NEXT IAS

NEXT IAS (Head Office) : 27-B, Pusa Road, Metro Pillar no. 118, Near Karol Bagh Metro, New Delhi-110060
Bhopal Centre: Plot No. 46, ZONE-2, M.P. Nagar, Bhopal-462011
Ph: 8081300200, 8827664612 | E-mail : mts@nextias.com | **Web:** www.nextias.com

(To be filled by candidate)

Name of Candidate : ASHISH BISHNOI

Roll No. : PTTP220360

Registration Number : ..... Date of Examination : 26/3/2023

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. : .....

[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.
2. Do not write anything other than the actual answers to the questions anywhere inside your QCA Booklet.
3. Do not tear off any leaves from your QCA Booklet, if you find any page missing do not fail to notify the supervisor/invigilator.
4. Do not leave behind your QCA Booklet on your table unattended, it should be handed over to the invigilator after conclusion of the exam.

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.

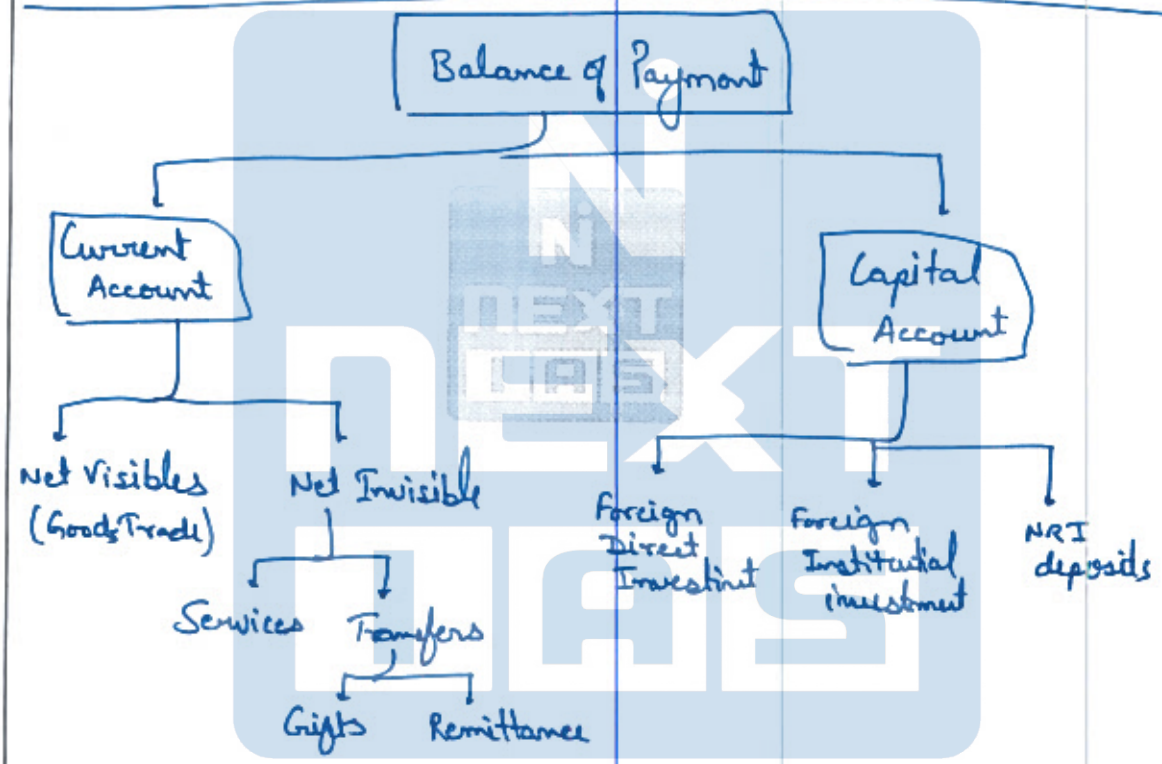
Candidates must not write on this margin

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

Balance of Payment is the net sum of total exchange of one country with outside world in terms of services and goods.



Current Account → it consist of goods and services trade along with net remittance ($113 billion in 2022 India)

Capital Account → Net investment and long term deposits (FDI, FII)

Candidates must not write on this margin

Currently, India is facing BOP deficit due to large imports of goods in value terms like Crude Oil, machineries etc.

Measures to balance BOP deficit

i) **Atmanirbhar Bharat**
   - developing capacity to reduce imports of essential items.
   - eg → Oil exploration, Agri. processing

ii) **Reducing Oil Imports**
   - more focus on renewable energy and energy efficiency.

iii) **Diaspora**
   - more diversification to gain remittance.
   - more NRI deposits

iv) Liberal Investment → relaxation in FDI limit

Creation of Sovereign funds (NRI deposit), export diversification, reducing crucial imports and attracting **Anchor investors** will help India to reduce BOP deficit.

Candidates must not write on this margin

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

India ranked 44th in Logistic performance Index of World Bank. Currently logistic sector costs 15-16% of India's GDP. (China → 9%, USA → 10%)

Logistic Sector contribution to manufacting sector:

i) **Raw material transport**

↳ Better transpoct facility reduces supply challnges

eg → Sugarcane recovery rate depends on time period after harvesting.

ii) **Warehousing and Storage**

↳ it helps increasing the shelf life of products and reduces supply constrch

eg → Storage of perishable items like Tomato for food processing

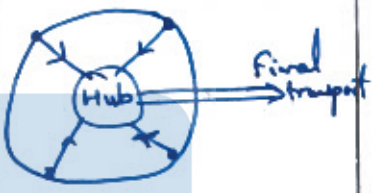
iii) Packaging, Grading, marketing of products increase the price of finished goods.

Candidates must not write on this margin

National Logistic Policy 2022

i) It targets to reduce logistic cost below 10% of GDP.

ii) Multi-modal logistic Park on Hub and spoke modal.



iii) Reducing the turn-around times for coastal shipment.

iv) Better storage, cold-supply chain for perishable item

eg → Decentralised Warehousing scheme.

v) Integration of all modes of transport through PM Gati Shakti Yojna.

Reducing the logistic cost will help India to reach the target of 25% contribution of manufacturing sector in India's GDP by 2025 (currently → 17% contribution).

Candidates must not write on this margin

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 is currently world's second largest fish producing country after China. Inland fishery has more contribution than marine fishery.

WTO's fisheries subsidies agreement

- Banning of fishing in over-exploited reserves
- Banning of IUU fisheries (Understocked

India's stand:

- It is discriminatory against developing Nations like India.
  - eg India – $200 million subsidy (around), EU, USA, Japan } $2200 million subsidy
- Need transition time to implement agreement since India has not reached its potential in marine fisheries.

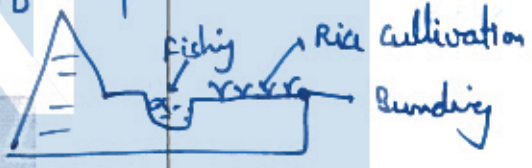
Candidates must not write on this margin

Significance of Fishery sector

i) **Blue Economy** → important contribution in marine export of India
   - Eg → Prawn, Shrimp (Blue revolution)

ii) Employment for the coastal community

iii) Supplement income of distressed farmer.
   - Eg → Aji System of Apatani tribe



iv) Boost food processing industries

v) Better nutrition for the coastal community
   (Fish is imp. food in west Bengal)

Steps taken by government

- Pm Matsaya Sampada Yojna
- Export subsidies on Marine Export
- SAGARMALA Yojna (to help costals through infrastructure)
- Production Linked Incentive (Food processing industry)

Fishery sector is still far below potential due to poor technology and processing. Blue economy will help in providing revenue generation to state and farmers both

Candidates must not write on this margin

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।

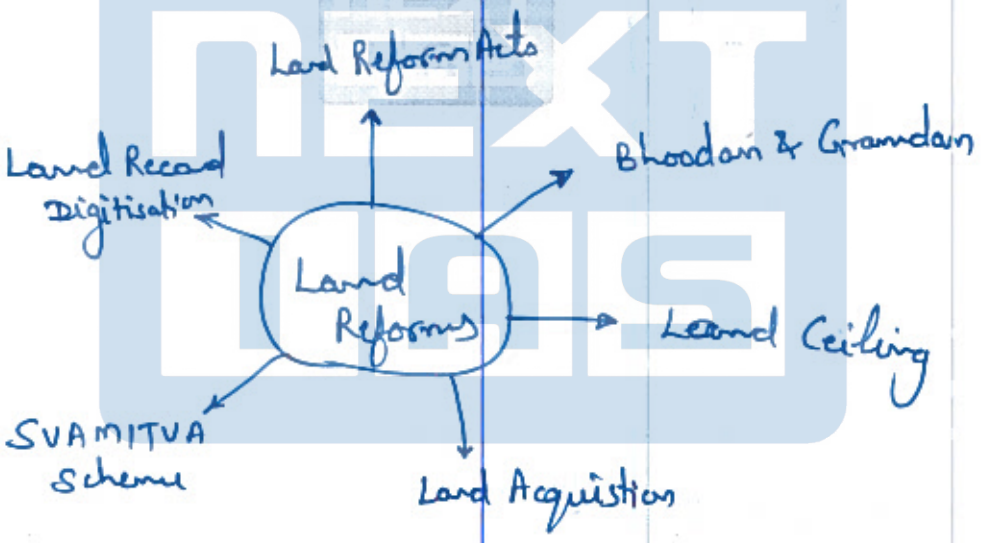
(150 शब्दों में उत्तर दीजिए) 10 अंक

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 are the steps to redistributes, re-arranging agricultural land to help landless and marginal farmer.

Data → 85% of India's farmers are small (below < 1 hectare) and Marginal. (1-2 hectare)



Systemic and institutional constraints

i) Land Ceiling acts defined only individual limit and not the family limit.

Candidates must not write on this margin

ii) **Bureaucratic Nexus**
- Patwari, bureaucrates and politician.

iii) Lack of digitalised land records, land bank

iv) Land disputes are among major suit filed in judiciary.

v) Land fragmentation causes reduced mechanisation.

Pragmatic Solution

i) Digitalisation of land record
- eg → PM Land Record Digitisatia Scheme.

ii) Property documents to farmer to avail loan and capital.

iii) Land pooling for better use of machinery
- eg → FPOs acts as proxy land reforms.

iv) Distribution of lands to landless farmer community.

New age technology like drone survey, satellite, theodolite are being used in PM-SVAMITVA scheme to distribution of property card in rural areas.

Candidates must not write on this margin

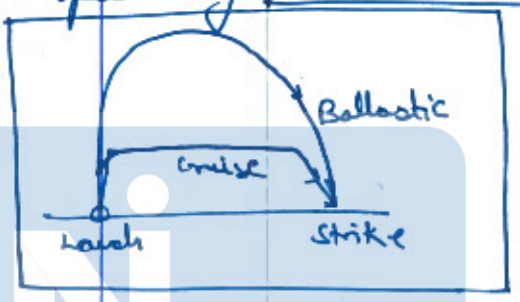
5. ब्रह्मोस सुपरसोनिक क्रूज मिसाइल की अद्वितीय विशेषताएँ और क्षमताएँ क्या हैं,और इसने भारत की रक्षा क्षमताओं और सामरिक स्थिति के क्षेत्र में किस प्रकार योगदान दिया है? (150 शब्दों में उत्तर दीजिए) 10 अंक

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 is supersonic (above 1 mach speed) cruise missile jointly developed by India and Russia.

Cruise Missile :



Features of BrahMos missile :

i) It is named on two rivers Brahamputra (India) and Moscowa (Russia) ⇒ shows countries collaboration

ii) It has range of 290 kilometers. (extension in plan)

iii) Travels with supersonic speed. i.e. between 1 Mach and 5 Machs. (1 Mach → speed of sound)

iv) It travels in lower part of atmosphere therfore remains out of radar capture.

Candidates must not write on this margin

Contribution to defence capability and strategic position

i) India has tested Brahmos in all three version. i.e. land, water and air launch.

ii) Supersonic (mach) speed keep it safe from anti-missile systems.

iii) Defence collaboration with Russia. (earlier India used to only export defence items)

iv) Talks with many countries to export defence Brahmos missile.

v) It will equip India armed forces against both traditional and non-traditional threats

Brahmos is the sign of New India displaying the vibrant defence sector. It creates deterrance to hostile neighbours to attack on India.

Candidates must not write on this margin

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

International Seabed Authority (ISA) has allocated 75 million hectares to India in Central Indian Ocean to harness its natural resources.

Important ocean resources

- Oil exploration
- Poly-Metallic nodules
- Sea-food at bottom
- Minerals like Cobalt, Nickel.

It is said that even 10% ocean resource utilisation can serve India's energy needs for upcoming 50 years.

Samudrayaan

- it is a manned mission for exploration of deep ocean topography.
- Helps in extracting natural mineral

Candidates must not write on this margin

resources and study of bottom sea surface.

↳ It will helps in enhancing Blue economy.

Contribution to Ocean science and technology :

i) Helps in understanding features like ocean temperature, salinity and its impact on monsoonal activities.

ii) Development of new extraction technology for mineral

iii) Bottom Sea study helps in studying Volcanic rocks and interior of earth.

iv) Ocean technology of sending ship and crew at very high pressure need sophistication eg → Titanic Submarine Implosis.

Poly-metallic nodules planned to be extracted through Samudrayan will not only provide energy security but also enhances the technology developed to explore new ocean.

Candidates must not write on this margin

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

COP-26 of UNFCCC at Glasgow propounded the global methane pledge to phase out the methane emission which is the prime global green house gas.

Prime sources of methane emissions

- Paddy fields
- Animal husbandry
- Industrial activities
- Improper combustion of fossil fuels.

Methane has more global warming potential potential than CO_2.

Data → methane emission has increased three-fold since pre-industrial level.

→ India is among top three methane gas emitter.

Candidates must not write on this margin

Global Methane pledge positives:

i) Will nudge countries to curtail methane emission (but it is merely a pledge)

ii) It will have positive impacts on soil quality and increased food production

iii) Reverse the climate change.
Eg → Achieving Paris target of 1.5°C

India's stand

→ India has lot of dependence on Animal husbandry and paddy cultivation for food security

→ India stands for phase wise emission curtailment instead of strict ban.

→ India is promoting various scheme like 500 New GOBARDHAN plants, Crop diversification away from rice. to curtail methane.

Global Methane pledge is a noble initiative for saving our planet but for developing nations it should be phase wise with transition period.

Candidates must not write on this margin

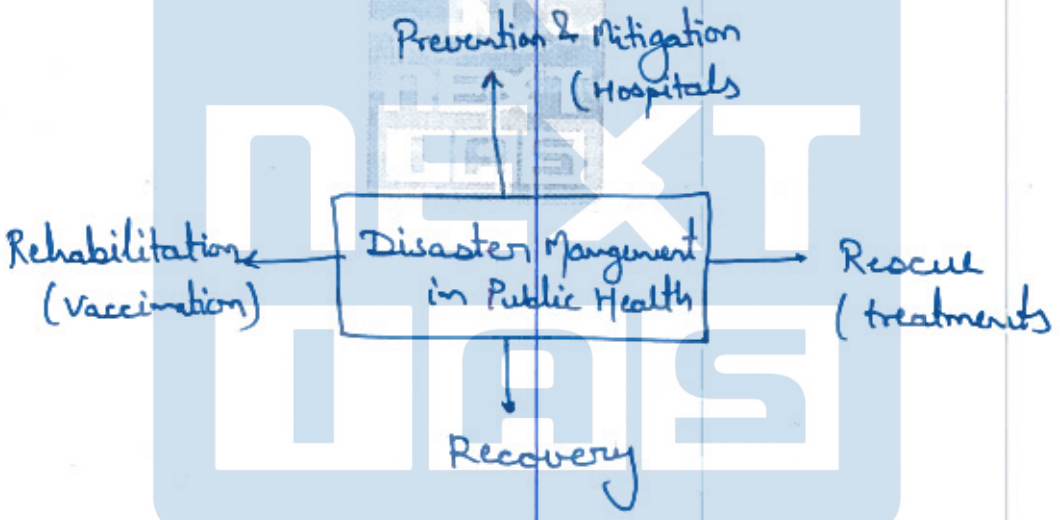
8. कोविड–19 महामारी ने सार्वजनिक स्वास्थ्य में आपदा प्रबंधन के महत्त्व पर प्रकाश डाला है। महामारी और अन्य संक्रामक रोग के प्रकोप के प्रबंधन के लिए प्रमुख रणनीतियों और चुनौतियों पर चर्चा कीजिए।

(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 was an unprecedented public-health disaster who shook the entire world to toes. World got many learning to build a robust health infrastructure as mition Strategy.



Key strategies for infectious disease management

i) Proper information repository of historical outbreaks

eg → Spanish flue 1919 records

ii) Building tailor-made policies instead of one-size fit all approach.

Candidates must not write on this margin

eg → Kodala (Swine flu) Haryana-Rajasthan (Lumpy Skin)

iii) Involving local stakeholders and Gram Sabha to design policy, infrastructure and control outbreak.

iv) Advance research and vaccine for alien diseases

eg → only 0.7% GDP spend on research.

Challenges

i) New diseases through virus can't be detected and symptoms identified very late.

ii) Globalisation → very fast pace spread across world.

iii) Vulnerable section → Vaccine stocking and very high pricing during COVID (Vaccine inequality)

iv) Low research and doctor-patient ratio (1:1456) ideal 1:1000

v) Deforestation is increasing viral load on the fauna (bats, monkeys)

Adopting "One Health" approach by intergrating human, animal and environmental health will be the ideal mitigation strategy for any Pandemic

Candidates must not write on this margin

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

LWE (Left Wing Extremism) is the strategy adopted by Maoist communist to keep the locals from using the resources provided to them and to alienate them against lawful govermt.

Resource Curse

- Despite of huge resource base, improper utilisation in lack of skill, capital, technology keep as region backward in terms of human development.
  - eg: Jharkhand (huge coal Reserve)
  - Odisha, Chattisgarh (Iron, Mica reserves)

Crucial driver of Left Wing extremism

i) Exploitation of natural resources but underprovision of basic amenities like health, education, roads.

Candidates must not write on this margin

ii) LWE uses Jal-Jangal-Jamen against govt. when it acquire forest-land for developt projects

iii) Lack of political representation breeds ground for LWE to provide distorted leadership

iv) Encroachment on cultural right due to globalisation. (forced mainstreaing)

Measures for sustainable development

i) Skilled employment to local youth in coal and iron mine.
⇒ it will keep them busy in jobs.

ii) Last mile delivery through dedicated bureacy
Eg IAS OP Chaudhary's POTA Cabin

iii) Education tribal children
Eg → Eklavya Model School.

iv) Better income, tribal products marketing
Eg → GOAL (by Google), Van Dhan Kendra, TRIFED

Better service delivery has reduced LWE in only 41 districts and 70% reduction in deaths.

Candidates must not write on this margin

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 forced Special Power Act (AFSPA) 1957

give unrestricted power to armed forces

to maintain peace and security of nation

AFSPA → it is implemented in Jammu Kashmir, Assam, Nagaland and part of Manipur and Arunachal

→ to tackle the terrorism (JK) and violent insurgents in North East (NSCN(K), NSCN(IM))

AFSPA living its utility :

i) Reduced indoctrination and terrorism activities

ii) Necessary to deal with proxy war by hostile neighbours.

iii) Better security to industrialist, farmers to carry out their activities

iv) It is a tailor made policy instead of one size fit all. Eg → AFSPA removed in peaceful area.

Candidates must not write on this margin

Criticism of AFSPA :

i) Unbridled shooting power creates ecosystem of fears among local (suppress dissent)

ii) Overreach event by armed force personnel hinders the fundamental right.

iii) Dual role by Army for border protection and insurgency tackment reduced efficiency. (duty clash with CAPFs)

iv) Already many provision in action like UAPA, sedition.

AFSPA helped hugely in reducing violence by terrorist and indoctrination of fence sitters At the same time it is ensured that power overreach should avoided and phase wise removal AFSPA in peaceful area.

Candidates must not write on this margin

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

Ongoing currency war between USA and China has led to new dimension of internationality national domestic currency to take benefit in the international trade.

Data → 80% of world's forex reserve and 60% of global trade is dollar based

→ 5 currencies in SDR: Dollar, Pound, Yen, Euro, Renminbi

Dominant Currency Paradigm

→ Inherent benefit of trade in dominant currency which has less fluctuations.

→ Benefit to USA due to internationalisation of Dollar, since it can control dollar's supply and secure itself from global economic shocks.

Candidates must not write on this margin

Importance of Hard Currency :

i) Recognised by maximum number of nation to settle trade receipts.

ii) Less fluctuation, therefore lesser economic shocks.

iii) Demand for Hard currency, benefit the domestic county in gaining interest rate. (more revenue to state).

iv) Self-reliance in terms of exchange value.

Issues with Hard Currency

i) It gives unreasonable high economic power to one single nation.

ii) Poor and fragile nation bears high debt (Eg: Srilanka's debt of $50 billion)

iii) Promotes currency war due to challenge to hegmony of single hard currency (Dollar v/s Renminbi)

Candidates must not write on this margin

Potential of Rupee Acceptance:

i) Regular Currency Swap agreement by India
   - Eg → $400 million with Srilanka,
     CSA with Maldive.

ii) Promotion of Rupay Card
   - Eg → Dubai (UAE), Singapore, Bhutan accept Rupay

iii) Rupee - Rouble Trade
   - helps in buying cheap Russian oil in rupees.

iv) Stable nature of India rupee due to recent Banking reform.
   - Eg → INDERDHANUSH, Utkash 3.0

v) Non-hegemonic nature of Rupee (Sustainable debts)

vi) Rising de-dollarisation trend across world.

Internationalisation of Rupee will bring India among Hard economic power which has capacity to drive global economic agenda in sustainable manner.
non-hegemonic

Candidates must not write on this margin

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 Dividend is the situation when nation has comparatively large working age population which can drive high economic growth.

Data
- 67% population of India lies in 15-15 age. (Census Commissioner 2019)
- India has median age of 28 years (CIA factbook) (China → 37 years)

"More hand to work, lesser mouth to Feed"

Demographic disaster not ensure growth but provide potential :

i) Large youth population enhance economic capablity but unskilled youth are demographic disaster.

Eg → Less than 5% skilled population (Japan → 80%, South Korea → 96%)

Candidates must not write on this margin

ii) Persistent inequality in terms of gender, caste, religion hinders growth.

Eg → Very low female labourforce (around 30%)
Manual scavenging by lower caste.

iii) Lesser mobility and migration (Son of Soil) creates labour force crunch.

iv) Proliferation of slums along with urbanization is acting as negative by products.

Eg → 17% urban slum population

v) Lesser provision of health, education skill creates burden on disposable income

Eg → Food Budget Squeeze
Asian Enigma (Fast growth but poor health & food)

vi) "Failure of Exchange Entitlement" and "Capablity deprivation" (Dr. Amartya Sen)

↳ it deprives youth from opportunity

Candidates must not write on this margin

Steps taken by government:

i) Skilling of Youth
   - PM Kaushal Vikas Yojna, Atal Innovation Schem.

ii) Health & demography
   - Ayushmann Bharat, Chiranjeevi (Rajasthan),

iii) Employment
   - Rojgar Mela, 15 lakh job target (by 2024), National Education Policy, NRLM

iv) Female Literacy
   - KIRAN scheme, scholarship for doctrate

v) Promotion of Women SHG, Cooperative to mobilise youth in organised group,

Skilly, reskilly along with better health and nutrition prepare a productive youth which will make India $5 tillion economy and breaks the cycle of intergenerational poverty.

Candidates must not write on this margin

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

Currently in India, only BT Cotton is permitted as the GM crop since 2002. Genome editing alters the gene to enhance its characteristic properties.

Major GM Crops

BT Cotton → Bacillus Thuringeiss → resistant to pink bollworm
bacteria

HT Cotton → CP4epsps gene → herbicide tolerant

DM Mustard → Bar, Barstar, Barnase gene → self pollination

BT Brinjal → resistant to fruit and shoot borer.

Potential of genome editing in Crops:

i) Increased productivity of crops

Eg BT Cotton tripple productivity

Candidates must not write on this margin

ii) Resistant to pest attack and drought tolerant

Eg → Pink bollworm, Fruit borer.

iii) Increased shelf life of food.

Eg → Flavr Savr Tomato

iv) Better nutrition and taste of food

Eg → Golden Rice (Vitamin A fortification)

Ethical and Safety Issue:

i) It may lead to superbug.

Eg → Now cases of BT cotton not immune to bollworm

ii) Inherent interest of Seed Company

Eg → Monsanto sell both seed and pesticide (destroying cotton crops

Terminator seeds

iii) Health issues in long terms

Eg → Many countries banned GM food products.

iv) Killing and elimination of native varities

Eg → Challenge to growing millets.

v) Very high seed costs create burden on farmers.

Eg → ₹800-900 per acre Cotton seed.

Candidates must not write on this margin

New guidelines for safety assessment :

Positive impact

- Proper field trials and health safety trial.
- Genetic Engineering Appraisal Committee (GEAC) final approval after a transition period.
- Limited to commercial crop initially
- Separate fund for extension and research

Challenges

- Lack of indegenous research. (mostly foreign companies)
- Lack of environmental long terms assessment
- Focusing more on production less on quality.

Genetically modifying a crop enhances its properties like production, taste, shelf life but in field approval should be very cautious and for only commercial crop initially.

Candidates must not write on this margin

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

Farm subsidies are transfer payments made to farmers to helps them fight agricultural distress in terms of production and price shocks.

Types and impact of farm subsidies:

(A) Indirect farm subsidies

Positives

i) Provides valuable at low costs.
Eg → Fertilizer subsidy

ii) It helps fighting inflation.

iii) Ensure sustained supply of raw material

Negative

i) Very high leakage
Eg → Urea smuggling and diversion

ii) Inefficient supply chain.

iii) Poor Governance and lack of timely supply
Eg → Long ques for urea bag.

Candidates must not write on this margin

(B) Direct Farm Subsidies

Positives

i) Efficient due to less leakage (Eg → DBT)

ii) Disposable income to farmer.
Eg → PM-KISAN (₹6000 per year)

iii) Choice to farmer to decide type and quality of input

Negatives

i) Lack of money to buy input at market price

ii) Lack of digitalisation infrastructure and awarness to farmer

iii) Diversion of money for other purposes (like alcohol)

Minimum Support Price

Price gaurentee given by government to farmer before sowing season to motivate them for growing crops. Currently MSP is announced for 24 crops but assured procurement is made for Rice, wheat and few other crops.

Candidates must not write on this margin

Impacts of MSP

Positive

i) Better price realisation to farmer.

ii) motivates to grow crops
   - Eg → Nigerseed, Cotton (₹6300/quintal)

iii) Food security of nation
   - Eg → Public distribution

iv) Increase in cropping intensity
   - Data → Currently 146%

Negative

i) MSP remained as ceiling price instead of floor price

ii) Lack of assured procurement except Rice, wheat

iii) Environmental Impact
   - → Decline with table
   - → Overuse of fertilizer, pesticide

iv) Regional imbalance.

Ashok Dalwai Committee for Doubling farmer income recommended for better "Terms of trade" for farmer by enhanced MSP.

For marginal farmer both direct and indirect farm subsidy should be in place for inputs and better life style.

Candidates must not write on this margin

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

Antimicrobial resistance (AMR) is a situation when the disease causing microbes have developed resistance to the vaccines and drugs. Microbes adept to existing drug and become superbugs.

Major Contributing factor :

i) **Over-use** and uncontrolled use :

Eg:→ MDR & XDR (multi-drug resistant TB)

Eg:→ Diclofenac pain killers.

ii)

iii) Hospital induced resistance

Eg:→ Poor disposal of waste like needles, bottles

iiii) Separation of human and animal health (Lack of One Health Approach)

Candidates must not write on this margin

iv) Lack of continuous research on the existing drugs and medicine. (lack of fund available)

v) Generic medine overuse
Eg → 20% World's generic medicine in India.

vi) Incompletion of Complete course of drugs.

vii) Climate change → emergence of novel superbugs.

Steps needed

i) Global Cooperation (SDG3 → Public Health)
WHO's AWaRe tool → Access, Watch, Reserve for proper use of drugs

ii) "One Health" approach

iii) "Code Red Line" campaign for restricting excess use of drugs.

Candidates must not write on this margin

iv) Physician recommendation by the drugs which turns to resistance by microbes.

v) Proper hygiene and sanitation in hospital premises along with scientific wasti disposal (colour coded boxes)

vii) Enhanced food allocation for drug research and innovation.

ICMR has prepared list of Essential drugs with restricted supply to stop the menace of AMR. Drug like Kynamyice for TB will remain effective only if used judiciously.

Candidates must not write on this margin

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

Those innovation which has changed the entire course of a particular field in terms of efficiency, cost and impact. Such innovation boost the productivity to very high level.

Diruptive innovation in recent time

i) **Agricultural field**

- use of drones, self driving machineries, genetically modified crops, irrigation technologies (on moisture basis)
- enhanced productivity, water use efficiency and farmer's income.

ii) **Health Sector**

- New vaccine, CRISPR-Cas9 gene editing, Stem Cell therapy, Nanobots, Targeted drug delivery
- modified both curative and preventive care, better public health

Candidates must not write on this margin

iii) **Education**

- Smart Classroom, Virtual classes, Biometrics
- ensure better literacy and numeracy.

iv) **Defence and military**

- Nuclear Bomb, Targeted missile, Anti-Missile (THAAD, S400), Supersonic jets, Nuclear Submarine
- Enhance security and protection of nation

v) **Space sectors**

- International Space Station, Moon rovers (Chandrayaan 3), Anti-Satellite missile, Parker Probe (Sun)
- Better understanding of outer world, satellite Communicat

vi) **Other fields**

- Transport (metro), Manufacturing, Construction
- Helps in reduced energy use and more sustainability.

Candidates must not write on this margin

Change in industrial operation

i) Decentralised production in different countries and final assembling.

ii) Enhanced automation through robots.
Eg: warehousing robots

iii) Preparing inventories on basis of demand prediction through technologies

iv) 3-D manufacturing from ~~top to~~ bottom to top manner.

Inspite of many benefits, disruptive tech. has created inequality in society and nation. Job loss due to automation.

Continuous research enhanced public health, education (chatGPT, AI) and tracked us on 5th Industrial revolution.

Candidates must not write on this margin

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

Loss and Damage mechanism tries to create economic ecological balance through provision of transfering funds from those countries which caused loss of environment to those which bearer the consequence of such damage.

Evolution:

- Green Climate fund was established in 2010
- Concept of Loss and Damage — Warsaw (Poland) Summit of UNFCCC
- COP-26 (Glasgow) ⇒ all countries agreed to finalise Paris rule book for loss and damage.
- COP 27 (Egypt) ⇒ finalisation of Loss and damage mechanism

Candidates must not write on this margin

COP 27 and "Loss and Damage" :

i) Developed countries to provide funds for ecological sustainability of poor, developing and island nation.

ii) Finalising rule book to assess the extend of loss and damage. (assessing the vulnerability)

iii) Establishg Carbon Credit mechanism by involving private players like Corporates.

iv) Fixing the historical responsiblity due to early industrialisation by developed nation.

v) Reversing climate change by prioritising Opportunities where the funds need to be spend.

Candidates must not write on this margin

(vi) Avoiding the breach of planetary boundries and tipping point.

India's Commitment

→ Reiterated the Panchamrit goals (Net Zero by 2070, 50% Non-fossil energy, 500 GW renewable by 2030)

→ Global Cooperation for Green Grid initiative

→ Reducing the environment impacting derogatory subsidies.

→ Focus on green growth

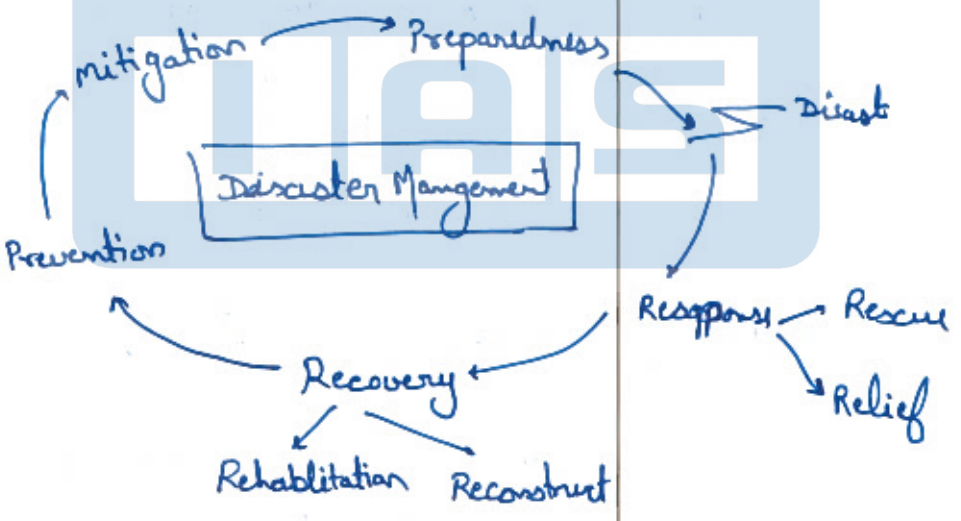
India's Saptarishi Target of sustainability, youth power, green GDP is striving India on path of net neutrality.

Candidates must not write on this margin

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 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

Disaster management is the sum total of all those activities which reduces the vulnerability and risk to any hazard and enhances the capacity to bear and rebound back.



India is now shifted from reactive to pro-active disaster managent through DM Act, 2005

DM policy and plans.

Candidates must not write on this margin

Building resilient Communities

i) Blend of traditional and modern knowledge for mitigation

ii) Resilient infrastructure to Earthquake, Tsunami, heatwaves.

iii) Using locally available material for sustainability.

iv) Involving all key-stakeholders in planning
   - eg: Person with disability
   - Women especially tribals

v) Reducing social vulnerability
   - enhanced brotherhood, cooperation during disaster, helping
   - eg: India helped during Nepal Earthquake

vi) Better mitigation strategies.
   - eg: Afforestation to prevent landslide
   - Proper land assessment for development

Candidates must not write on this margin

Key strategies

- Use of technology
  - eg → IS1893 Earthquake Code
  - Use of drone for rescue
- Global Cooperation
  - eg → Coalition for disaster risk infrastructure
- Sustainable practices
  - eg → Not preventing natural flow of rivers.
  - Sustainable Tourism in Himalaya.

Preventing disaster of anthropological nature can be done through awareness and better response and recovery to natural disaster through resilient community

Candidates must not write on this margin

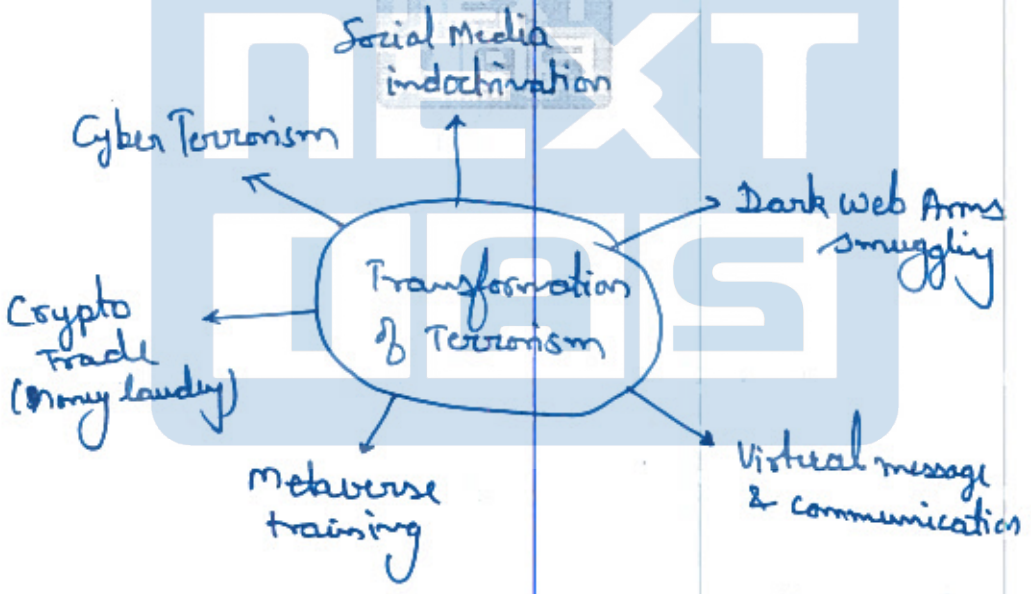
19. मेटावर्स और वर्चुअल एसेट्स जैसी नई और उभरती प्रौद्योगिकियों के उपयोग के माध्यम से आतंकवाद का परिवर्तन चिंता का विषय है। हम आतंकवादी उद्देश्यों के लिए नई और उभरती प्रौद्योगिकियों के उपयोग का मुकाबला किस प्रकार कर सकते हैं? इस संबंध में "दिल्ली घोषणा पत्र" के महत्व को स्पष्ट कीजिए।

(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 a phenomenon in which an individual or group carry out violence to achieve some goal which may be political or ideological.



Terrorism is changing its form moving from physical to virtual by using cutting edge technologies.

Candidates must not write on this margin

Terrorism and emerging technologies

i) Use of drones to supply arms across borders.

ii) Drone attacks in Pathankot.

iii) Narco-terrorism through deep-web.

iv) Circulated morphed religious images for alienation.

v) Cyber-Terrorism → Use of VSMA peer-to peer network in Pulwama attack.

vi) Virtual reality Metaverse to interact in near physical form.

Countering strategies

i) Robust Cyber-security framework and scanning of incoming data across border.

Candidates must not write on this margin

ii) Skilled trained personnel and well technology equipped armed forces.
Eg → INDERJAAL (Drone use of army)

iii) International collaboration like FATF's grey list, Christchurch Call to Action.

iv) Strong institution like NCCRP (reporting portal)

v) Regulation of digital virtual asst.

"Delhi declaration" advocates for a universal definition of terrorism. Enhanced use of counter technology and involving local stakeholders will help tackling terrorism.

Candidates must not write on this margin

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

Government of India bring in "Agnipath Scheme" to transform Indian Armed force into more agile, youth and strong.

Features of Agnipath

i) Young armed force
   - entry upto 21 years of age.

ii) Reduced pension expenditure
   - Pension will not be provided to new inducted personel.

iii) Retirement
   - $\frac{1}{4}$ of newly inducted will be retained.

iv) After 4 years, a consolidated fund of money will be provided.

Candidates must not write on this margin

Positive Impact

i) Youthful armed force
   - target of bringing avg. age to 26 years from current 32 year.

ii) Agility and strong force (Powerful youth)

iii) Reduced revenue expenditure
   (reduction in salary and pension)

iv) Enhanced capital Expenditure
   (robust defence equipments, export of defence items)

v) Strong credits will be retained after 4 years.

Negative impacts

i) Income security of credit in reduced due to pension elimination

Candidates must not write on this margin

ii) Short tenure of 4 years (Cadets need to search for alternate jobs)

iii) Entry upto 21 years age creates discontentment in youth.

Govt. has promised to prefer Agniveers in other government jobs after 4 years and initial relaxation in age is provided.

It is very necessary to increase defence capital expenditure to develop "Smart Power" advocated by Joseph Nye.

Candidates must not write on this margin

Space for Rough Work

NEXT IAS