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# NEXT IAS

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(To be filled by candidate)

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Roll No. : .....

Registration Number : ..... Date of Examination : 06/08/23

Exam Centre : Old Rajinder Nagar  Bhopal  Online

Test - 7

Code : TC077

## MTS IGP Batch 2023

### GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the 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 read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

SUBJECT/PAPER GENERAL STUDIES	Invigilator's Sign. : .....
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[To be filled by the STUDENT]

Student's Queries for the Evaluator (if any write them below)


[To be filled by the EXAMINER]

Evaluator's response




(For filling by Examiners only)

Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

MACRO COMMENTS



## IMPORTANT INSTRUCTIONS

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

### DONT'S

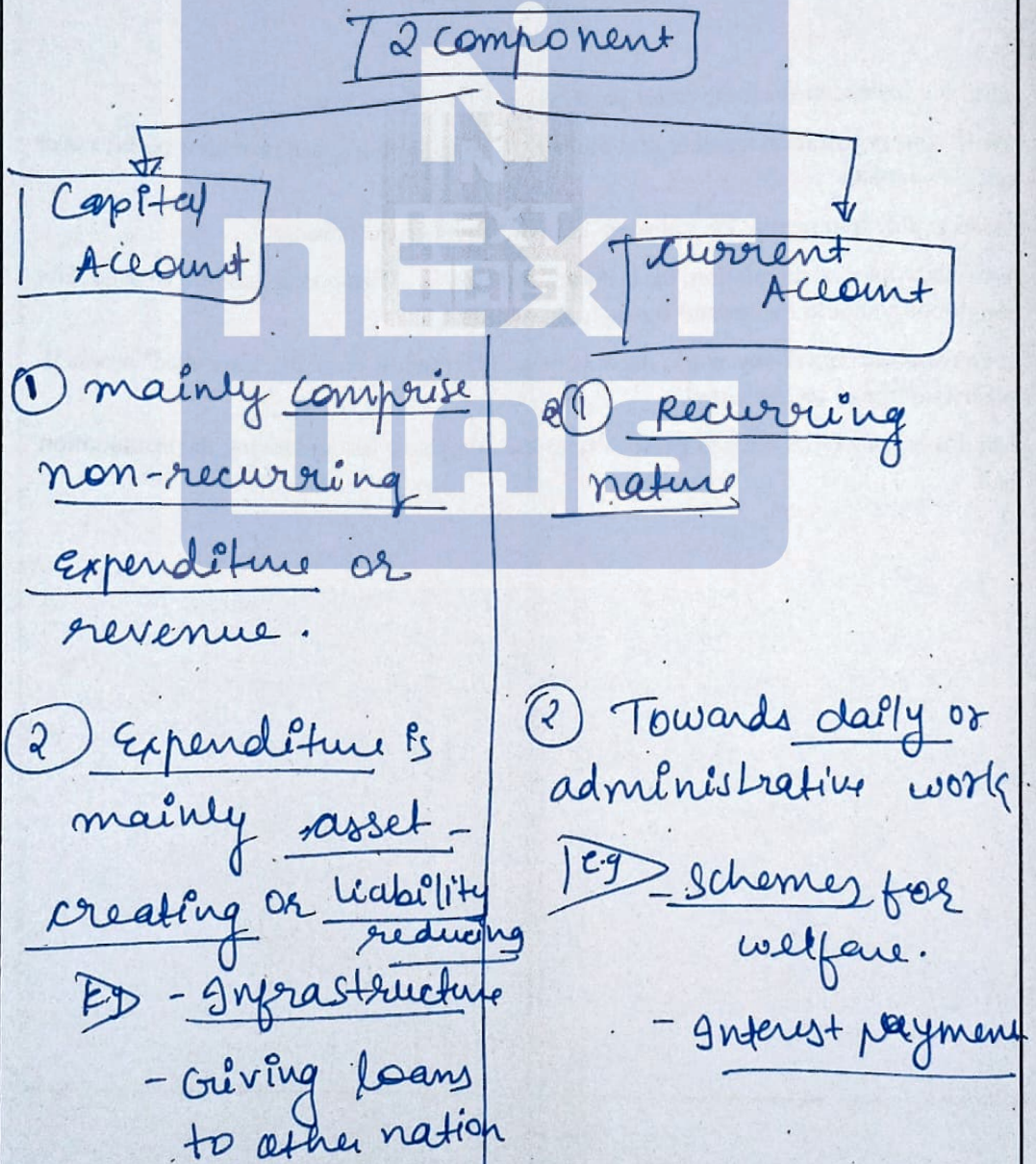
1. Do not write your name or registration no. anywhere inside this Question-cum-Answer Booklet.
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### DO'S

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

1. भुगतान संतुलन (बीओपी) के घटकों के रूप में पूँजी खाते और चालू खाते के बीच अंतर का सविस्तर वर्णन कीजिए। भारत के बीओपी घाटे को संतुलित करने के लिए कुछ उपाय सुझाएँ। (150 शब्दों में उत्तर दीजिए) 10 अंक  
Elaborate on the difference between Capital Account and Current Account as components of Balance of Payment (BOP), Suggest a few measures to balance the BOP deficit of India. (Answer in 150 words) 10 Marks

Balance of payment is the measure of import & export or revenue & expenditure done in any particular year.



③ Capital Receipts  
from sources like  
a. - loan Repayment  
- Dividends.

④ FDI/FII etc.

③ Revenue Receipts

Te.g. Interest  
payment by  
Sri Lanka.

④ Remittance, Service charge

Measures to balance of payment deficit

① Attract investment → Improving the  
grounds through - Plug & play mechanism

Te.g. GIFT city.

② More youth migration in Tech sector

↳ Earn Remittance (\$111 bn in 2022)  
(WB)

Te.g. Migration & mobility agreement  
with Australia.

③ forex Reserve maintenance

Te.g. Rupee depreciation had a huge  
impact on forex (70% depreciation)  
in 2021.

④ Export enhancement → FTAs <sup>with</sup> countries  
in India's favour

Te.g. BTIA negotiations with EU.

BOP crisis can have huge  
impacts can be seen from Sri Lanka

2. लॉजिस्टिक्स (रसद) क्षेत्र, विनिर्माण उद्योग के विकास के महत्वपूर्ण घटकों में से एक है। चर्चा कीजिए। साथ ही, हाल ही में घोषित राष्ट्रीय लॉजिस्टिक्स नीति, 2022 के विभिन्न घटकों का भी उल्लेख कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

The logistics sector is one of the important components of the growth of the manufacturing industry. Discuss. Also, mention various components of the recently announced National Logistics Policy 2022.

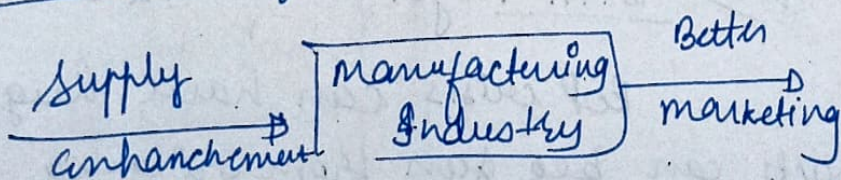
(Answer in 150 words) 10 Marks

Logistic sector is main driving growth towards Export Competitiveness thus important for Economic growth.

### Importance

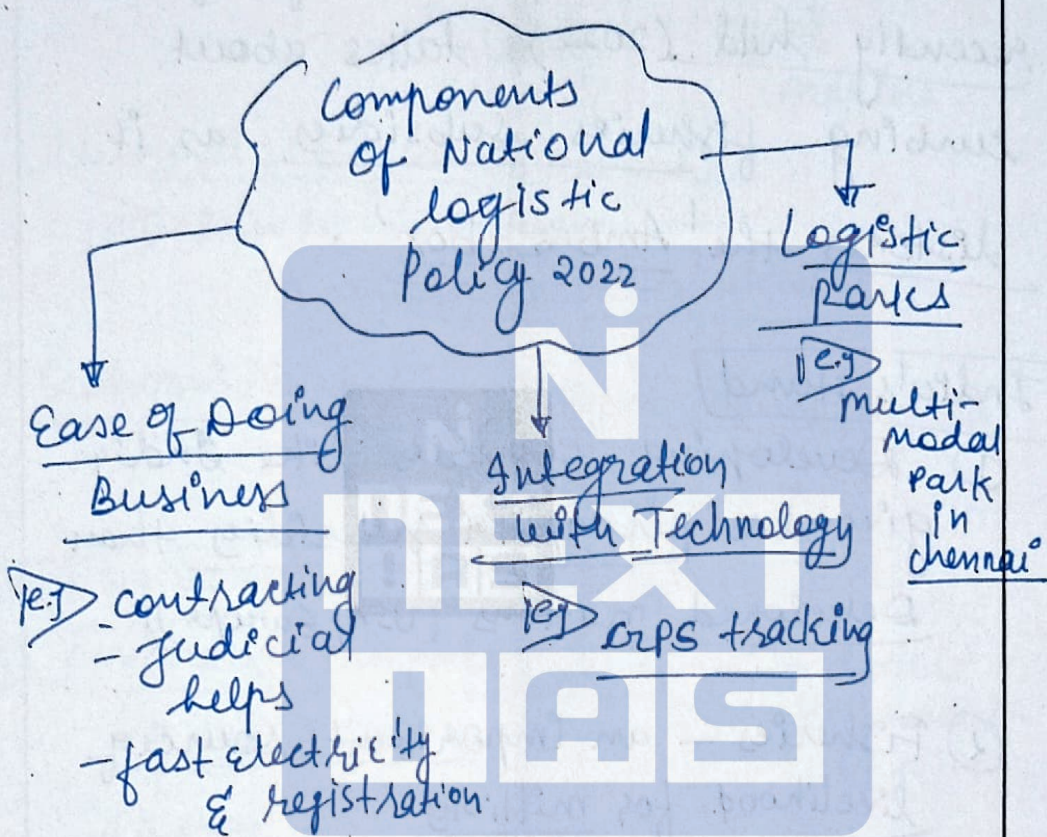
- ① Export Competitiveness  $\rightarrow$  14%  
logistic cost (US-Germany - 9%)
- ② Competition from other nations  
like China, Vietnam, Bangladesh  
 $\rightarrow$  Important to have better logistic support.
- ③ Bring Efficiency  
 $\rightarrow$  Turnaround time of INPT reduced from 3 days to 22 hour.

### ④ Multiplier effect





This National logistic policy 2022 was announced recently with aim to reduce logistic cost.



The logistic performance index by world bank ranks India 38th (Improved from 42nd in 2020) shows the potential of improvement in logistic sector which will boost growth.

3. डब्ल्यूटीओ के तहत मत्स्य पालन सब्सिडी पर नए समझौते पर भारत का क्या रुख है? भारत के लिए मत्स्यपालन क्षेत्र किस प्रकार महत्वपूर्ण है? इस क्षेत्र के विकास के लिए सरकार द्वारा उठाए गए कदमों का उल्लेख कीजिए।  
(150 शब्दों में उत्तर दीजिए) 10 अंक
- What is India's stand on the New Agreement on Fisheries Subsidies under WTO? How is the Fisheries sector significant for India? Enumerate the steps taken by the Government to develop this sector.  
(Answer in 150 words) 10 Marks

The GENEVA Package of WTO recently held (2022) talks about curbing fisheries subsidies as it distorts the 'Amber box'.

### India's stand

① Developing countries like India give less percapita subsidies than Developed nations (USA, Europe)

② Fisheries — an important source of livelihood for millions

↳ Need to be encouraged through the subsidies

③ Important for development

↓  
Better vessels

↓  
Better quality to consumer

### Significance of the sector

① Livelihood to millions of farmers and coastal community.

- ① women empowerment → more engaged women
- ② secure nutrition  
↳ Rich source of protein
- ③ 7517 km coast → more dependence on it
  - 70% ↓ inland fishing
  - 30% ↓ marine.
- ④ cultural significance attached  
 ↳ fish in marriage  
 - in madhubani painting
- ⑤ Economic Export → largest shrimp exporter  
 ↳ earn forex

### Steps by Government

- ① PM Matsya Sampada Yojana → to double the production by 2024  
 ↳ 20,000 crore  
 ↳ 11 K crore for infrastructure development.
- ② Support through Matsya Mitras (fisher's mitra)  
 ↳ Awareness, knowledge etc.
- ③ Technical & financial support for Aquaculture to farmers.
- ④ Striving for providing easy Access to marine areas
- ⑤ Pisciculture revolution  
 we need to solve disputes with Sri Lanka (Katchthiru Island) and stop IUVF for sustainable fishing.

4. उन प्रणालीगत और संस्थागत बाधाओं का विश्लेषण कीजिए जो भारत में भूमि सुधार प्रयासों में बाधा बनी हुई हैं और भूमि के न्यायसंगत वितरण को सुनिश्चित करने के लिए व्यावहारिक समाधान प्रस्तावित कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Analyze the systemic and institutional constraints that continue to hinder land reform efforts in India and propose pragmatic solutions to ensure equitable distribution of land.

(Answer in 150 words) 10 Marks

Land Reform started during 1950s is a long pending agenda which will help in Economic growth through reduced litigation, land pooling, crowding in private sector etc.

Systemic & institutional concerns

- ① Apathy of Bureaucracy - corruption
- ② Less adoption to technology  
 ↳ electricity and other technology like drone use for survey.
- ③ Huge litigation and reverence towards land → A social status attached to land prevents reforms.
- ④ Failure of contract farming and cooperative farming  
 ↳ Caste hierarchy  
 ↳ Distressed migration  
 ↳ Less Trust and technology available.

- (5) Benami transactions (Benami property holding)
- (6) Lack of Database or Record to start with.

### Pragmatic solutions

- (1) Drone survey should complete as soon as possible (SWAMITVA)
- (2) Conclusive land Titling instead of Presumptive titling.
- (3) Boost contract farming and landpooling
- (4) Land modernisation is the need of the hour → Better data will be there.
- ⇒ Digital India land modernisation program (DILRMP)
- (5) Learning Best Practices  
 ⇒ Karnataka doing in land record computerization
- (6) Use of Technology  
 ⇒ Using Bhuvan of ISRO & GIS Technology

Land Reforms will lead to crowding in private players thus boosting growth.

5. ब्रह्मोस सुपरसोनिक क्रूज मिसाइल की अद्वितीय विशेषताएँ और क्षमताएँ क्या हैं, और इसने भारत की रक्षा क्षमताओं और सामरिक स्थिति के क्षेत्र में किस प्रकार योगदान दिया है? (150 शब्दों में उत्तर दीजिए) 10 अंक  
What are the unique features and capabilities of the BrahMos supersonic cruise missile, and how has it contributed to India's defence capabilities and strategic position in the region? (Answer in 150 words) 10 Marks

The recent BRAHMOS deal with Philippines (\$ 375 mn) shows the importance and capabilities of the missile

### Unique features

- ① Supersonic cruise missile  
↳ speed more than 5 mach
- ② can be guided and maneuvered  
↳ Add to the developmental capability
- ③ long range development (more than 1500 km)  
↳ After India became member of MTCR group.
- ④ Collaboration between India and Russia

## Contribution in capabilities & strategic position

- ① Enhanced deterrence as the range is getting increased.
- ② Places India in lines with great powers in the region along with Russia, China etc.
- ③ Makes India defence exporter
  - ↳ Deal with Philippines (\$ 375 mn)
- ④ Strategic development → use in net security provider
  - ↳ Assurance to the small nations around India.
- ⑤ A new feather in the capability & defence sector
  - ↳ strengthened ties with Moscow
  - ↳ Countering China's influence,

The defence capabilities are getting enhanced with this kind of systems along with S-400, INS VIKRANT etc.

a.

समुद्र की गहराई का पता लगाने और उसमें मौजूद संसाधनों का चोखन करने को देश को प्रयासों के अनुरूप, भारत सरकार ने गहरे समुद्र में अन्वेषण मिशन 'समुद्रयात्रा' का प्रस्ताव रखा है। यह मिशन देश में समुद्र विज्ञान और प्रौद्योगिकी की प्रगति में किस प्रकार योगदान दे सकता है?

(150 शब्दों में उत्तर दीजिए) 10 अंक

In line with the country's efforts to explore the depths of the ocean and harness the resources it holds, the Indian government has proposed a deep-sea exploration mission Samudrayaan. How can this mission contribute to the advancement of ocean science and technology in the country?

(Answer in 150 words) 10 Marks

Samudrayaan by Myo Earth  
Science is a great leap towards  
enhancing the capabilities to reach  
resources and deep sea Exploration

### Contributions

- ① Deep sea Exploration → capacity development and demonstration of capabilities to other nations.
- ② Mineral resources
  - ↳ International seabed Authority (ISA) has permitted to go for mineral Exploration.
- ③ Can add to energy & Economic security
  - ↳ Polymetallic nodules and other minerals.



- ④ Bathymetric data → Information about ocean evolution, new forms of reliefs and other discoveries
- ⑤ Enhanced capacity in oceanic exploration
- ⑥ Demonstration of manned mission in ocean.  
↳ may give confidence for manned mission in space (Oragan Yaan)
- ⑦ It will go 6000m deep and collect unknown and informations  
↳ Adding to the scientific & Research capabilities of the nation
- ⑧ can help in leveraging India's position in middle of Indian ocean

Some Challenges

- safety concern
- unintended challenge may emerge
- Pollution (as in space-space Debris)

Despite some challenge Samudrayaan is a new step to add glorification and leadership of India.

7. वैश्विक मीथेन प्रतिज्ञा क्या है? क्या आपको लगता है कि वैश्विक मीथेन प्रतिज्ञा मीथेन उत्सर्जन को कम करने की दिशा में एक सकारात्मक कदम है? इस मुद्दे पर भारत का रुख स्पष्ट कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

What is Global Methane Pledge? Do you think the Global Methane Pledge is a positive step toward mitigating methane emissions? Explain India's stance on this issue. (Answer in 150 words) 10 Marks

Global methane pledge (GMP)  
is a step by global countries to mitigate methane emission by 30% by 2030.

A positive step

- ① Enhanced methane emission globally  
 ↳ 14% by Indian Agriculture.
- ② Increased global warming  
 ↳ High global warming potential of Methane (Higher than CO<sub>2</sub>)
- ③ Methane is easy to target than CO<sub>2</sub>.
- ④ To curb the temperature increase  
 (IPCC → Reduce GHG → Peak by 2030)
- ⑤ Achieving Net zero emission (2050)

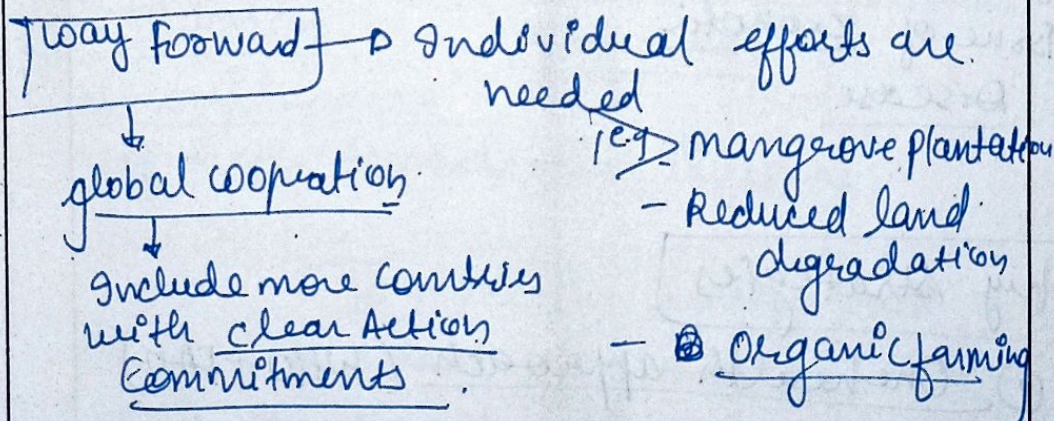
Challenge

- ① No global cooperation ↳ India is out of it.
- ② Less convergence among countries for future mechanism.

- (3) No clear guidelines given regarding mechanism to curb methane emission.
- (4) Emissions are continuously increasing as highlighted by IPCC.

### India's stance

- (1) India stayed out of it
- (2) View it as superficial as it is without any substantial Action plan
- (3) Can impose curbs on Agricultural efforts of India in names of methane containment.



Methane emission curbing is the need of the hour to achieve net zero emission by 2070's

8. कोविड-19 महामारी ने सार्वजनिक स्वास्थ्य में आपदा प्रबंधन के महत्त्व पर प्रकाश डाला है। महामारी और अन्य संक्रामक रोग के प्रकोप के प्रबंधन के लिए प्रमुख रणनीतियों और चुनौतियों पर चर्चा कीजिए।  
(150 शब्दों में उत्तर दीजिए) 10 अंक

The COVID-19 pandemic has highlighted the importance of disaster management in public health. Discuss the key strategies and challenges for managing pandemics and other infectious disease outbreaks.  
(Answer in 150 words) 10 Marks

COVID-19 pandemic showed many loopholes and thus shown many corrective needs towards pandemic management.

Importance of Disaster management in Public Health

→ Can lead to huge mortality

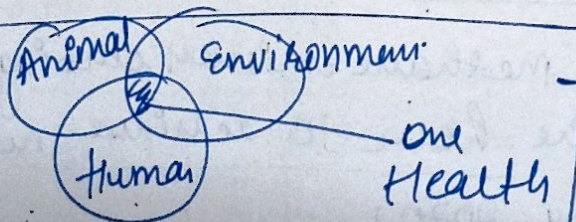
→ Compromise with Demographic dividend of the country

→ Important for Human development indicators

↓  
Increased Issue of Zoonotic Disease

Key Strategies

① One health approach (WHO + FAO)



→ Show convergence in management

- ① Affordable Health care → reduced out of pocket expenditure
- ② Increased public Investment (Economic Survey 2020)
  - ↳ 2.1% of GDP
- ③ crowding in Private sector
  - ↳ Better Infrastructure (Resilient)
  - ↳ Better Personnel & Expertise

### Challenges in managing

- ① Poverty & unemployment
- ② Disaster like flood, aggravates the situation.
- ③ Slums and over population burden the healthcare → No social distancing
  - ↳ more rapid ~~str~~ spread
- ④ Illiteracy of infection
  - ↳ complacency
  - ↳ of people towards these infections.

To make the country grow we need to deal with health disaster as it is directly linked with the productivity.

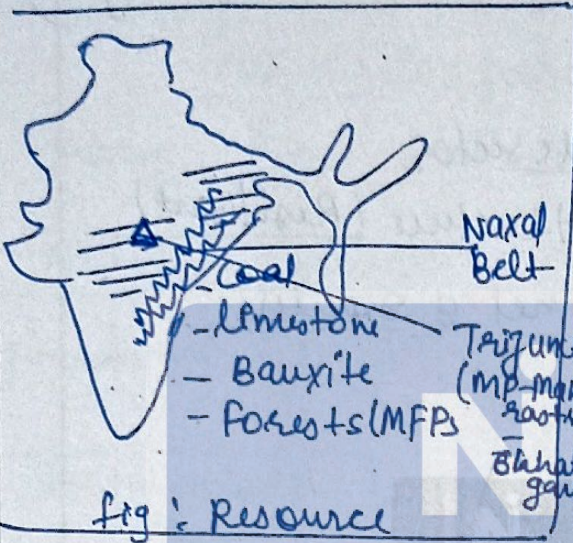
Candidates  
write on

9. "पूर्वी और मध्य भारत का संसाधन अभिशाप वामपंथी उग्रवाद का एक महत्वपूर्ण चालक रहा है"। इन क्षेत्रों के सतत और समावेशी विकास के लिए उपायों को विस्तार से बताइए और सुझाव दीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

"The resource curse of Eastern and Central India has been a crucial driver of LWE". Elaborate and suggest measures for sustainable and inclusive development of the region.

(Answer in 150 words) 10 Marks



the Resource  
curse highlighted  
by Economic  
Survey (2017)

is the phenomena  
where huge  
dependence on  
resources hinders  
other growth

Driver for LWE

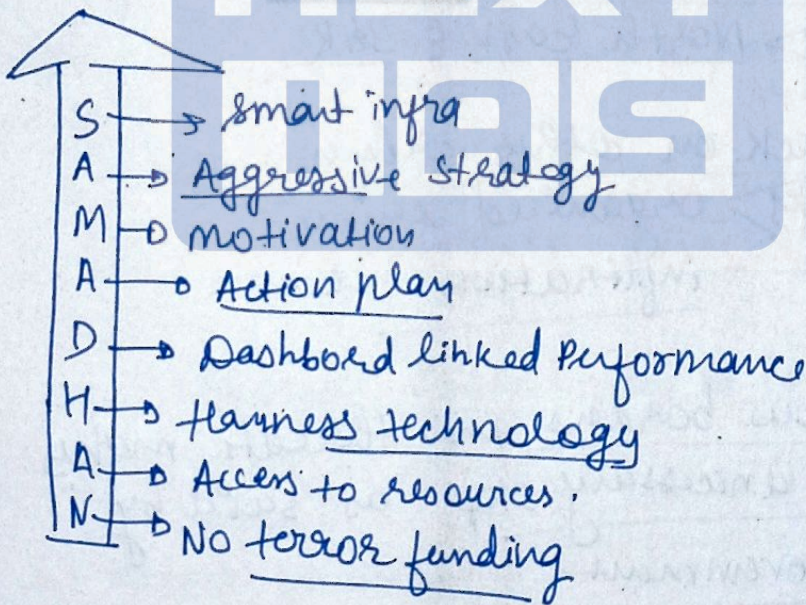
- ① Resource rich → but diversion to Industries
- ② No direct benefit to local people  
create dissent
- ③ No industrialization in the region  
thus → Unemployment → youth revolt
- ④ the less development and mindless  
mining causes environmental  
degradation

↳ Affect rights of local (Forest Right Act 2006)

⑧ less role & empowerment of Gramsabha

### Measures for development

- ① Employment opportunity to youth
- ② education, skill development and negotiations with people
- ③ Developmental measures like infrastructure development
- ④ Implementation of SAMADHAN



"Growth without inclusion is meaningless and inclusion without growth is unsustainable"

10. उत्तर पूर्व और जम्मू-कश्मीर क्षेत्र में हिंसा की घटती प्रवृत्ति के आलोक में क्या आपको लगता है कि एफएएसपीए (अफ़्पा) अपनी उपयोगिता बरकरार रख पाया है? टिप्पणी कीजिए (150 शब्दों में उत्तर दीजिए) 10 अंक  
In light of the declining trend of violence in the North East and J&K region do you think that AFSPA has lived its utility? Comment. (Answer in 150 words) 10 Marks

The frequent clashes bet  
among people and forces of AFSPA  
raise the debate of its utility.

### Utility

- ① check over "disturbed area" (Section 3 of AFSPA Act)  
↓  
Declared by Governor
- ② Curbed insurgencies and violent Activities  
eg → North East & J&K
- ③ check on other crimes  
eg → organised crime - infiltration etc.
- ④ Porous borders and threats makes it a necessary step as said by government.
- ⑤ Less violence has been shown before Manipur crisis  
eg → MHA → 75% decline in violence in north east.



Critic

① Excess power → search w/o warrant  
→ fire without warning

② misadventures in the past

eg → ~~At~~ killing of 14 civilians in  
negaland.

③ Allegations of violating Human Rights

eg → Raps allegations

way forward

→ Jeevan Reddy committee  
→ 2nd ARC → Repeal the Act

→ Reviewing the provisions in  
other Acts like VAPA et.

→ Though AFSPA may be important  
but needs to be checked as misused  
due to excess powers

eg → Human Right violations like  
Rapes ~~can~~ should be investigated

11. अंतर्राष्ट्रीय व्यापार प्रमुख मुद्रा प्रतिमान (डीसीएम) पर केंद्रित है। अंतर्राष्ट्रीय व्यापार में हार्ड करेंसी (दुर्लभ मुद्रा) के महत्व का आलोचनात्मक विश्लेषण कीजिए और डॉलर साम्राज्यवाद के विकल्प के रूप में वैश्विक व्यापार में रुपये की स्वीकार्यता की संभावना पर चर्चा कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

International trade is centred on the dominant currency paradigm (DCM). Critically Analyze the importance of Hard currency in International trade and Discuss the potential of rupee acceptance in global trade as an alternative to dollar imperialism.

(Answer in 250 words) 15 Marks

International ~~is~~ trade is occurring mainly in dominant currency like dollar. India's 80% international trade happens in USD.

→ Other dominant currency being Renminbi (China); Euro, Pound sterling etc.

Importance of hard currency

- ① Easy to & convenient to give & take
- ② Give immediate satisfaction when comes into hand
- ③ More preferable and conventional method of payment.
- ④ Easy to track and keep account of.

eg → USD, Renminbi etc.

Critic

- ① Give rise to Black money and parallel economy.
- ② threats of sanctions  $\Rightarrow$  "weaponization of money"
  - $\Rightarrow$  sanctioned Russian Exchange by USA.
- ③ Against the ongoing efforts of Digitalization.

Potential of Rupee acceptance

$\hookrightarrow$  India is pushing towards Rupee Internationalization

- ① Efforts to internationalize
  - $\Rightarrow$  Vostro Account with Russia.
- ② Exchanged in trade currently
  - $\Rightarrow$  Buying oil from Russia.
- ③ Talks of dedollarization  $\Rightarrow$  gives chance to other ~~to~~ currency
  - $\Rightarrow$  BRICS country calling for dedollarization.

④ India also pushing towards digital currency

↳ RBI 'concept note' on CBDC

⑤ Indian Rupee can counter Chinese Renminbi

↳ - LOC to small island countries (FIPIC)

- loan of \$9bn to Sri Lanka etc.

### Challenges

① Acceptance by global arena is needed

↳ not widely used.

② China threat

↳ if De-dollarization happened → Boost to Renminbi

③ Widespread use of dollar

↳ 80% of India's trade in dollar.

④ Rupee not in SDR of IMF.

The recent BRICS summit and demands for De-dollarization has actually given opportunity which India must use.

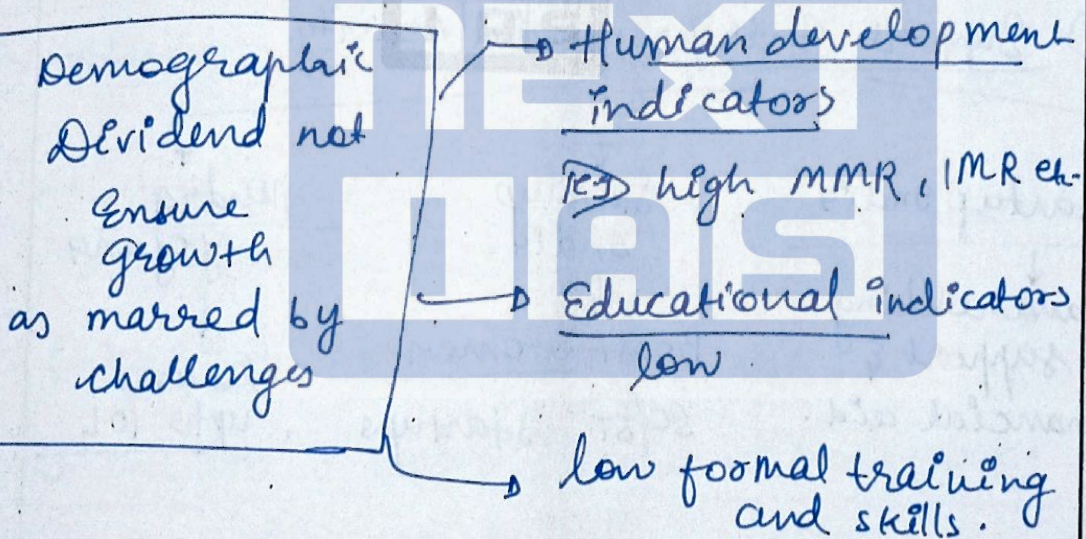
12.

जनसांख्यिकीय लाभार्थ संवृद्धि सुनिश्चित नहीं करता है; यह केवल सामर्थ्य उत्पन्न करता है। जनसांख्यिकीय परिवर्तन से उत्पन्न अवसरों का लाभ उठाने के लिए सरकार द्वारा उठाए गए कदमों पर चर्चा कीजिए।

A demographic Dividend does not ensure growth; it only generates potential. Discuss the steps made by the government to take advantage of the opportunities presented by the demographic transition.

(Answer in 250 words) 15 Marks

Budget 2023 talks about making the youth as "AMRIT PEEDHI" to harness the demographic dividend as India is now world's largest population with 142.8 crore.



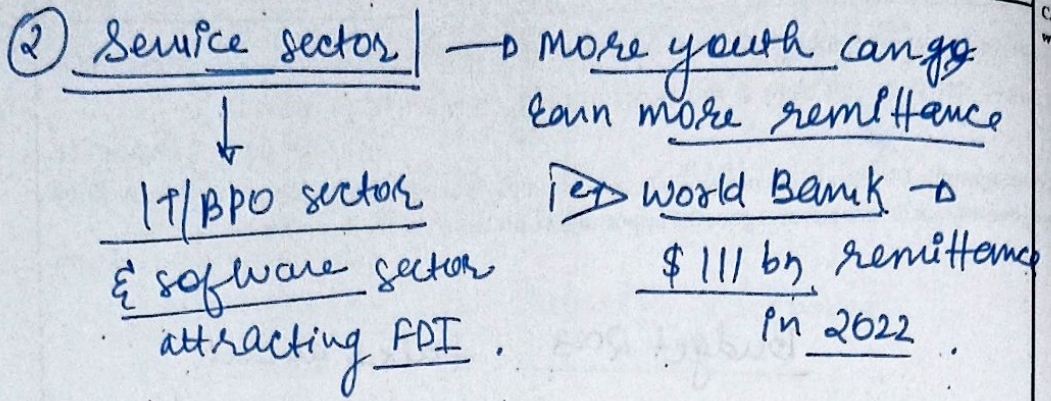
But provides potential to grow

① Manufacturing sector

↳ Expansion of the sector (Economic Survey 2014)

↳ As shown by China

↳ More hands to work boost the growth.



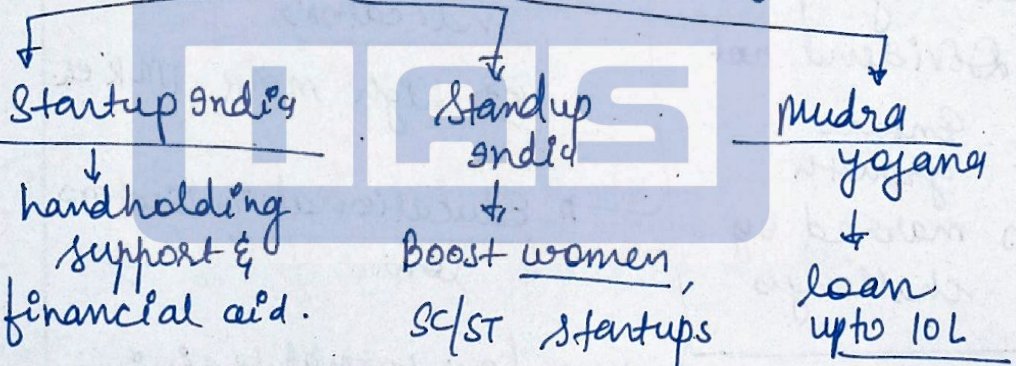
### ③ Agricultural sector

↳ Agri Entrepreneurship

↳ women participation ⇒ meaningful livelihood!

### Steps made by government

#### ① Support Entrepreneurial Activity



#### ② Manufacturing Base

↳ Make in India scheme → Aim to increase manufacturing by 25% by 2025.

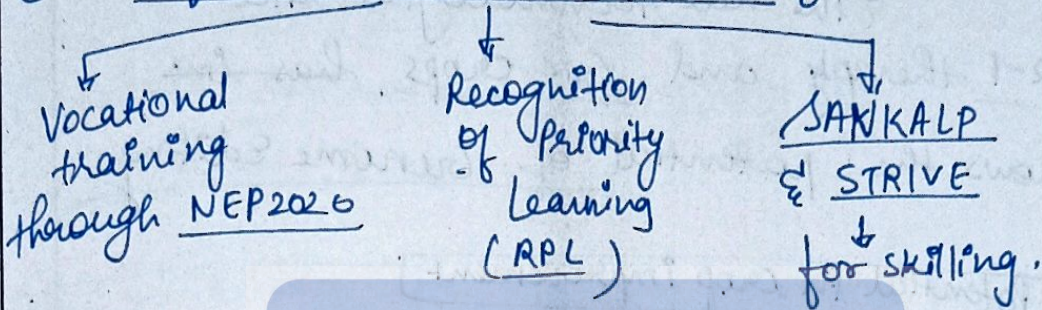
↳ Skills through PMKVY 4.0 (Budget 2023)

↳ Seed funds to SHGs, street vendors (SVANIDHI)

③ | Service sector

→ Promoting tourism (PRAASHAD scheme)

④ more formal educational training



Challenges exist

- ① low women participation (23% of LFPR)
- ② CMIE says 7-8% unemployment exist.
- ③ Jobless growth ⇒ How will demography get absorbed?
- ④ Human development index shows low development indicators (132 rank)
- ⑤ Only 3% workforce formally trained.
- ⑥ "Dwarfism" in MSME (Economic Survey 2016)
- ⑦ Drug abuse, Radicalization etc. [→ Punjab]

Way Forward

→ Increased manufacturing base to absorb unemployed youth (Lewisian Economy)

→ Harness Geography, Geology and "Jeans" for structural transformation (ES2016)

We need to prevent Demographic Dividend to become Demographic Disaster.

13. 'जीनोम एडिटिंग (जीनोम संपादन) में फसल सुधार की अपार रांगवनाएँ हैं, लेकिन यह नैतिक और सुरक्षा संबंधी चिंताओं को भी जन्म देती है।' भारत में जीनोम-संपादित पादपों के सुरक्षा मूल्यांकन के लिए नए दिशानिर्देश आनुवंशिक रूप से संशोधित फसलों की सुरक्षा को कितना सुनिश्चित करते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक
- 'Genome editing holds immense potential for crop improvement, but it also raises ethical and safety concerns'. How far do the new guidelines for the safety assessment of genome-edited plants in India, ensure the safety of genetically modified crops? (Answer in 250 words) 15 Marks

The new technologies like CAR-T therapy and GM crops has low shows the potential of Genome editing

### 6 Potential in crop improvement

- ① Adaptability & countering the harsh weather condition.
- ↳ Bt Cotton → resistant against Bollworm
- ② Resistance to pest and high productivity
- ③ More yield ⇒ more income to farmer.
- ④ Desirable changes can be done ⇒ Nutritional security achieved.
- ⑤ low inputs like fertilizer & pesticides.

### But concerns

- ↓
- Ethical
- ↓
- Experiments with lives of people
- ↳ Going against the law of nature.
  - ↳ Plants also living thing ⇒ making changes in genes without consent.
  - ↳ what if something went wrong in long run?



Safety concern

- ① Health impact may emerge in long run
- ② BioSafety issue  
↳ Biomagnification of toxics in food chain.
- ③ Reduced environmental diversity by monocropping.

New guidelines

Mo Environment forest & climate change  
gave guidelines

↳ Only SDN1 & SDN2 will be exempted  
But SDN3 → follow clearance criteria.

Guideline ensure safety

- ① SDN1 & SDN2 are less modified  
↳ No external element/gene introduced.
- ② Exemption will also bring innovation  
and R&D  
↳ Can ensure better food variety  
and Nutrition in market
- ③ Guidelines are based on study

However some challenges

- ① Though only SDN 3 has external gene → SDN 1 and SDN 2 also has modified gene → can hamper health in long run.
- ② Issue of Biomagnification
- ③ Against Right to Equality → making SDN 3 more difficult to produce.
- ④ Private involvement will work for profiteering ⇒ compromised safety
- ⑤ Lex regulation & oversight of GEAC may cause concern in future.

Way forward

→ Better R&D investment towards this

→ Pilot project for other varieties

↳ DMH-11 mustard etc.  
Bt Brinjal

In era of climate change the changes in traits can ensure better income & food production in the country.

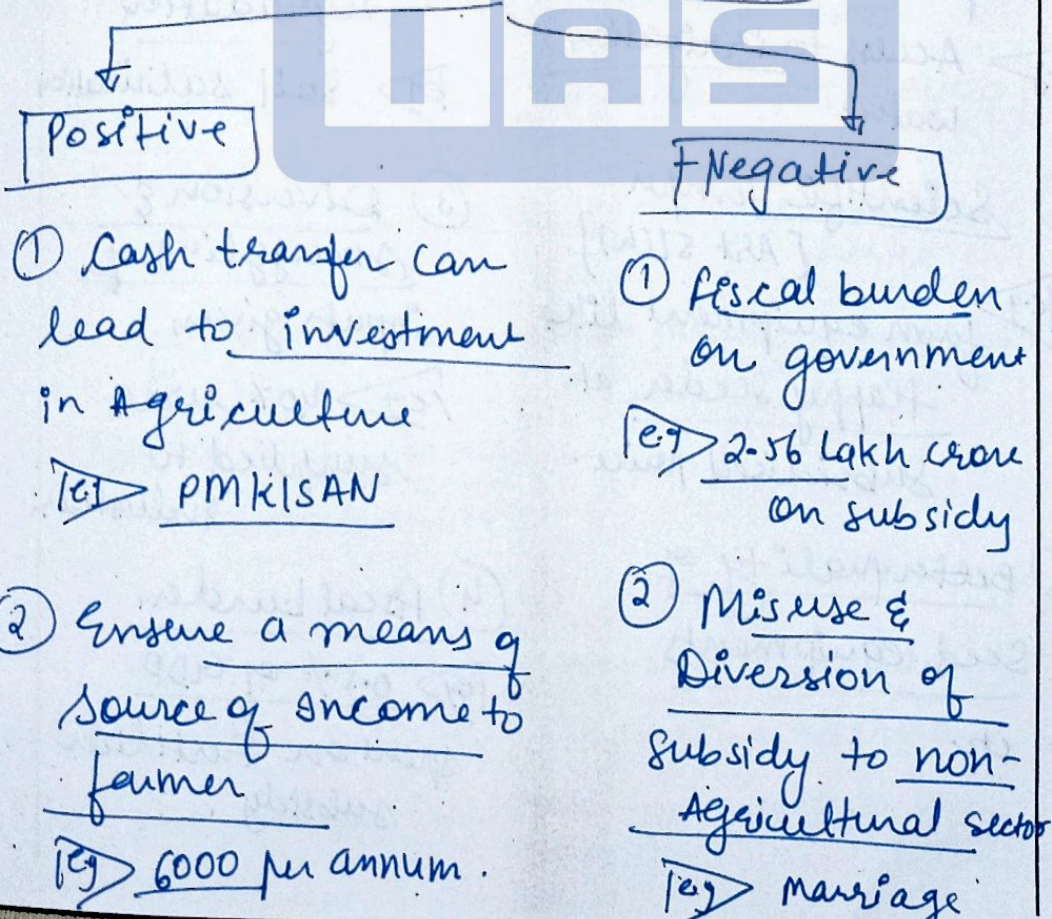
14.

भारत में कृषि क्षेत्र पर प्रत्यक्ष और अप्रत्यक्ष कृषि सब्सिडी के प्रभाव की चर्चा कीजिए। न्यूनतम समर्थन मूल्य (एमएसपी) ने कृषि अर्थव्यवस्था को किस प्रकार प्रभावित किया है? (250 शब्दों में उत्तर दीजिए) 15 अंक  
 Discuss the impact of direct and indirect farm subsidies on the agriculture sector in India. How have Minimum Support Prices (MSP) affected the agricultural economy? (Answer in 250 words) 15 Marks

With increased production, farmer's income remain stagnant (Walwai committee). Thus government give many subsidies (Direct & indirect) to fill the gap of Agri-investment

eg Direct → PM KISAN  
 Indirect → water, electricity, fertilizer.

\* Impact of Direct Subsidies



① Cash transfer can lead to investment in Agriculture  
 eg PMKISAN

② Ensure a means of source of income to farmer  
 eg 6000 per annum.

① Fiscal burden on government  
 eg 2.56 lakh crore on subsidy

② Misuse & Diversion of subsidy to non-Agricultural sector  
 eg marriage

③ Assurance of getting seed funds

↳ women farmer can get empowered

### Impact of Indirect subsidy

#### Positive

① Provide input at low cost

↳ fertilizer

② Agricultural improvement

↳ Access to irrigation water

③ Scientific temper

[Art 51(h)]

↳ farm equipment like happy seeder at subsidised price.

④ Better quality of seed, equipments

etc.

#### negative

① Resource wastage

↳ Excess fertilizer  
Cause sun burn + eutrophication

② Environmental degradation

↳ soil salinization

③ Diversion & smuggling of inputs given

↳ 40% urea supplied to industries

④ fiscal burden

↳ 0.5% of GDP spent on Fertilizer subsidy.

MSP was brought to give better price realization.

Candidates must not write on this margin

### Effect of MSP - positive

- ① Price realization better to farmer.  
 i.e.  $\rightarrow$  1.5 times of cost of cultivation.
- ② Assurance of procurement  
 i.e.  $\rightarrow$  PM AASHA  
 - FCI
- ③ Less exploitation through middlemen  
 and APMCs even if supply is more.

### Negative effects

- ① skewed towards cereals - Rice & wheat
- ② led to soil degradation and post harvest loss (90,000 crore - NITI Aayog)
- ③ Economic Survey - 2015  $\rightarrow$  fiscal burden is huge
  - $\downarrow$  Economic cost of FCI and lack of cold storage or warehousing.
  - $\downarrow$  open market procurement causing loss

We need to rejuvenate & replan our schemes with the changing demand like increasing incentives for Millets (Sri-Anna)

15. रोगाणुरोधी प्रतिरोध (एएमआर) एक तेजी से बढ़ता संकट है जो दुनिया भर में सार्वजनिक स्वास्थ्य के लिए एक गंभीर खतरा है। रोगाणुरोधी प्रतिरोध की बढ़ती समस्या में योगदान देने वाले प्रमुख कारक क्या हैं, और इस वैश्विक स्वास्थ्य खतरे से निपटने के लिए कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक
- Antimicrobial resistance (AMR) is a rapidly escalating crisis that poses a grave threat to public health worldwide. What are the major contributing factors to the growing problem of antimicrobial resistance, and what steps can be taken to address this global health threat? (Answer in 250 words) 15 Marks

AMR is a situation where the disease causing pathogen become "Superbug" and get resistant to the further doses or cure  $\Rightarrow$  causing long lasting & chronic disease.

Escalating crisis

more resistant variety of zoonotic diseases  
 $\Rightarrow$  COVID-19, influenza

Increasing TB-resistant

$\Rightarrow$  India  $\rightarrow$  2.95 mn patient  
 (10% are MDR or XDR TB)

Contributing factors

① incomplete doses  $\rightarrow$  people tend to leave medicines in between.

$\Rightarrow$  TB medicines

② sometimes side-effects make people leave the treatment.

- eg) Kanamycin - a drug of TB has high side effects complaints.
- ③ effluents from industry (pharma) going to rivers  $\Rightarrow$  Bioaccumulation and Biomagnification across food web.
- ④ use of Antibiotic in livestocks to increase profit
- eg) Colistin to poultry.  
Clostridium
- ⑤ Cultural factors like Bathing in polluted river stretches.
- eg) CPCB  $\rightarrow$  ~1200 river stretches are highly polluted. (Sabarmati stretch)
- ⑥ Self prescribed medicines  $\rightarrow$  over the counter sales.

What steps needed?

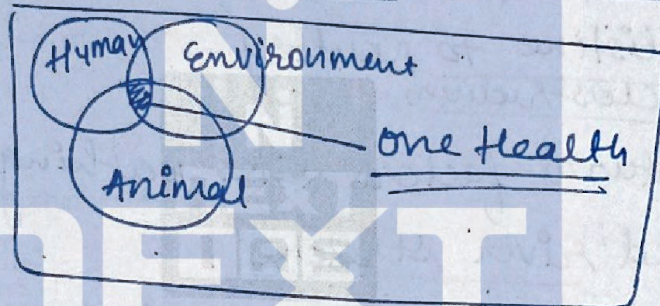
- ① Fixed combined doses <sup>(FCD)</sup> in case of TB where 6-7 tablets are to be taken
- $\hookrightarrow$  causes compliance burden.
  - $\hookrightarrow$  FCD will make it one tablet easy to take regularly.

(2) Banning use of medicines / Antibiotics unnecessarily to livestock

↳ Giving vaccines (CSE)

(3) Zero liquid discharge policy to reduce pollution and leaching into groundwater.

(4) One Health Approach (WHO + FAO)



(5) Keeping checks on <sup>meat</sup> non-veg markets

↳ wet market of china

(6) Strict check on over the counter sales

↳ Red line campaign (schedule H drugs of Drug & Cosmetic Act)

The global health concern should be the priority taking cue from the COVID-19.

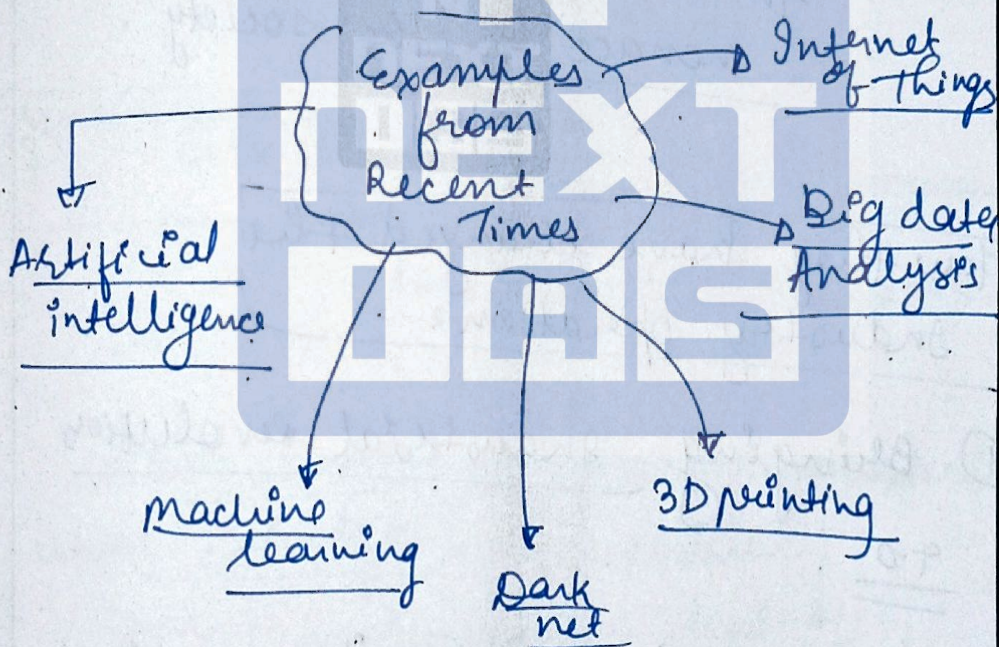


10. विघटनकारी नवाचारों से आप क्या समझते हैं? हाल के दिनों में विघटनकारी नवाचार के कुछ उदाहरण बताइए और यह भी बताइए कि इन नवाचारों ने उद्योगों के संचालन के तरीके को किस प्रकार परिवर्तित किया है?

What do you understand by Disruptive innovations? What are some examples of disruptive innovation in recent times, and how have they changed the way industries operate?

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

Disruptive innovations can be defined as the technological revolutions and innovations having the capability of changing the world & threat at the same time.



Called Disruptive innovation as has the capability of bringing challenges like -

① the AI generated Pentagon burning picture created chaos.

② The deepfake video of creating interference in Turkey's election

③ Issues of copy right and privacy infringement is huge

↳ cyber security and other threats also can create menace to the society.

How they have changed the industry operations

① Bringing industrial revolution  
4.0

② Industrial connectivity - using sensors and developing the capability of manufacturing

↓  
Dealing with "Dwarfism" (Economic Survey 2016)

③ expansion of production will  
increase the "Tradeability"  
 ↓  
Important for growth  
 (Economic Survey)

④ Job creation i.e Skilled jobs

⑤ Automation & Accuracy has come

- Yes → 3D printed heart was used.  
 - 3D printed penchayat development  
in Bangalore.

Some challenges  
 exist

- job loss
- debate of AI governance
- lack of Skill upgradation.

thus Budget 2023 have emphasised  
upon scientific advancements

Yes → semiconductor deal of  
Foxconn with Taiwan.

17. हानि और क्षति (L&D) कोष के क्रमिक विकास को चिह्नित कीजिए। COP27 में हानि और क्षति कोष से संबंधित कोष-से प्रमुख घटनाक्रम हुए हैं? इस सम्मेलन में भारत ने क्या प्रतिबद्धताएँ व्यक्त की हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक
- Trace the evolution of the Loss and Damage fund, What are the major development related to loss and damage funds in COP 27?, What are the commitments made by India in this conference? (Answer in 250 words) 15 Marks

Loss & Damage fund established in COP27 is a step towards climate justice where vulnerable small nations can demand justice for them.

### Evolution of Loss & Damage fund

2009 → COP meeting termed the Loss & Damage fund but nothing happened.

↓

2013 → COP13 → warsaw

↳ Established warsaw implementation program (WIP)

↳ talked about Loss & Damage fund but opposition from developed countries.

↓

Many COPs discussed it without any substantial way out.

↓  
COP27 - Egypt - Sharm El Sheikh

↳ Loss & Damage fund was established.

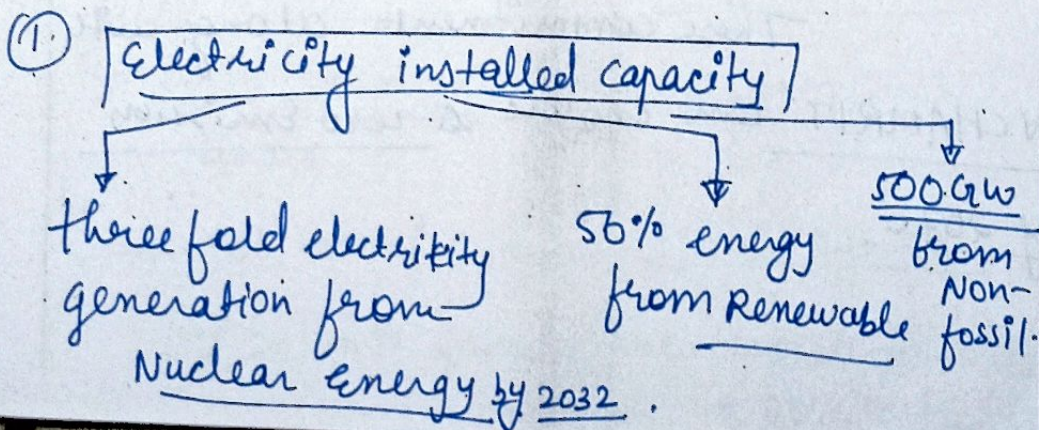
### Major Developments related to it

- Loss & Damage fund established.
- 'Santiago Network' to reiterate the mechanism → Help in establishment of the fund.
- A Transitional committee to draw out mechanism for working & functioning of Loss & Damage fund.

### Commitments made by India @ COP27

— India submitted LT-LEDs and updated INDC.

Major commitments :-



- ① Urbanization & Buildings → ECONIWA3  
 ↳ Samwta for Residential  
 ↳ ECBC & green building mechanism  
 ↳ Retrofitting and Resilient structure.
- ③ Industrial system → Green Energy growth  
 ↳ 'waste to Energy' ↳ Green Hydrogen mission.
- ④ Transportation → BS VI transition  
 ↳ Mean Railway → zero emission by 2030
- ⑤ Individual/Decentralized Efforts → LIFE mission
- ⑥ CO<sub>2</sub> Emission → Carbon capture, Utilization & storage capacity.  
 ↳ sequester 1 bn tonne equivalent of CO<sub>2</sub>.
- ⑦ Land degradation → Restore 26 mn ha. by 2030.

These commitments along with 'PAN CHAMRIT' can ensure zero emission by 2070.

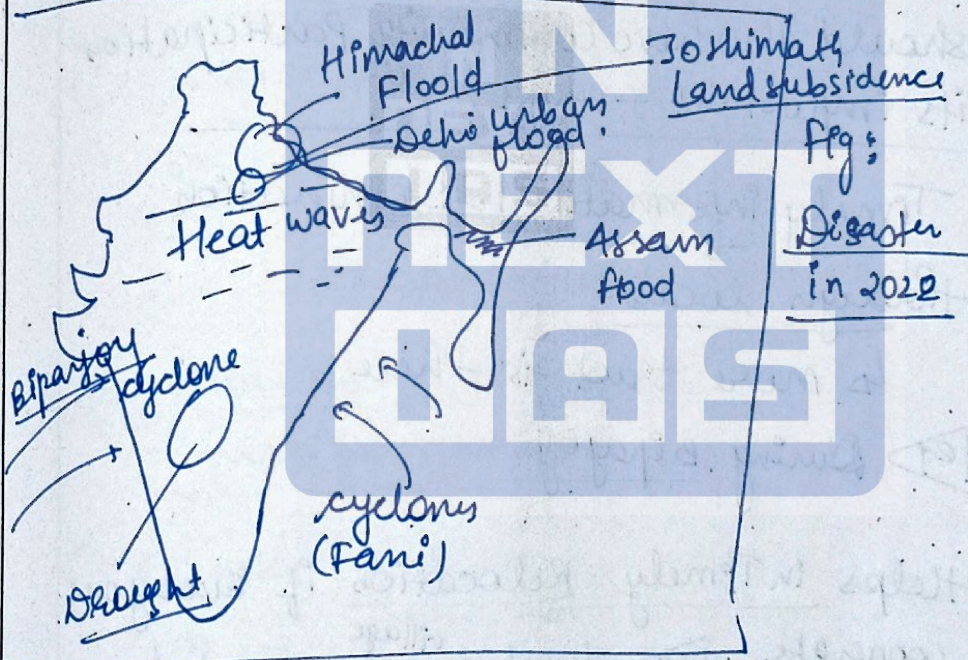
आपदा प्रबंधन सिर्फ आपात स्थिति से निपटने के बारे में नहीं है, बल्कि लचीले समुदायों के निर्माण के बारे में भी है। उन प्रमुख रणनीतियों पर चर्चा कीजिए जिनका उपयोग सामुदायिक लचीलापन बनाने और आपदाओं के प्रभाव को कम करने के लिए किया जा सकता है।

Disaster management is not just about responding to emergencies but also about building resilient communities. Discuss the key strategies that can be used to build community resilience and reduce the impact of disasters.

(250 शब्दों में उत्तर दीजिए) 15 अंक

(Answer in 250 words) 15 Marks

The increased frequency & intensity of Disaster shows the urge of making the Disaster management more resilient.



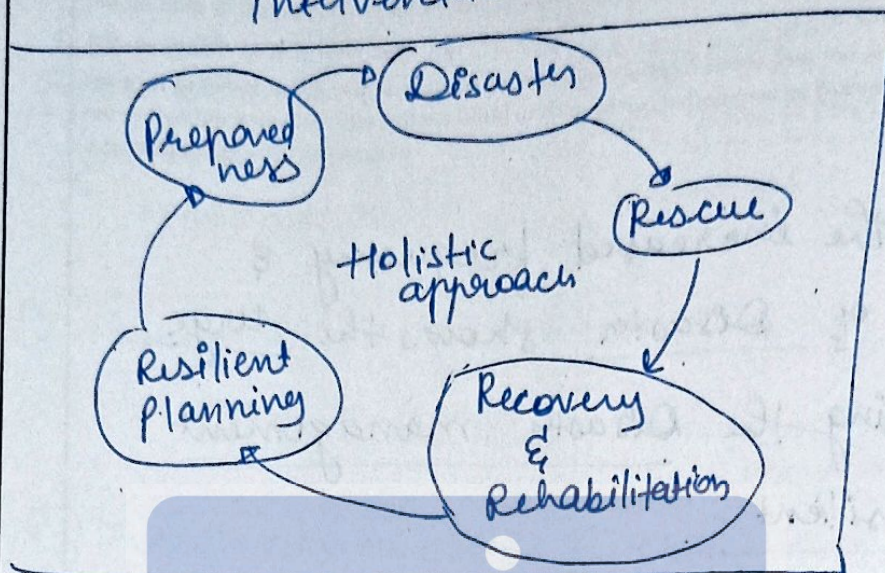
Just Responding the disaster doesn't help

↳ only superficially worked to just Rescue

↳ Not working toward mitigation

↳ 80% funds are used towards Response → 20% only to mitigation

Rather it should be holistic intervention.



It should also have community participation as its important - why?

- ① Timely information dissemination through locals  
↳ more trust is there  
↳ During Bipajoy
- ② Helps in Timely Relocation if everyone cooperate  
↳ Kuchch<sup>village</sup> was vacated during cyclone.
- ③ Community can help → identification of better & safe places  
↳ Providing updates of situations to officials.



- (4) Cooperating with officials during Rescue → having patience and also helping others

### Key strategies

- (1) Mock drills and better training
- (2) School curriculum should teach the do's & don't's during Disaster.
- (3) social media Nudging  
 ↳ Educational video and live Rescue/Mock drills video.
- (4) People participation while making plan for disaster
- (5) Disaster resilient infrastructure to instill confidence into them.

Disaster management can be holistic if community participate as told by 'SENDAI FRAMEWORK' (2015, 30)

19. मेटावर्स और वर्चुअल एसेट्स जैसी नई और उभरती प्रौद्योगिकियों के उपयोग के माध्यम से आतंकवाद का परिवर्तन विज्ञान का विषय है। हम आतंकवादी उद्देश्यों के लिए नई और उभरती प्रौद्योगिकियों के उपयोग का मुकाबला किस प्रकार कर सकते हैं? इस संबंध में "दिल्ली घोषणा पत्र" के महत्व को स्पष्ट कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

The transformation of terrorism through the use of new and emerging technologies like metaverse and virtual assets is a matter of concern. How can we counter the Use of New and Emerging Technologies for Terrorist Purposes and Elucidate the importance of the "Delhi declaration" in this regard?

(Answer in 250 words) 15 Marks

Technology can be a tool for transformation but if it falls into hands of terrorist actors → causes huge menace to the society.

challenges of Technology → Terrorism

- ① Using Dark Net → Terror financing  
↓  
communication plan
- ② Use for training and recruiting youths
- ③ Propaganda and radicalisation  
↳ Shamihandle → twitter account.
- ④ 3D printing → making gun
- ⑤ Organised crime-linkages through technology.
- ⑥ Metaverse → training through Avatars  
↓  
All activities & recruitment without meeting.

① Virtual Assets | → crypto funding to  
 ↓ provide links with terror organizations  
 ↓ organized criminals  
 ↓ Terror funding

How can we counter this?

① through strict legal frameworks

↳ IT Act should have provisions regarding misuse of technology in Terrorism.

- PMLA 2002

② Creating a task force to have oversight on it

↳ Cybercrime Division under MHA

③ International collaborations

↳ Makki in the list of UN terrorist  
 (1267)

④ Frequent conferences and meeting

↳ Define "Terrorism"

↳ Better equipments and ways to deal with the menace

↳ "No money for Terror" - 3<sup>rd</sup> meeting in India

→ It brought Delhi Declaration to deal with this menace.

### Importance

- ① Clear stand on International Collaborations  $\Rightarrow$  further meetings like NMFT.
- ② Institutional capabilities  $\Rightarrow$  FATF & CFT cells.
- ③ Regular Exercises and collaborations  $\Rightarrow$  do not serving as a haven to any terror organization.
- ④ Surveillance and oversight on media  $\Rightarrow$  do not to be misused for terror financing.
- ⑤ curbing money laundering and crypto-use (private)  $\rightarrow$  to check terror financing.

Terrorism is a "threat to humanity" and funding is the blood of it thus we have to stop <sup>cut</sup> funding mechanism.

"अग्निपथ योजना हमारे सशस्त्र बलों के लचीलेपन और प्रभावकारिता के लिए आवश्यक एक कड़वी गोली है।" प्रासंगिक तर्कों के साथ कथन का आलोचनात्मक विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

"The Agnipath scheme is a bitter pill needed for the resilience and efficacy of our armed forces." Critically Analyze the statement with relevant arguments. (Answer in 250 words) 15 Marks

Agnipath scheme brought out many protests (eg - Bihar protest) due to some of its bitter pills but it has its own benefits.

### Resilience & Efficacy

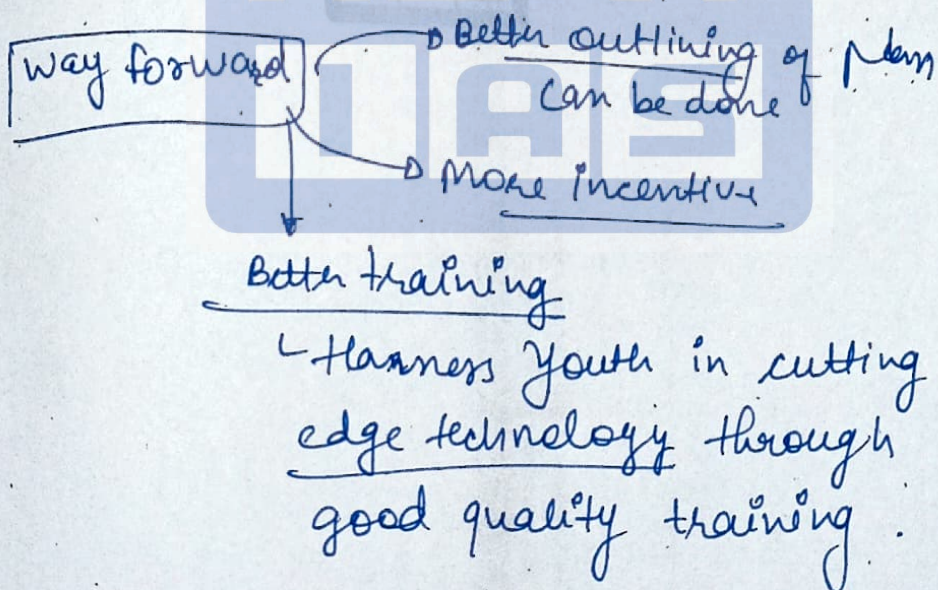
- ① Will bring down the mean age of Army (from 32 to 26 years)
- ② Rejuvenated youth energy and innovation potential to serve the country.
- ③ Even females will get the chance to be Agniveer in future.
- ④ High efficiency due to high energy
- ⑤ Higher Resilience as the age is less and Strength of Army will be increased.

- (6) Better human resource as even after Em Retirement → preferences in jobs like paramilitary.
- (7) less expenditure → no pension  
 {c.9} → 70% of Defence budget is spent on pension.  
 → Saved amount can be used in better equipments and resilience of the army.
- (8) Security to Agniveer — preference  
 ↓ ↓  
Regular Salary      11.17 lakh amount      25% get absorbed in Army

### However a Bitter Pill

- (1) A meagre salary to Agniveer.
- (2) Only 25% absorbed → Rest? → Unemployment
- (3) No future planning of what will be done at later stage after spending 4 years.

- ④ protests on age limit - (17-21 yrs)
- ⑤ No proper training in too young.  
↳ only training of 6 months  
↓  
No role in combatant force  
↓  
due to less training loss of  
lives may be more in  
Case of wars.
- ⑥ less lucrative → may turn into  
less interests of youth



The demographic Dividend will  
not only serve in Economy but  
also in security sector.