistical mechanics.

Importance in Machine Learning and Artificial Intelligence

- ① Data prediction - when ANN is trained it can successfully predict further data.
- ② ANN can be used in facial recognition i.e. AI.
- ③ ANN can perform deep learning for machine learning.

④ ANN can be used to generate data and useful stories

⑤ Generative AI

⑥ ANN has further application in AI as AI agent and problem solving—

Hence, Artificial neural networks are fundamental unit of machine learning and Artificial intelligence that is gonna revolutionize human life



6. रक्षा क्षेत्र और आधुनिक युद्ध में मानव रहित हवाई वाहनों (यूएवी) के महत्व पर चर्चा कीजिए।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the importance of Unmanned Aerial Vehicles (UAVs) in the defense sector and modern warfare.

(Answer in 150 words) 10 Marks

Unmanned aerial vehicles are vehicles that are remotely piloted and does not need active pilot in the cabin itself.

Importance of UAV's (Unmanned aerial vehicles) in defence sector

- ① Surveillance and intelligence gathering along harsh terrains and border areas.
- ② Boosting exports → developing military industry ~~technology~~ complex in India.
- ③ Rescue and support to armed forces
- ④ Delivery of essential medical items and other ammunitions.
- ⑤ Dual use technology and defense modernisation.
- ⑥ Creation of credible deterrence and technical superiority.

Importance of VAV's in modern warfare

- ① In era of modern warfare i.e. no boots on land war, these become essential
- ② Drone strikes ~~are~~ in operation since 1980s
- ③ Threat neutralization ~~is~~ by targetting terrorist camps directly.
- ④ Ease of operation and ~~low~~ low casualties of armed forces -
- ⑤ Intercepting missiles of other countries.

Recently, Govt. has amended civil aviation rules to include drones and their use for productive purposes.



7. समुद्री और तटीय पारिस्थितिकी तंत्र पर तेल रिसाव के पर्यावरणीय प्रभावों की जांच कीजिए। तेल रिसाव की सफाई के लिए इस्तेमाल की जाने वाली विभिन्न विधियाँ क्या हैं? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Examine the environmental impacts of oil spills on marine and coastal ecosystems. What are the various methods used for cleaning-up of oil spills?

(Answer in 150 words) 10 Marks

Oil spills refers to a disaster ~~disaster~~ in which crude oil and other liquid hydrocarbons are spilled on sea or ocean surfaces

Environmental impacts of oil spills on marine and coastal ecosystems

- ① Coastal ecosystems → Continental shelf is zone of high biodiversity and oil spills can adversely affect them -
- ② ocean currents and cold welling, upwelling are also affected
- ③ Biodiversity challenges → Coral reefs are sensitive organisms, oil spills can cause coral bleaching
- ④ Oil spills adversely affect CO₂ capture by oceans

⑤ Affects navigation and sea trade

Various methods for cleaning up of oil
spills

- ① Oil zipper bacteria - That can eat up oil.
- ② Distillation and crystallographic methods to segregate oil from water.
- ③ Manual cleaning using suction pumps & fans to clean the oil.

Hence, oil spills are tackled through such measures, Furthermore storage & transportation technologies can be enhanced to ~~to~~ prevent oil spills.



8. भूकंप संबंधी आपदाओं के प्रति उत्तरी भारत की संवेदनशीलता पर चर्चा कीजिए। उनके प्रभावों को कम करने में भारत की तैयारियों पर प्रकाश डालें। (उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the vulnerability of northern India to earthquake-related disasters. Highlight India's preparedness in mitigating their impacts. (Answer in 150 words) 10 Marks

Earthquakes refers to shaking of land due to tectonic activities or anthropogenic activities. Northern India contains zone-II, zone III etc of earthquakes.

Vulnerability of northern India to Earthquake related disasters

- ① High population density in northern areas increases risk
eg Delhi, Chandigarh etc.
- ② Critical ecosystems → can trigger glacial lake outburst floods (GLOF) and landslides in the region
- ③ Himalaya → Joshimath subsidence
→ Silkyara tunnel collapse
- ④ Lack of preparedness such as flood plain zoning (Earthquake induced floods) and lack of enforcement of National building codes.

India's preparedness in mitigating their impacts

- ① Assessment → Landslide atlas of India & GLOF mapping.
- ② Inter agency coordination → SDMA, NDMA collaboration and NDRF response with district administration.
- ③ Structural measures → Dams, open spaces, National building codes etc -
- ④ Non-Structural measures → Find and rescue, early warning systems etc -
- ⑤ Capacity building → Mock drills in schools, colleges + training & visual posters.

disaster Further, Retrofitting and climate & resilient infrastructure needs to be promote to reduce vulnerability of Earthquake induced disasters.



9.

चर्चा करें कि क्रिप्टोकॉरेसी और अन्य उभरती प्रौद्योगिकियां मनी लॉन्ड्रिंग और आतंकवाद के वित्तपोषण के खतरे में कैसे योगदान करती हैं। इस समस्या से निपटने के लिए भारत सरकार द्वारा क्या कदम उठाए गए हैं?

(उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss how cryptocurrency and other emerging technologies contribute to the menace of money laundering and terror financing. What steps have been undertaken by the Government of India to tackle this issue? (Answer in 150 words) 10 Marks

Cryptocurrency is based on blockchain technology which has emerged out as significant tool for money laundering.

Money laundering → Placement → Layering → Re-integration

Cryptocurrency and other emerging technologies contributing to money laundering

- ① Anonymity associated with transactions of cryptocurrency → money laundering.
- ② Globalised world and technology enhancement has made it easier
- ③ New form of Hawala systems
- ③ Virtual digital assets are now tracked and stored easily
- ④ Round tripping using digitised space through shell-companies
- ③ Cyprus papers, Panama papers

Steps undertaken by Govt - of India

- ① Legal → Prevention of money laundering act and amendment
 ↳ FEMA act
 ↳ PMLA act
- ② Institutional → Enforcement Directorate
 ↳ Financial intelligence units
- ③ International → Vienna convention
 ↳ FATF collaboration
 ↳ Double taxation avoidance agreements

With new forms of technologies responsible for money laundering. India needs to ramp up its technological expertise and trained manpower to address pending problems with respect to money laundering.

10. हाइब्रिड युद्ध क्या है? यह पारंपरिक युद्ध से किस प्रकार भिन्न है? भारत हाइब्रिड युद्ध की चुनौतियों का सामना किस प्रकार कर सकता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक
- What is hybrid warfare? How is it different from conventional warfare? How can India navigate the challenge of hybrid warfare? (Answer in 150 words) 10 Marks

Hybrid warfare refers to warfare using various kinetic and non kinetic measures such as cyberwarfare, debt trap, psychological warfare, etc.

Differences between hybrid & conventional warfare

	Hybrid	Conventional
Types	① Psychological warfare, Information warfare, Cyber warfare, Trade wars etc	① Air warfare, Land warfare, Sea warfare
Extent	② Multiple domains and can be waged by any country	② Generally waged by neighbouring countries on specific issues
Tactics	③ Multiple tactics both kinetic and non-kinetic	③ Using boots on ground and includes Casualty.
Counter measures	④ Hard to counter because of fear of escalation	④ Hard power

India to navigate challenge of hybrid warfare →

- ① Learning from global best practices
eg NATO's hybrid warfare strategy
- ② Defence indigenisation and
improving both soft power & hard power
- ③ Developing national security doctrine
with whole of nation approach.
- ④ Cooperating with like minded
countries.
- ⑤ Push for ^{Convention} ~~treaty~~ on hybrid warfare
in UN
- ⑥ Technical superiority than counterparts
and investing in newer technologies
like quantum computing, cryptography.

Hybrid warfare in the globalised
world can be tackled by cooperation
and forging strategic partnerships
in the region



11.

भारत द्वारा मजबूत डिजिटल अर्थव्यवस्था के लिए प्रयास करने के बावजूद, भारत को डिजिटल समावेशन के संबंध में चुनौतियों का सामना करना पड़ रहा है। चर्चा कीजिए। डिजिटल संसाधनों तक समान पहुँच सुनिश्चित करने के उपाय सुझाएँ।

(उत्तर 250 शब्दों में दीजिए) 15 अंक

Despite India's push for a robust digital economy, India faces challenges with regard to digital inclusion. Discuss. Suggest measures to ensure equitable access to digital resources.

(Answer in 250 words) 15 Marks

Digital Inclusion refers to accessibility, affordability and quality of digital services and initiatives to all people. India's digital public Infrastructure includes UPI, digistack, agristack etc.

India's challenges with regard to digital inclusion →

- ① Digital divide → Regional disparities in internet connectivity in rural areas.
eg tribal hinterlands
- ② Affordability → Data prices are significantly increasing over time.
- ③ Gender dimension → lack of access to girl child and women in rural areas.
- ④ Education about digital services like e-NAM.

- ⑤ Trust issues in the light of cybercrimes, digital arrests.
⑥ According to CERT-IN → around 6000 cybercrimes a day

- ⑥ Technological isolation for elderly and senior citizens -

Measures to ensure ^{access to} digital resources

- ① Digital education → spreading awareness and educating the masses about digital space.
⑥ Training camps - Yantraadoot in M.P.

- ② Investing in digital infrastructure and cybersecurity.

- ③ Availability of choices at affordable prices

- ④ Incorporating newer technologies to increase accessibility.

- ⑥ Starlink by SpaceX
(satellite based internet)

- ⑤ Cooperation with like minded countries
⑥ UPI in Bangladesh, Singapore etc

India's Measures

- ① Digital agriculture mission for improving farm economy.
② UPI like for accessibility
③ Bharatnet for e-governance
④ DPDP act 2023 for data localisation and data user principles.

Digital economy has potential to transform India into knowledge economy hence such measures needs to be taken for digital inclusion.



12.

जैसे-जैसे कृत्रिम बुद्धिमत्ता अर्थव्यवस्था के विभिन्न क्षेत्रों में प्रवेश कर रही है, वैसे-वैसे नौकरियों का खतम होना एक वास्तविकता बनती जा रही है। रोजगार पर एआई के प्रभावों का विश्लेषण करते हुए, इस चुनौती से निपटने और रोजगार वृद्धि को बढ़ावा देने के उपाय सुझाएं। (उत्तर 250 शब्दों में दीजिए) 15 अंक

As artificial intelligence penetrates into various sectors of the economy, job losses are becoming a reality. Analysing the impacts of AI on employment, suggest measures to navigate this challenge and promote job growth. (Answer in 250 words) 15 Marks

Artificial intelligence (AI) refers to simulating ~~digital~~ human intelligence on computer systems using artificial neural networks. Recent developments in AI have caused stressed on job markets causing job losses.

Impacts of AI on employment

(A) Positive impacts

- ① Can function as artificial agent to boost labour productivity.
- ② Optimal use of available time by optimization of employee time.
- ③ Training and simulation using AI
- ④ Recruitment process will be made easy using large data sets.

⑤ AI as tool for upskilling and re-skilling.

③ Negative impact

① Threatens to take away jobs
both manual and intellectual
eg Teachers, Doctors.

② Pink collared jobs are the easiest
prey
eg Receptionist, Nurses etc.

③ Quality of Indian workforce further
presents challenges

eg According to India skills report 2024
only 5-10% of Indian's are formally
skilled.

④ Jobs of developers, writers, coders
eg Hollywood writers strike (2024)

Measures to navigate these challenges
and promoting job growth

① Re-skilling and up-skilling using
global best practices such as S. Korea's
internship programme.

- ② AI will also create jobs according to labour ministry $\approx$ 10 million jobs by 2030, hence needs to overall our education system.
- ③ Initiatives like Hackathon needs to be organised in large numbers.

Artificial intelligence is a revolution that provides both window of opportunity for job growth as well as challenges hence needs to be tackled by taking appropriate steps.



13. भारत में फसल-उपरांत होने वाला नुकसान प्रतिवर्ष लगभग ₹1,52,790 करोड़ है। भारत में फसल-उपरांत होने वाली हानियों के लिए किस हद तक कृषि उत्पादों के परिवहन और विपणन में आने वाली बाधाओं को जिम्मेदार ठहराया जा सकता है?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

India's post-harvest losses amount to approximately ₹1,52,790 crore annually. To what extent can post-harvest losses in India be attributed to the constraints in the transport and marketing of agricultural products?

(Answer in 250 words) 15 Marks

Post-harvest losses as highlighted by Economic survey ($\approx$ 1.52 lakh crore) pose a threat to sustainable agriculture and food security of the nation.

Post harvest losses attributed to transport

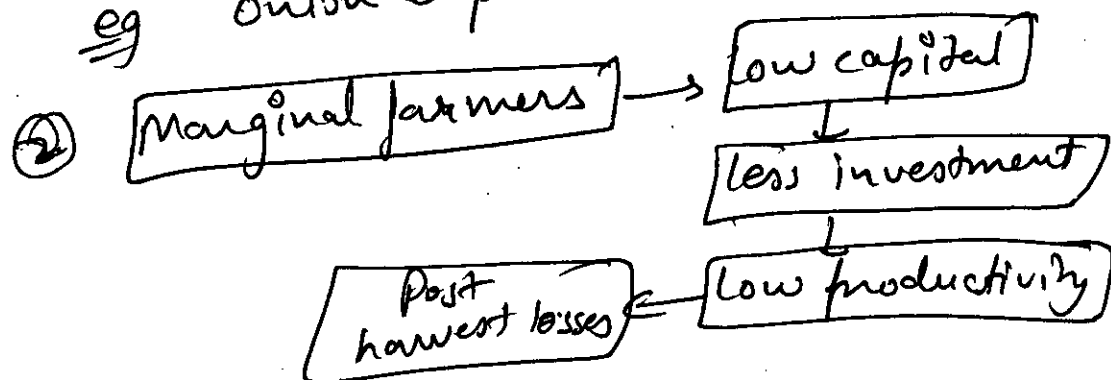
- ① Lack of mechanisation in handling the produce.
eg Only 40% of farms are mechanised.
- ② Middle man in the transport sector also dis-incentivises farmers.
- ③ Lack of storage and cold chains
↓
spoiling of perishable items.
- ④ High logistics cost and lack of all weather connectivity in hinterlands.
- ⑤ Cobweb phenomenon affecting production + pricing.

Post harvest losses attributed to marketing

- ① Lack of branding and grading mechanisms.
- ② Lack of brand recognition and promotion
 $\Downarrow$
 low profit
 $\Downarrow$
 less investment in marketing.
- ③ Sanitary issues and lack of professionalism in marketing and processing.
- ④ Spatial mismatch and regional disparities in marketing facilities
 (eg) more skewed towards North-western India
- ⑤ APMC issues and high Mandi fees.

Other reasons for post harvest losses

- ① Policy uncertainty disincentivizes investors to invest in storage facilities
 eg onion export ban



eg Agricultural census $\approx$ 1.08 hectare
average landholdings

③ More consumer oriented policies
of govt.

eg ECA, 1955.

④ Climate change induced spoils
measures to be taken

① PPP models for investment in
marketing & transport.

② Farmer producer organisation and
Primary agricultural societies needs to be
mobilized.

③ Use of AI and other technologies
for optimization of transport & market

④ Climate resilient crop varieties with
higher shelf life needs to be promoted
eg Japan's new rice variety.

Indian govt. Largest ~~to~~ storage programme
in cooperative sector for food grains is
step in right direction, further
Ramesh chandra committee recommendations
can be implemented

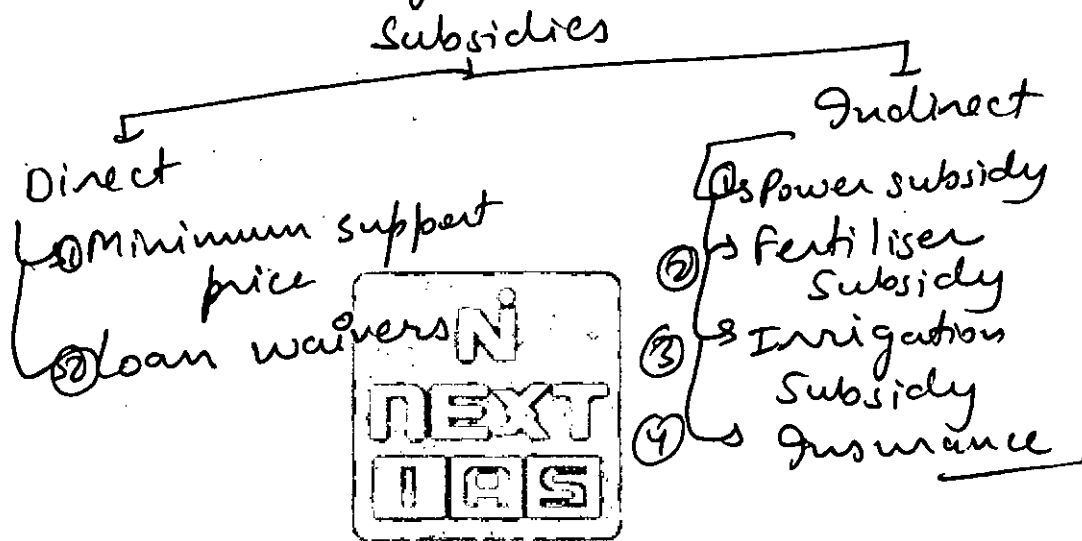
14.

भारतीय कृषि में प्रत्यक्ष और अप्रत्यक्ष सब्सिडी क्या हैं? इन सब्सिडी ने देश की फसल विविधता और कृषि अर्थव्यवस्था को किस प्रकार प्रभावित किया है? (उत्तर 250 शब्दों में दीजिए) 15 अंक

What are the direct and indirect subsidies in Indian agriculture? How have these subsidies impacted the cropping diversity and farm economy of the country?

(Answer in 250 words) 15 Marks

Subsidies in India are provided both by Central govt. and state govt. based on regional aspirations.



Direct subsidies ⇒ That directly benefit farmers, majorly approved by central govt.

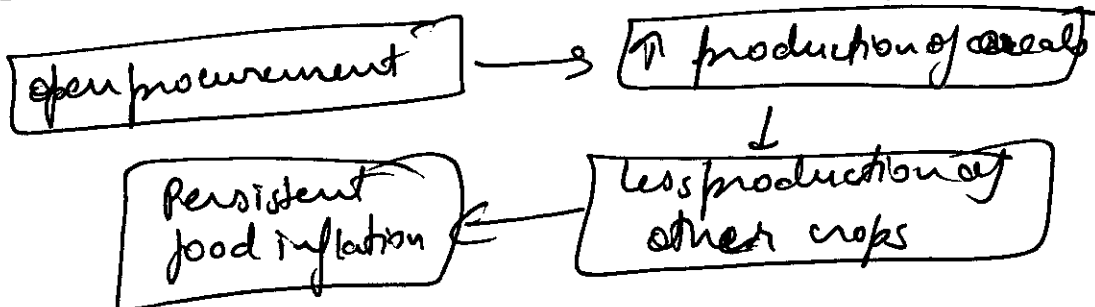
Indirect subsidies ⇒ That indirectly benefits farmers, like loan and insurance & incentivisation by govt., majorly approved by state govt.

Impact on Cropping diversity

- ① Monocultural practices → MSP
have incentivised Rice & wheat cultivation
(open procurement), making India's
agriculture victim of its own success
- ② Soil fertility has declined due
to disproportionate use of fertilisers
and water
- ③ Salinisation in Punjab, Haryana.
- ④ Crops are grown in places where they
are not agronomically suited
- ⑤ Sugarcane in U.P, Maharashtra.
- ⑥ Decline in cultivable area for pulses,
oil seeds, Millets.

Impact on farm economy

- ① market distorting → These ultimately
hurt the poor



- ② Regressive in nature
 - eg Electricity, water used more by rich & influential farmers
- ③ Unsustainable subsidies
 - ↓
 - less capital for storage, Research & development
 - ↓
 - Affects productivity
- ④ High input cost
 - eg India is a virtual water exporter i.e 4 time China

Measures to be taken

- ① Direct benefit transfers + targeted subsidies
- ② Promotion of microirrigation + Precision agriculture to reduce input cost.
- ③ Prof. Ashok Gulati's suggestion of increasing Research & development $\geq 1\%$ of agriculture GDP and reducing subsidies.

As mentioned by Economic survey DBT (direct benefit transfer) will wipe every tear from every eye should be promoted for rationalisation of subsidies.



15. भविष्य के अंतरिक्ष संचालन और मिशनों में पुनः प्रयोज्य प्रक्षेपण वाहनों की क्षमता पर चर्चा कीजिए। पुनः प्रयोज्य प्रक्षेपण वाहनों के विकास की दिशा में भारत की क्या पहल है? (उत्तर 250 शब्दों में दीजिए) 15 अंक
- Discuss the potential of reusable launch vehicles in future space operations and missions. What are India's initiatives towards the development of reusable launch vehicles? (Answer in 250 words) 15 Marks

Reusable launch vehicles refers to launching tools, ^(RLV's) rockets that can be reused for putting payload into the orbit. Recently Space X has demonstrated RLV's using chopstick technology.

Potential of reusable launch vehicles in space operations & missions

- ① For international space stations ⇒ ease of supplying equipments and survival items.
- ② Ease of rescue, recovery as well as delivery for astronauts and cosmonauts.
- eg ~~that~~ Sunita Williams would not have stuck in space if there was RLV's
- ③ Space tourism ⇒ Tourism industry will get a boost making it more affordable.

- ④ Environmental friendly ⇒
Recovering of space debris from
space can be easily undertaken
eg Netra mission of ISRO
- ⑤ Colonization of other planets
eg Space X plan to colonise Mars.
- ⑥ Improvement in Research &
development
eg NASA's plan to setup research
base on Moon.

India's Initiatives towards reusable launch vehicles

- ① ISRO has demonstrated RLV-TO
(i.e RLV - technology demonstration)
vehicles.
- ② ISRO has also designed PUSHPAK
for RLV's.
- ③ ISRO plans to setup Bharatiya
Antariksh station by 2035
using RLV's

- ④ Training of future astronauts
using Gaganyaan mission
- ⑤ Group Captain ~~Shubhanshu~~ Shukla - Axiom 4
- ⑥ Collaboration with like minded
space ~~and~~ agencies
eg JAXA, NASA, Roscosmos
- ⑦ Transfer of technology and cooperation
with private startups.
- ⑧ India's space policy.

RLV's brings about new dimension
to space exploration expanding human's
reach to different planets and
fascinating future.



16. हाल ही में शुरू की गई BioE3 नीति के लक्ष्यों और उद्देश्यों की व्याख्या कीजिए। यह नीति अर्थव्यवस्था के "हरित विकास" को सुनिश्चित करने में किस प्रकार सहायक हो सकती है? (उत्तर 250 शब्दों में दीजिए) 15 अंक
Explain the aims and objectives of the recently launched BioE3 policy. How can the policy help in ensuring "green growth" of the economy? (Answer in 250 words) 15 Marks

BioE3 policy also known as Biotechnology for Environment, Economy and Employment was launched by MoST with steering body to be Department of biotechnology.

Aim of Bio E3

- ① Bio manufacturing promotion for pharma sector.
- ② Bio manufacturing for Environment friendly solutions
- ③ Promoting economic growth and making India leader in Biotechnology.

Objectives of Bio E3 policy

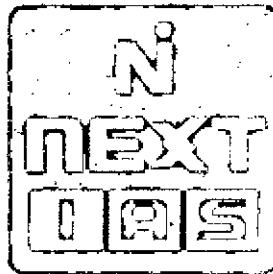
- ① Employment generation especially in Tier II and Tier III cities.

- ② Bridging spatial mismatch between Research and development facilities and Researchers.
- ③ Finding ~~easy~~ sustainable solutions
- ④ Enhancing lab to land connect
- ⑤ Indegenisation of biotechnology and reducing import dependence for API's (active pharmaceutical ingredient)

BIO E3 in ensuring green growth

- ① Environment friendly solutions to issues like stubble burning, food to fuel technologies.
- ② Reducing GHG concentration by biomanufacturing of enhanced plants that absorb GHG's.
- ③ Providing green jobs.

Hence, BIO E3 policy provides
a window of opportunity to make
India self reliant and more
sustainable aligning with goal of
Atma Nirbhar Bharat





17. क्योटो प्रोटोकॉल के अंतर्गत विभिन्न बाजार तंत्र क्या थे? पेरिस जलवायु परिवर्तन समझौते का अनुच्छेद 6 क्या है? नेट-शून्य लक्ष्यों को प्राप्त करने में वैश्विक कार्बन बाजार के महत्व की व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक
What were the various market mechanisms under the Kyoto Protocol? What is Article 6 of the Paris Climate Change Agreement? Explain the significance of the global carbon market in achieving net-zero targets.
(Answer in 250 words) 15 Marks

Kyoto protocol was signed in 1997
under COP of UNFCCC dividing
countries into Annex-I and non-
Annex countries.

Market mechanisms under Kyoto Protocol

① CBM → for implementation of green projects by developed countries (Annex-I) into developing countries that will earn them carbon credits.

② Joint implementation (JI) →

Annex-I countries can cooperate and invest in Annex I countries for green projects and reducing carbon emissions.

③ market mechanisms for trading of carbon credits across countries.

Paris Climate Change agreement → It was signed in 2014 under UNFCCC under goal of reducing GHG emissions. Article 6 talks about market mechanisms for ^{emission} trading.

- ① It also includes - INDC's for reducing GHG emissions
- ② Market mechanisms that still have not come into force yet.

Significance of Global carbon markets in Net-zero targets

- ① Global cooperation for global common goods by reducing global warming caused by GHG emissions
- ② Transfer of resources from developed to developing and underdeveloped countries
- ③ Raising awareness for climate change

- ④ Investment in climate friendly technologies by private sector.
- ⑤ Global efforts towards mitigation, adaptation goals.

Recent Global Stocktake as well as IPCC AR6 has highlighted significant shortfalls in climate preparedness and mitigation, hence adoption of CBDR-RC (Common but differentiated responsibility - Respected capabilities) is required to fight the menace of climate change.



18.

जलवायु परिवर्तन और तेजी से हो रहे शहरीकरण ने भारत में गर्मी की लहरों के प्रभाव और आवृत्ति को तीव्र कर दिया है। चर्चा कीजिए। हीट एक्शन प्लान (एचएपी) भारत में हीटवेव प्रबंधन को कैसे बेहतर बना सकते हैं?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

Climate change and rapid urbanization have intensified the impact and frequency of heat waves in India. Discuss. How can Heat Action Plans (HAPs) improve heatwave management in India?

(Answer in 250 words) 15 Marks

According to IPCC-AR6, global temperature ^{pre-industrial} have increased by 1.09°C since industrial level and recent pattern of urbanisation across the world has made heat waves impact & frequency more pronounced.

According to WMO, heatwaves refers to approx 5-6°C rise in temperature than normal temperature.

Climate change and rapid urbanisation intensified impact of heatwaves in India

① Monsoon → urban heat island effects has disproportionately affected Monsoon

② Aerosol and GHG emissions further increase temperature in Indian cities.

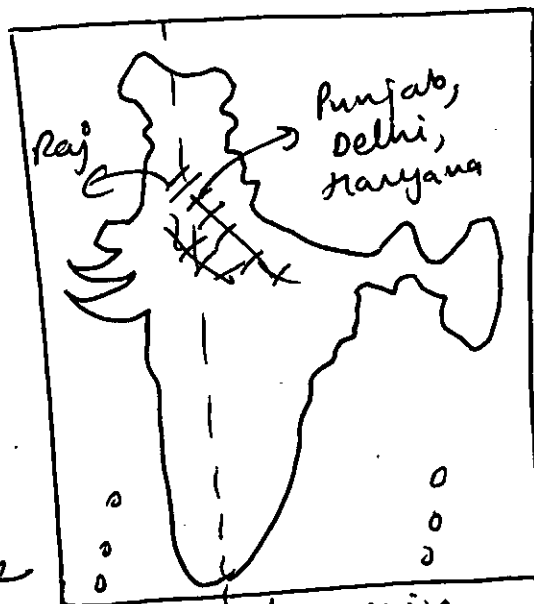


Fig Heatwaves in April and May 2025.

- ③ Cooling demand in urban areas
 $\Downarrow$
 more power consumption
 $\Downarrow$
 GHG emissions by Thermal power plants.
- ④ Health $\rightarrow$ Diseases, heat stroke are becoming common
- ⑤ Disproportionately impacts Economic activities in urban areas.
- ⑥ Agricultural economy is further impacted
 (eg) According to Economic survey
 $1^{\circ}\text{C rise} \Rightarrow 4.2\%$ in kharif crop productivity decrease

Climate change and rapid urbanisation have increased frequency

- ① land use changes $\rightarrow$ Albedo is effected making temperatures rise.
- ② Destruction of local water bodies which have cooling effect.
- (eg) Bangalore once city of lakes have lost significant lakes.
- ③ High population density in urban areas also impacts response & psychological effects.

④ Climate change induced sea surface temperature have delayed onset of monsoon as well as increased break in monsoon

⑤ IPCC AR6 → Indian ocean 0.7°C rise in sea surface temperature

Heat action plans to improve heatwave management

① Assessment → ~~As~~ Prediction of heatwaves as well as early warning systems to reduce vulnerability.

② Identification of high population density areas and traffic congestions

③ Shades on Traffic lights & bus stands

③ Response → Availability of paramedical and ambulance services

↳ Availability of fire brigade to avoid fire hazard.

④ Capacity building → by training in techniques of CPR, hydration etc.

Heatwaves have become a menace in modern times, hence including it into NDMA's disaster list can be the way forward.



19.

बाह्य सरकारी एवं गैर-सरकारी तत्वों द्वारा भारत की आंतरिक सुरक्षा के लिए उत्पन्न खतरे कथ्या हैं? इन खतरों से निपटने के लिए आवश्यक रणनीतियों पर चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

What are the threats posed to India's internal security by external State and non-state actors? Discuss the strategies necessary to tackle these threats. (Answer in 250 words) 15 Marks

India's location and stature in geopolitics have invited various threats by external state and non-state actors such as terrorism, narcotics, cyberterrorism etc.

Threats posed by External state actors

- ① Cyber warfare
use of cyberspace by chinese counterparts
- ② world bank highlighted China can interfere in Lok Sabha elections 2024.

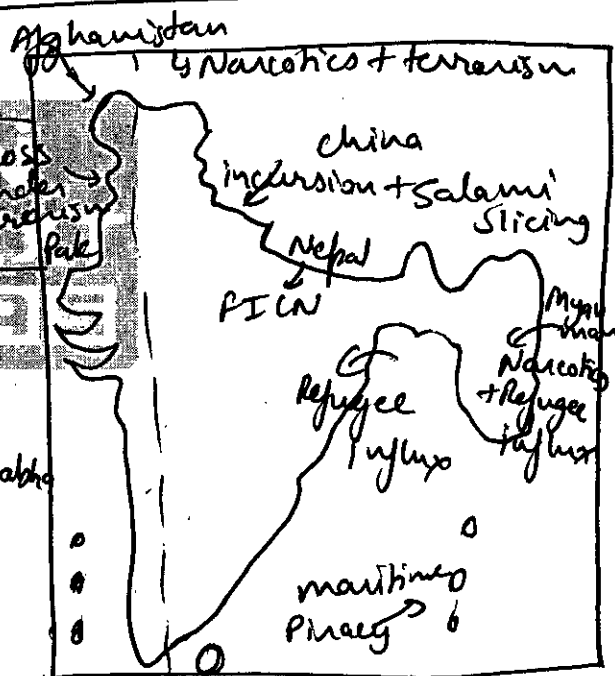


Fig. Threats

- ② Border challenges
 - Pakistan - Cross-border terrorism
 - Myanmar - Narcotics
 - Nepal - Fake Indian currency notes
- ③ Maritime threats ⇒

Katchatheevu Island issue and capture of Indian fishermen by Sri Lanka.

- ④ Ideological support and radicalisation
 - ⑥ Pakistan's sponsored overground workers.
 - Naxalism supported by china
- ⑤ Refugee influx → Mass and mixed
illegal immigration
 - ⑥ Rohingyas

Threats pose by External non-state actors

- ① Terrorism and terror threats like
 - ⑥ from organisation Lashkar-e-Talibani
- ② Narco terrorism → closeness to
Golden Crescent (Pak, Afghan) and
golden triangle (Myanmar, Laos, Thailand)
has made India both transit route
and destination.
- ③ Piracy → in Indian ocean
region
- ④ cybercrimes like digital arrest,
phishing, man in middle attack
have now become common.

Strategies necessary to tackle these threats

- ① Funding $\Rightarrow$ No money for terror and stopping money laundering
- ② Devising a suitable National security doctrine with whole of nation approach
- ③ Border management - use of technology such as lasers, drones.
- ④ Community policing in border areas.
- ⑤ Adhering to principle of one border one force as highlighted by Kargil working committee
- ⑥ Denying ideological support by Jonathan Maynard's idea of counter speech + development initiatives like WHAM.

Govt. efforts $\rightarrow$ WHAM, Operation Sadbhavana
 $\rightarrow$ CIBMs, BAOP, Border haats, vibrant village programs
 $\rightarrow$ NCIIPC, Theaterisation of command
 $\rightarrow$ Operation Samundragupta.

Further, ~~Strategic~~ Shekatkar committee recommendation on border management can be applied in this regard.



20. वामपंथी उग्रवाद (एलडब्ल्यूई) भारत की आंतरिक सुरक्षा के लिए चुनौती बना हुआ है। देश में वामपंथी उग्रवाद के मुद्दे को हल करने के लिए भारत सरकार के दृष्टिकोण पर चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक
- Left-wing extremism (LWE) continues to remain a challenge to India's internal security. Discuss the Government of India's approach towards solving the issue of LWE in the country. (Answer in 250 words) 15 Marks

Left wing extremism refers to an ideology ^{LWE} which believes in violent overthrow of democratically elected govt. in India and establish communist govt. on the lines of Mao Zedong's China.

LWE continues to remain challenge to India's internal security

According to MHA, LWE has declined by 86% in 2024 by levels of 2010, but it still has not been eradicated.

Reasons for persistent challenges are

① Mode of warfare
↓
Guerrilla warfare making it hard for security agencies.

② Ideological support due to lack of implementation of PESA, 1996, FRA and Schedule 5, 2005.

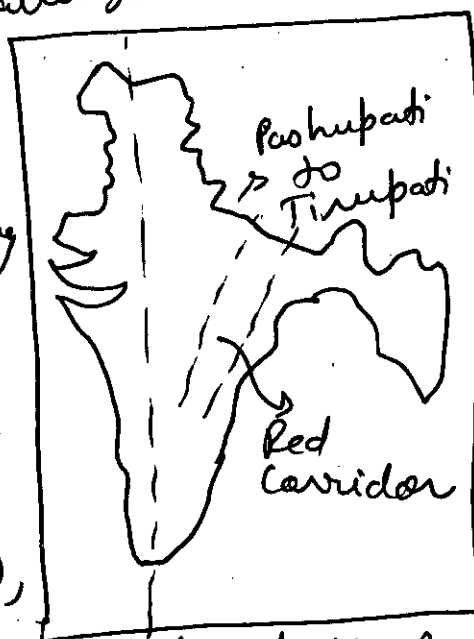


Fig. Spread of LWE.

- ③ Developmental deficit and lack of basic amenities.
- ④ Alienation of resources and forest rights.
eg Issues of Tal Tungal Tameen.
- ⑤ ~~⑤~~ Surrender cum Resettlement policy is now old and misused ~~by~~ at many places.

Indian govt. approach →

- ① Special security forces to fight this menace
eg STRACO, Greyhounds etc.
- ② Recognition of tribal rights
↳ Civic action plan
↳ PM-TANMAN
↳ TIKOL
↳ Tribal Panchsheel.
- ③ Developmental initiatives
↳ Eklavya model schools
↳ Aspirational district programmes,
Aspirational block programmes
↳ Investing in social infrastructure.

Challenges in govt. approach

- ① Lack of coordination and faults in intelligence gathering
- ② Establishment of parallel institutes by Naxals continue to gather support and recruitment
- ③ vested interest of state & non-state actors
(eg) urban Naxals

Other measures that can be taken

- ① Tribal advisory council needs to be further strengthened.
- ② Forest rights acts need to be reformed to address bureaucratic challenges
- ③ A new surrender cum rehabilitation policy

Mini-maxing approach can be applied i.e. Minimising the damage & ideological support and maximising the developmental initiatives to root ~~out~~ out LWE.

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Space for Rough Work

NEXT IAS

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।	
बधा न करें-	1. इस प्रश्न-सह-उत्तर प्रतिकृति के भीतर कहीं भी अपना नाम या प्रतीकरण संख्या न लिखें। 2. अपनी OCA प्रतिकृति में कहीं भी प्रश्नों के वास्तविक उत्तरों के अलावा कुछ भी न लिखें। 3. अपनी OCA प्रतिकृति से कोई भी पृष्ठ न काटें, यदि आपकी कोई पृष्ठ गणना लगी, तो परीक्षक/निरीक्षक को सूचित करना न भूलें। 4. अपनी OCA प्रतिकृति को अपनी टेबल पर न छोड़ें, परीक्षा समाप्त होने के पश्चात इसे निरीक्षक को सौंप देना चाहिए।
बधा करें-	1. कवर पृष्ठ पर दिए गए निर्देशों को ध्यान पूर्वक पढ़ें और उनका सख्ती से पालन करें। 2. OCA प्रतिकृति के कवर पृष्ठ पर दिए गए स्थान पर अपना प्रतीकरण नंबर और अन्य विवरण लिखें। 3. स्पष्ट और पठनीय तरीके से लिखें। खराब/अपठनीय लिखावट में न लिखें। 4. एक नोटिस या गणना के लिए, इस प्रतिकृति के अंतिम दो खाली पृष्ठों का उपयोग किया जाना चाहिए। एक नोटिस को बाद में कटित कर देना चाहिए। 5. यदि आप किसी कार्य को रद्द करना चाहते हैं, तो उस पर अपना धन चलाएं या उस पर "रद्द" लिखें, अन्यथा उसका प्रत्यांकन किया जा सकता है। 6. परीक्षा हॉल छोड़ने से पहले अपनी OCA प्रतिकृति व्यक्तिगत रूप से निरीक्षक को सौंप दें।

ऑनलाइन सुविधा का लाभ उठाने वाले अभ्यर्थियों के लिए विशेष अनुरोध	
1. OCA प्रतिकृति को ठीक से स्कैन करें। हम चाहेंगे कि आप स्कैनिंग के लिए कैमस्कैनर ऐप (CAM SCANNER) का प्रयोग करें। (यह कोई प्रमाणित नहीं है)। 2. कृपया OCA प्रतिकृति को पृथिवी स्थिति में स्कैन करें। कम रोशनी में स्कैन की गई प्रतिकृति, उनके मूल्यांकन की गुणवत्ता को बाधित कर सकती है। 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. OCA प्रतिकृति का उपयोग नहीं करने वाले उम्मीदवारों को अपना विवरण पहले पृष्ठ पर देना चाहिए और भुक्तो टिप्पणियों के लिए अगला पृष्ठ खाली छोड़ दें। यह समझना चाहिए कि उत्तर स्कैन की गई पीडीएफ में पृष्ठ नंबर 3 से शुरू होगा चाहिए। 5. OCA प्रतिकृति 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 उभरी की प्रतीक संस्करण के अनुरूप है।	

