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Name of Candidate : AREA USMANI

Roll No. : PTTP 221371

Registration Number : ..... **Date of Examination :** 30/08/23

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

Test - 7 (GS3) **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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(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

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MACRO COMMENTS

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1. भुगतान संतुलन (बीओपी) के घटकों के रूप में पूँजी खाते और चालू खाते के बीच अंतर का सविस्तार 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

BoP includes the accounts of a country's economical exchange with the rest of the world. It has 2 components: capital & current accounts.

↓ Capital Account

→ It includes receipts & expenditure of capital transactions.

→ Capital receipts: Those income items which have an effect on net worth (loans from foreign govts/banks, FDI, FPI etc)

→ Capital expenditure: Those expense items which have an effect on net worth/investments in projects which create durable assets (loans/line of credit to other countries, masala bonds etc)

↓ Current Account

→ It includes balance of trade in goods & services, and transfer payments.

→ Unlike capital account, they don't have a bearing on net worth.

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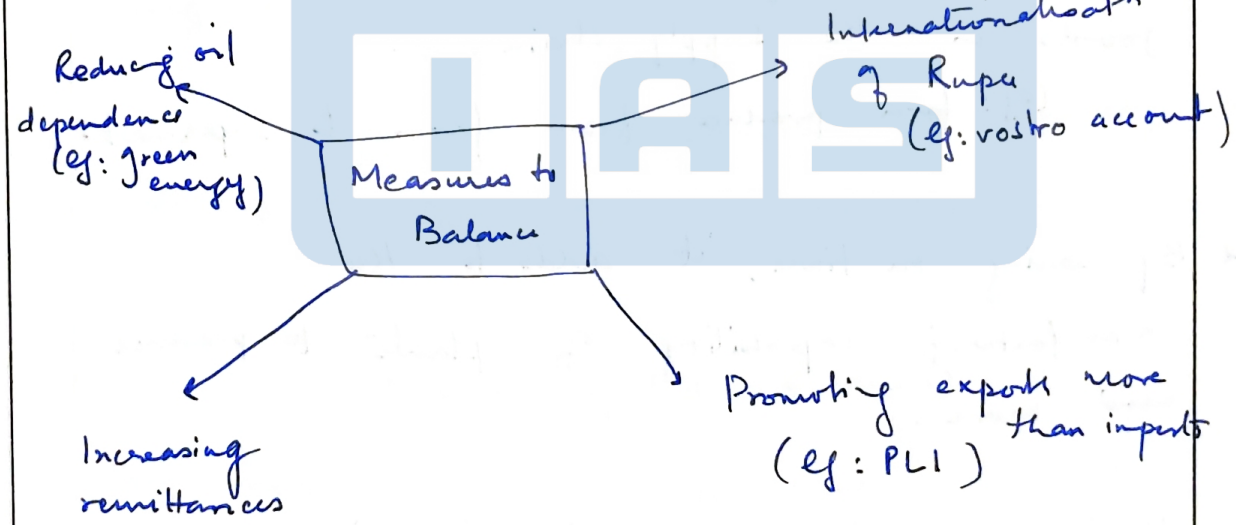
→ Goods: Trade in merchandise items like textiles, agri, electronic components etc

→ Services: Export/import of services like tourism, medical services, banking services etc

→ Transfer: Grants, transfer payments etc.

India has a negative BOP, owing largely to dependence on oil import (>80%) for its energy needs. In services, India is a net exporter (IT based largest component).

FDI investments have increased since 1991 (~$80B).



BOP deficit was led to the 1991 crises, however overall macroeconomy has been much better since then.

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2. लॉजिस्टिक्स (रसद) क्षेत्र, विनिर्माण उद्योग के विकास के महत्त्वपूर्ण 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

Logistics entails movements of goods in the economy (roads, rail, air cargo, ship, vans etc). India has a high logistics cost- which has been a major hindrance in making manufacturing cost competitive.

Importance of Logistics

* It reduces cost of manufacturing by reducing time and money spent in movement of goods in the supply chain.
(eg: farm produce from farm to supermarket)

* By saving on time, it adds to the manufacturing capability of plants to produce more.

* It increases business sentiment- in the economy, leading to more investments
(both ease & cost of doing business is reduced)

* It enables setting up of new industries which are time sensitive
(eg: sugarcane to sugar mills)

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* Makes the supply chain resilient.

In view of this, NLP 2022 was announced.

Components

* Improving infrastructure to provide the backbone of logistics (eg: PM Gati Shakti Yojana)
* Various other projects like Bharatmala, Sagarmala
* Laying of new national highways
* Reducing time by innovative measures like Fastag on vehicles
* Increased capex for infrastructure in budget, interest-free long term loan to States

Apart from logistics, electricity, labor supply, land reforms and other factors are also important for manufacturing.

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3. डब्ल्यूटीओ के तहत मत्स्य पालन सब्सिडी पर नए समझौते पर भारत का क्या रुख है? भारत के लिए मत्स्यपालन क्षेत्र किस प्रकार महत्त्वपूर्ण 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

India's long coastline (~7500 km) and vast length of internal rivers (~14500 km) has made fisheries an important sector both from income/export and nutritional security point of view.

Fisheries Subsidies, WTO

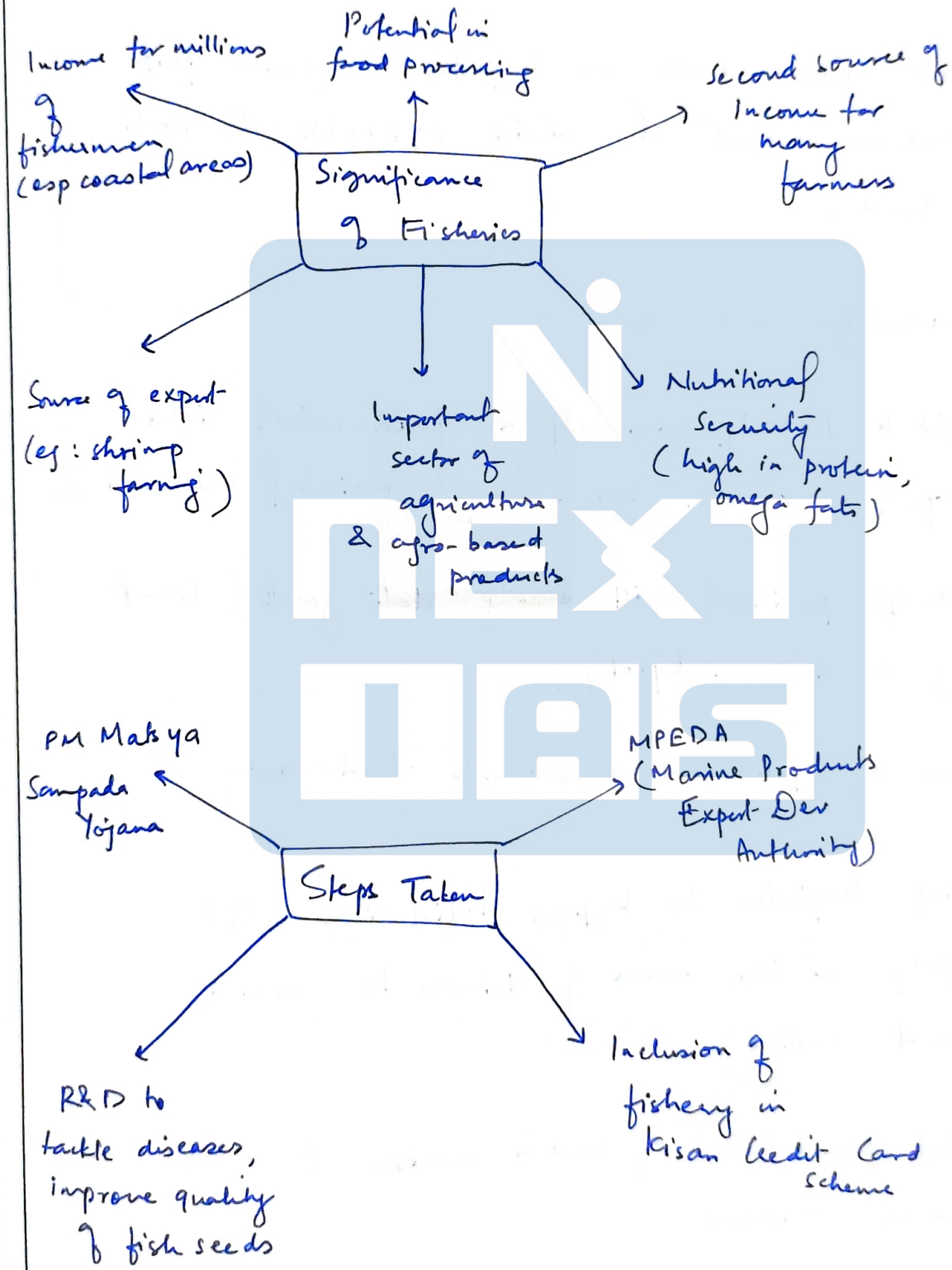
* India has called for transitional period to reduce fisheries subsidies for developing countries to ensure welfare of millions of fishermen of India.

* WTO subsidies are aimed at reducing IUU (Illegal Unreported Unregulated) fishing. However, per capita subsidy provided by developed countries is huge, and is mainly spent on capital-intensive fishing techniques. Thus, economy of profit is pitted against economy of subsistence.

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↓ Thus, India has called for making developed countries more accountable & transparent, voicing the needs of Global South.



APEDA

India, being a major economy, has a significant role to play in WTO negotiations.

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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 reforms was an important agenda post independence, and it entails equitable distribution of land.

Constraints

- Right to property, originally a fundamental right, delayed measures because of judicial interventions.
- Lack of political will among state govts (Land being a state subject).
- Nexus of politicians – bureaucrats – land owners
- Using loopholes to bypass legislations (eg: property in the name of driver to avoid land ceiling)
- High population of India makes land a scarce resource.
- Resistance from tribals (eg: rise of 'Naxalism')
- Trust deficit with govt due to land acquisition efforts (eg: Vedanta mines, Nandigram in Kolkata)

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Solutions

* Using new tech like drone surveillance & geo tagging to merge land (eg: PM SVAMITVA Yojana)
* Digitisation of land records to bring clarity (eg: Karnataka's leading efforts)
* Enforcement of land ceiling and benami transactions laws.
* Checking land degradation & desertification
* Effective implementation of FR Forest Rights Act 2006.
* Conducting regular Agri Census to collect data & take actions on the basis of it.

Land ownership will help ensure dignity and income to millions of poor, and hence needs to be a sustained policy effort.

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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

BrahMos, a joint venture (JV) project between India and Russia, has bolstered India's defence capabilities significantly.

Features & Capabilities

- It's a supersonic cruise missile (speed > 2 Mach), which makes it difficult to detect by enemy's radar.
- It has been integrated into all 3 wings of armed forces (navy, air force, army), enhancing its use efficiency.
- It's rage has been increased to 390 kms, which brings important cities of hostile neighbours in India's reach.
- It has state-of-art tech, including radars, enemy avoidance mechanisms etc
- It can manoeuvre at high speeds once fired, making it harder to detect.

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Contribution to Defence Capabilities

- BrahMos is best in its class, which has modernised our ammunition.
- It has also bolstered India's export capabilities (eg: to Philippines)
- Being a JV, it has enable tech transfer which will build capacity for future
- It has further deepened ~~India's~~ India's strategic ties with Russia.

BrahMos, along with Rafale Jets, S-400 and jet tech transfer MoU with USA, have significantly modernised India's defence capabilities.

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6. समुद्र की गहराई का पता लगाने और उसमें मौजूद संसाधनों का दोहन करने के देश के प्रयासों के अनुरूप, भारत सरकार ने गहरे समुद्र में अन्वेषण मिशन 'समुद्रयान' 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

Candidates write on thi

India's long coastline of ~7500 kms has endowed it with many advantages, and exploring it is a step towards this.

Samudrayaan & Its Contributions

- It is a Ministry of Earth Sciences undertaking, and aims at sending manned submarines and depths of 6000 m. It also entails robotic exploration of ocean bed.

- It has many potential benefits. The development of such capability is analogous to ISRO's space exploration capability.

- Ocean holds mineral resources (polymetallic nodules), and minerals like manganese, cobalt, nickel & more. They have varied applications (electronics, green energy etc).

- Ocean marine resources also has applications in medical biotechnology (eg: development of vaccines)

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- It will also contribute in exploration of marine biodiversity, and facilitate its conservation & sustainable use (blue economy).

- Development of such capability can also have ripple effects to India's maritime defence capability.

- Use of indigenous tech will ~~boos~~ strengthen domestic capabilities.

- Will increase India's soft power, and can assist other island countries in such exploration (eg: Sri Lanka, Maldives).

The depths of ocean are relatively unexplored, and Samudrayaan can help bridge this gap.

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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, launched in COP26, entails reducing methane emissions by 30% by 2030.

GMP & Methane Emissions

- Methane is a short-term, and high potential GHG, thus containing its release will help contain climate change (low hanging fruit).
- Major sources of methane emissions are power generation, industries, waste management and agriculture (including livestock). It is mainly released in anaerobic conditions.
- Thus, GMP's aim is a positive step, however certain reservations prevented India from being its part.

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India's Stance

* India, being a developing country with agriculture being a prominent sector for both food security & employment, had to balance its developmental needs against climate considerations.

* GMP would have pressurised India to undertake reduction measures in agri (eg: paddy cultivation, milk production).

* On a per capita basis, and from historical data, India's contribution to climate change (including methane) has been very low. Thus, it's important for India to continue at its own pace.

India's leadership in fight against climate change has been globally accluded, including its ambitious Panchamrita targets of COP26.

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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

DM

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 indeed highlighted the importance of DM and preparedness, esp in the current-globalised world.

Strategies

- Global coordination since infectious diseases don't respect political borders.
- Greater role of WHO is required.
- Strengthening primary healthcare to effectively provide first-response, raise awareness and for surveillance (eg: role of ASHA workers)
- Leveraging tech (eg: CoWin, Aarogya Setu)
- Fast-tracked development of vaccines (eg: covishield)
- Cooperative federalism
- Measures for quarantine
- Policies to check profiteering by pvt health sector, hoarding etc
- Use of social media for real-time communication

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- Tapping into civil society volunteers

Challenges

- Invisible & borderless nature of infectious virus
- Rapid mutation
- Quantum of internal migration is huge in India. Lack of data makes management tough as seen in covid lockdown.
- Paucity of funds, esp in primary healthcare.
- Lack of scientific temperament in society (eg: vaccine hesitation)
- Spread of rumors / fake news on social media can create panic.
- Friction in federal structure regarding policy making
- Lack of health-related infra (eg: doctors, hospitals)
- High incidence of poverty, low insurance penetration

Apart from preparedness, incorporating One Health perspective is also required in ~~his~~ climate related initiatives.

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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

Resource curse is the paradoxical situation of resource rich areas being backward.

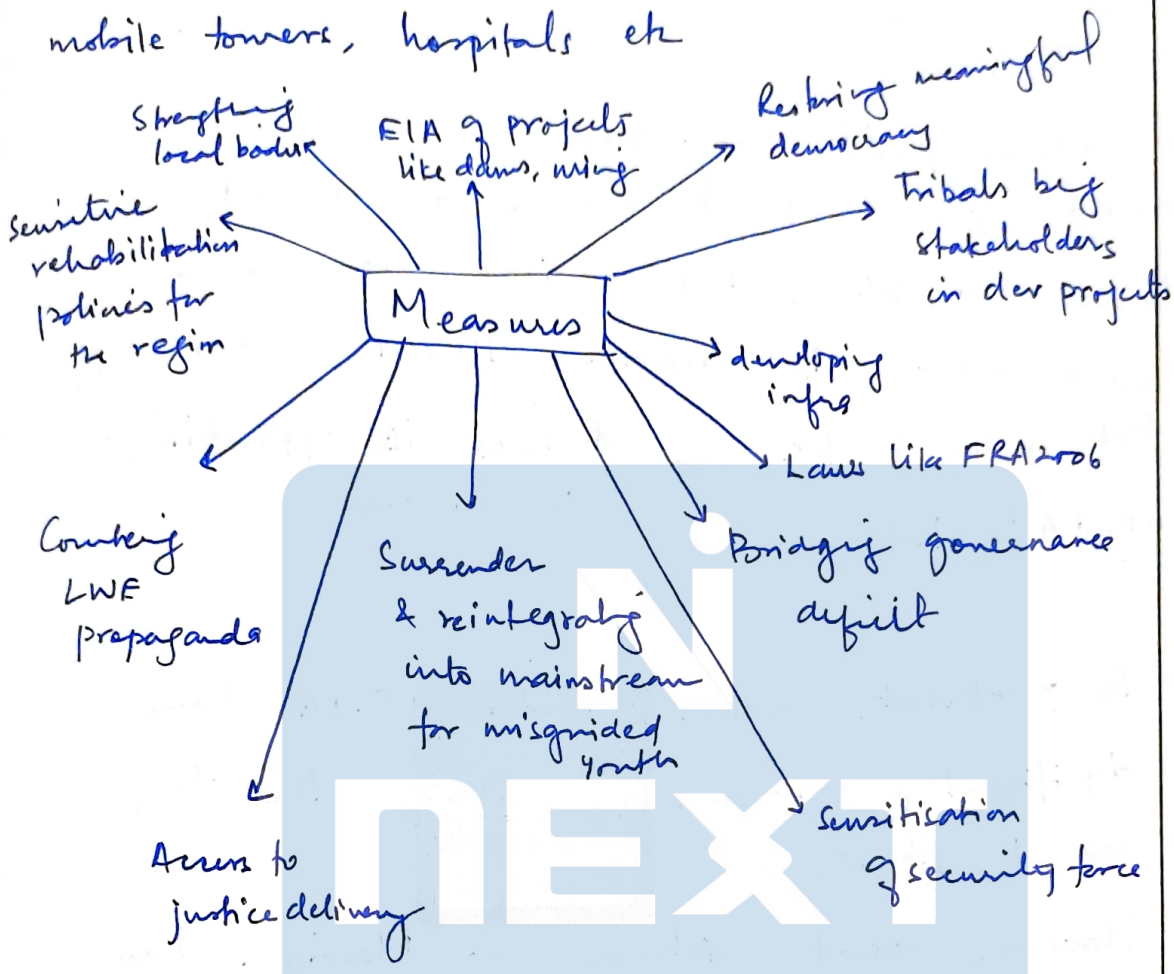
Eastern & Central India

- These regions are rich in minerals like coal, iron, bauxite, manganese etc. But ~~huge~~ backwardness & governance deficit has made it a breeding ground of LWE.
- Tribal displacement for dams/mines without proper rehabilitation, land acquisition for other purposes was exploited by LWE.
- Low economic & social indicators, high prevalence of poverty etc makes their radicalisation easier. Tribal youth has lesser avenues of gainful employment.
- Migration from other regions poses a threat to cultural identity.

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- Lack of basic infra like schools, roads, mobile towers, hospitals etc



LWE has reduced significantly, and initiatives like SAMADHAN are required to further eliminate it.

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10. उत्तर पूर्व और जम्मू–कश्मीर क्षेत्र में हिंसा की घटती प्रवृत्ति के आलोक में क्या आपको लगता है कि एएफएसपीए (अफ्स्पा) 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

(Armed Forces Special Power Act)

AFSPA grants special powers to armed forces in violence hit regions to ensure law & order (Eg: search without warrant).

Both centre & state can declare its applicability to an area.

AFSPA's Relevance

- In northeast, regions under AFSPA have significantly reduced, reflecting the changing ground situation.

  However, recent violence in Manipur has raised its relevance once again.

- After J&K reorganisation in 2019, insurgency events have come down drastically.

  However, the region is still sensitive, and given Pakistan's terrorism policy, AFSPA's utility is not entirely outdated.

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* Various committees and Supreme Court has issued guidelines on responsible use of AFSPA. Killing of civilians in Nagaland and other similar incidents in the past have created trust deficit.

* However, bringing violators to justice in a transparent manner would be a better step than removing AFSPA. Periodic review of ground situation is also required to update areas.

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11. अंतर्राष्ट्रीय व्यापार प्रमुख मुद्रा प्रतिमान (डीसीएम) पर केंद्रित है। अंतर्राष्ट्रीय व्यापार में हार्ड करेंसी (दुर्लभ मुद्रा) के महत्त्व 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

The emergence of Bretton Woods institutions (WB and IMF) after WW2 gave a dollar the de-facto currency status of international trade, which continues to date.

Importance of Hard Currency

* Hard currency is currency with high levels of acceptance globally (eg: US dollar).
* It gives significant benefits to the respective country. It does not have to worry about exchange rate, since practically, the whole world can behave like local economy.
* Loss in currency exchange is avoided.
* Trade deficit / balance of payment deficit is not a major issue since always more money can be pumped into the economy (eg: US runs high trade deficit with China).

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- Greater control over monetary policy: no other country's monetary policy has ripple effects (eg: current interest rise by Fed weakened other currencies)

- Default choice of investment in stock markets etc by global investors

- Minimal need to maintain forex reserves

However, even US is struggling with its burgeoning debt, and China, being a significant holder of ~~US~~ US Treasury Bills, can use it as a leverage.

Internationalisation of Rupee

- Recently, Russia & UAE have agreed to conduct trade in local currency. BRICS too has raised the need ~~to~~ of de-dollarisation. Russia - China conduct their trade in local currencies. Thus, challenges to dollar are rising.

- The major hurdle is the trade deficit that India runs with other countries.

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For rupee to be accepted, the surplus with one country should have use value, which currently is only for US dollar & other hard currencies. This is a self-defeating equilibrium.

* The acceptance of US $ is also backed by US being a major/dominant hard & soft power in the global order. Thus, as India's stature will rise, acceptance of Re will also rise.

* Improving trade deficit, and measures like vostro account, masala bonds will increase Re's credibility.

Acceptance of Re in global trade will & reduce India's need to maintain high forex, and will & generate greater autonomy to RBI in its mandate.

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12. जनसांख्यिकीय लाभांश 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।

(250 शब्दों में उत्तर दीजिए) 15 अंक

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

Demographic (DD) dividend refers to that stage in population growth when work age population (15-59) is greater than the rest.

Potential & Growth

- If the work age population is healthy, educated & skilled, it can contribute to economic growth & take care of the dependent population (children & old).

- However, if it is a liability & not an asset (i.e. sick, unemployable) then its potential is untapped. It can also lead to ~~ss~~ social fallouts like riots, protests, terrorism, insurgency, drug abuse etc.

Thus, DD is potential which needs concerted policy efforts to be tapped.

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- It is largely agreed that India entered into ~~the~~ DD phase in ~2018, and it will last till 2050s. Thus, India has a few decades to ~~by~~ untap the potential.

- In the health sector, various steps have been taken like Ayushman Bharat insurance, setting up of health & wellness centres, Jan Aushdhi kendras (for generic medicine).

- Focus on mother & child via ASHA, Anganwadi, Poshan Abhiyan, Midday meal, Janani Suraksha Yojana and more.

- In the education sector, National Education Policy 2020 aims at revamping education (eg: vocational train since grade 6, focus on ECCE, multidisciplinary approach, credit system, multiple entry & exit, 5+3+3+4 structure).

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- For skilling, Skill India Mission (eg: PM Kaushal Vikas Yojan, Deen Dayal Upadhyay Gramin Kaushal Yojana).

- To generate jobs, PLI, PM Gati Shakti Yojana, impetus on startups (Stand Up India, Skill India, Mudra Yojana), Make in India, Atmanirbhar, impetus on digital economy.

Thus, a multi-faceted approach has been taken to reform economy & make the youth capable of utilising the opportunity it represents.

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13. 'जीनोम एडिटिंग (जीनोम संपादन) में फसल सुधार की अपार संभावनाएँ 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

Genome editing tools like CRISPR tweak and chage genetic makeup to introduce desirable trails in crops.

Potential vs Concerns

* By genome editg, crops can be made disease tolerant (eg: BT cotton, new brinjal variant), made heat/drought resistant (in view of climate change).

* They can also be made to grow in different climatic conditions (eg: rubber in northeast)

* They can increase genetic yield of crop as well.

* Thus, any desirable trait is theoretically possible with R&D.

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- However, ethical questions arise as to "man playing god" approach taken by some. By isolating genes in lab, human is essentially playing with something beyond his complete understanding.
- This does ripple effects in other areas, like "designer babies".
- The ripple effects cannot be predicted in advance. Nature is highly interdependent, and tweaking one trait can lead to catastrophic changes via butterfly effect.
- From safety pov, such modified crops may not be safe to consume for humans & animals. If a crop is pest resistant, it may harm human digestive system as well.
- Long term consequences may become known later, which puts current consumers in potential risk.

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New Guidelines

- Before approval for mass production, extensive tests & trials are to be conducted.
- Peer review of research to ensure robust-overview by scientific community.
- Research in labs is to be regulated, so that ~~&~~ unwanted changes/projects ~~&~~ are not executed.
- Wide stakeholder based discussion, involvement of subject experts and more.

Genome editing is a very powerful tool, and needs to be ~~go~~ treated as such.

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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

~~Through~~ as

The importance of agri for food security and employment point of view has led to various subsidies.

* Subsidies & Impact

* Direct subsidy

→ PM Kisan Samman Nidhi Yojana, which gives Rs 6000/yr to landholding farmers has ensured basic income for farmers.

→ Nutrient based subsidy (for Potassium, phosphorous, sulphur) has helped reduce cost of input.

→ Farm loan waivers at times, which helps deal with distress.

* Indirect subsidy

→ Free power (eg: punjab), urea, PM Kusum (for solar pumps), MSP, KCC (Kisan Credit Card), PM Fasal Bima Yojana, PM Krishi Sinchayee Yojana, exemption on income tax, Soil Health Card, cheap loan, are some of the indirect subsidies.

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→ They are aimed at providing institutional credit, crop insurance, irrigation facilities, remunerative crop prices, reduce input cost (fertilisers, water), etc.

- However, the huge subsidy ~~burden~~ burden has hindered govt to undertake structural reforms. This has ensured a low level equilibrium.
- Reliance on subsidy, instead of capacity building, came into sharp focus in the protest against the 3 farm bills.
- Agriculture being state subject, state govts undertake populist measures to secure votes & stay in power. This leads to ~~pe~~ precarious finances, and inefficient utilisation of funds.

Though certain subsidies are required as stop-gap measures, systemic reforms (eg: now withdrawn farm bills) are also required.

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Effect of MSP

- Has led to wheat-rice cropping system instead of millets, oilseeds, pulses etc
- Use of excessive water, fertilisers for these 2 have affected the fertility of the region & has led to water stress (eg: Punjab)
- Reliance of farmer on MSP was seen in protest against farm bills.
- Large, organised farmers have benefitted more than subsistence peasants.
- Subsidy burden on govt.
- Has ensured food security via NFSA.
- Complaints against India in WTO.

MSP is necessary as an insurance mechanism, but in its present form, it has stifled market & price discovery.

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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 when bacteria, virus etc develop resistance to antibiotics. WHO has listed it among top 10 global public health threats.

AMR as Threat-

- AMR will make existing antibiotics ineffective, thus simple infection could pose life threatening risks like in medieval era.
- R&D into new antibiotics has plummeted significantly by pharma companies, thus gap can arise. Making of new antibiotics is a rigorous scientific exercise requiring time, money & technical capability.

In India, AMR has further aggravated the fight- against TB.

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Contributing Factors

- Over the top availability of anti-biotics
- Self-medication, leaving the course incomplete etc
- Untreated water discharge from pharma companies
- Runoff from agriculture fields
- Use of antibiotics in fisheries & livestocks
- Industrial runoffs
- General genetic mutation in microbes

Steps Required

- Information exchange among ~~compeon~~ countries on the current status of ~~their~~ their public health (eg: as done in covid)
- Regulating use of antibiotics among humans, livestocks
- Restriction on OTT ~~medi~~ availability
- Concept of One Health in public health policy

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- Investg in R&D of new antibiotics
- Treatg wastewater discharge from pharma companies, agri fields etc
- Increasg awareness & mobilising funds for the cause

Thus, AMR is a serious challenge, and needs global efforts to be managed. Covid has already shown the globalised nature of public health.

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16. 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?

(250 शब्दों में उत्तर दीजिए) 15 अंक

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?

(Answer in 250 words) 15 Marks

Disruptive innovations can be understood as those which significantly & structurally change how certain things are done, and the change comes in a relatively short- period of time.

Examples

* The recent advent of generative AI based on LLM (Large Language Models) like ChatGPT, Bard is one example. It is already being used to write journal articles, provide customer support and more. Similarly, DALL-E is generating images based on text prompts.

* The advent of internet- is was also a disruptive innovation, which affected almost-

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all industries. Way of working significantly changed (eg: emails, IM, video calls, software project management tools).

- Blockchain is also an example. It has uses in supply chain management, cryptocurrency, ledger maintenance, voting and more.

- Biotechnology and invention of tools like CRISPR has broken boundaries of science & religion. Gene editing can cure diseases, breed new animals (eg: revival of extinct species) and more.

- Space technology boomed in 20th century, and satellites are being used for communication, navigation (eg: GPS), space based internet (eg: Space X), disaster management etc.

- Quantum computing is another emerging field, and it will revolutionise cryptography and secure communication as we know it.

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- Mobility, via aeroplanes, bullet-trains and automobiles has enhanced efficiency.

- Emergence of low carbon energy sources (eg: Solar/wind, green hydrogen) will reduce our reliance on fossil fuels & help tackle climate change.

- Use of AI in entertainment & social networking (eg: Facebook, Tiktok, Netflix) has redefined entertainment and connectivity.

Thus, a lot of technological disruptive innovations have occured and are continuously pushing horizons.

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17. हानि और क्षति (L&D) कोष के क्रमिक विकास को चिह्नित कीजिए। COP27 में हानि और क्षति कोष से संबंधित कौन–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

COP27, held in Egypt in 2022 was a major event from global climate change point of view.

Loss & Damage Fund (LDF)

- Though talks of LDF were raised earlier also, especially by Global south, it was given a concrete shape in COP27.
- No specific agreements on amount of fund has been made as of now.
- LDF is aimed at assisting developing countries make the transition to low carbon energy & development. It is based on the principle of 'common but differentiated responsibility'.
- The failure of developed countries to mobilise $100 B/yr by 2020, as agreed upon in

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COP21 in 2015, has raised apprehensions for LDF as well.

Commitments by India in COP27

- India re-iterated its resolve to the Panchamrit targets as announced in COP26. India has submitted its updated NDCs (Nationally Determined Commitments).
- India has resolved to extend support to other countries through tech transfer and funding via ISA (Int'l Solar Alliance).
- India has furthered its assistance to low lying island Pacific states in dealing with climate change.
- India committed to the Mangrove for Future Alliance as well, launched in COP27.

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COP27's success will depend on the outcomes of the various initiatives announced.

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18. 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। (250 शब्दों में उत्तर दीजिए) 15 अंक

Disaster management (DM) 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. (Answer in 250 words) 15 Marks

DM is a complex task, which includes all steps like preparedness → mitigation → response → relief → rehabilitation. Building resilient communities is an important part of preparedness.

Resilient Communities

- Though building resilient Communities is a peace time undertaking and responding to emergencies a visible short-term activity, the importance of the former is equal (if not more).

- Resilient communities are those which are prepared to face the impending disaster. This has some general characteristics and some disaster-specific measures.

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- In general preparedness:
  - → Providg evacuation traing
  - → Preparation of emergency kit to be taken in evacuation
  - → Traing volunteers from community to provide first response before govt. authorities reach
  - → Establishing clear, real-time communication channels with govt. authorities
  - → Preparing SOP in face of disaster (eg: evacuating eldrly, female, children first)

- In specific preparation:
  - → Undertakg infra buildg as per impendg threats (eg: earthquake resistant buildg of earth bunds)
  - → Hazard zone mapping to gauge threat
  - → Data collection of past disasters to understand specific threats
  - → Providg greater autonomy to local bodies and mitigation funds
  - → Leveraging local practices to reduce impact
  - → Placg early warng system

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Sendai Framework, and National DM Plan 2016 have ~~ed~~ also set building community resilience as important part of disaster management.



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19. मेटावर्स और वर्चुअल एसेट्स जैसी नई और उभरती प्रौद्योगिकियों के उपयोग के माध्यम से आतंकवाद का परिवर्तन चिंता 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

Terrorism is the use of violence or its threat to achieve political ends, mainly by generating fear among common public.

Terrorism & New Tech

- Virtual assets like bitcoin have features like anonymity and low traceability by govt authorities which make them naturally ~~appearing~~ to appealing to terrorists.

Terrorist funding & money laundering both can significantly tap into such innovative means (eg: ISIS asking donations in bitcoins)

- Similarly, metaverse holds potential for misuse by terrorists. For eg, Mumbai attacks of 2008 could be practised virtually in 3D, with near-real situations. This would increase efficiency of such operations.

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- Social media is already leveraged by terrorists for various purposes like spreading false propaganda, radicalisation & recruitment of youth. Spreading fake news, inciting violence/protests etc.

- AI can also be leveraged, by asking & formulating plans using its inputs. Though mechanisms are in place to check this, loopholes can be bypassed.

- Use of Dark Net by terrorists & organised crime for drug trafficking, human trafficking, child pornography is another eg.
- Use of drones

Countering Misuse

- Regulating companies like Meta (Facebook), bilateral exchanges to share data in matters of national sovereignty (over seeing individual privacy).

- Creating awareness on how such tools are being misused (eg: social media radicalisation can be reported).

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- Tackling organised crime (eg: drug dealing) to cut off money supply to terrorists.
- Enforcement of laws like Prevention of Money Laundering Act, and use of ED, NIA etc.
- Traing officials in emerging tech as well, so that they are aware of what they are dealing with
- Measures like Cyber Swachchhta Kendra to protect general public.
- Strengthing intelligence gathering

Delhi Declaration

- It also aims at containing such misuse by terrorists, by gathing data & conducting R&D
- Greater coordination b/w intelligence & enforcement agencies
- Data sharing of criminal profiles across agencies
- Global coordng coordination keeping in view the cross border nature of terrorism.

All tech is a double edged sword, and containg their misuse is a major responsibility of states.

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20. "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 is a major structural chage introduced in the armed forces.

Features

- Yong candidates (₹ 16-17 to upto 21.5 yrs) to be recruited for 4 years. After 4 years, 1/4th would be retained and rest- released.
- Preferential treatment of the released candidates in paramilitary, police to ensure employment and utilises their skills & experience.
- The released candidates will also get- a certificate to assist in jobs of prt sector.
- Upon release, a ₹ 11.7 L Seva Nidhi package would be given (both cadet & govt- contribution) with E-E-E tax status to help kickstart- business etc.
- Agniveer would be a separate cadet, different from current- region-based recruitment.

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Positives

- Would reduce pension burden on govt in the long term (∵ 15 yrs are required as pension eligibility).
- Would create fiscal room to undertake defence modernisation capex.
- Would created skilled disciplined youth which would potentially enrich civil society as well.
- Ready pool for recruitment in paramilitary & police etc.
- Would tackle ~~ess~~ unemployment while ensuring capacity building
- Will make the armed forces younger, and more tech friendly.
- All India nature of cadet would increase unity

Negatives

- Skilled jobs (eg: IAF) need longer training, and 4 yrs may prove too short.
- No clarity on how 25% would be selected at the end of 4 yrs. May lead

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to unhealthy competition among young recruits.

* Trained youth with no suitable job prospects can also potentially be a threat to social order and peace.

* Mechanisms already in place for recruitment to paramilitary & police, hence agniveers may not be recruited as much.

* Disruption in current style of recruitment

* Lack of higher education among released Agniveers will hamper prospects in pvt sector.

Thus, initial years should be monitored for how the scheme performs, and adjustments made as per data & expert ~~opinion~~ opinion.