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FIAS - MGP 2021 - GS paper #3

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24 DEC 2021

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GENERAL STUDIES

FORUMIAS  
ACADEMY

Name Of Candidate

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Roll No.

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Date:

23/12/2021

Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE			INSTRUCTION
Q. No.	Max. Marks	Marks Obtained	<p>1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet.</p> <p>2. There are TWENTY questions printed in ENGLISH &amp; HINDI, all questions are compulsory.</p> <p>3. The number of marks carried by a question/part is indicated against it.</p> <p>4. Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided.</p> <p>5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off.</p> <p><i>Any specific messages for ForumIAS Mentors/Evaluators with respect to your copy? Write it here.</i></p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p> <p>-----</p>
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<b>Total:</b>	<b>250</b>		
<b>Evaluator's Discretion:</b>			<b>For Student Only</b>
			Start Time   9:30
			End Time   10:40
<b>Total Marks:</b>			Mode Of Examination: Online <input type="checkbox"/> Offline <input checked="" type="checkbox"/>
<b>Evaluator's Discretion:</b> This is the marks awarded at the discretion of the evaluator based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy.			<b>For Office Use Only</b>
			ECN CODE:
			EG:
			Evaluation Date:

**Note:** You can discuss your evaluated copy with the Mentor. Raise a ticket from your portal to schedule a mentor call or visit the offline centre to meet mentor (all 7 days, Timings – 11 AM to 6 PM). Further if you are unsatisfied with the evaluation, you can seek re-evaluation of the copy.

Parameters	Excellent	Very Good	Good	Average	Poor	Very Poor
Language						
Structure						
Presentation						
Handwriting						
Content						
Attempt						

**ADDITIONAL REMARKS**

Q.1) The cryptocurrency paints a lucrative avenue towards creation of a digital currency and at the same time raises concerns for macro-economic and financial stability of the country. Analyze. Also, bring out various options for regulation of crypto currency and highlight the most desirable regulatory option for India. (10 Marks, 150 words)

क्रिप्टो करेंसी एक डिजिटल मुद्रा के निर्माण की दिशा में एक आकर्षक अवसर प्रदान करती है और साथ ही साथ देश की मैक्रो-इकोनॉमिक और वित्तीय स्थिरता के लिए चिंता पैदा करती है। विश्लेषण करें। इसके अलावा, क्रिप्टो करेंसी के नियमन के लिए विभिन्न विकल्पों को सामने लाएं और भारत के लिए सबसे वांछनीय नियामकीय विकल्प पर प्रकाश डालें।

(10 अंक, 150 शब्द)

Recent surge in cryptocurrency market - especially Bitcoin, Ethereum and Doge coin craze due to Elon Musk had again brought cryptocurrency to limelight.

## Cryptocurrency

lucrative avenue for digital currency

eg Sweden - Krone  
China - eRMB.

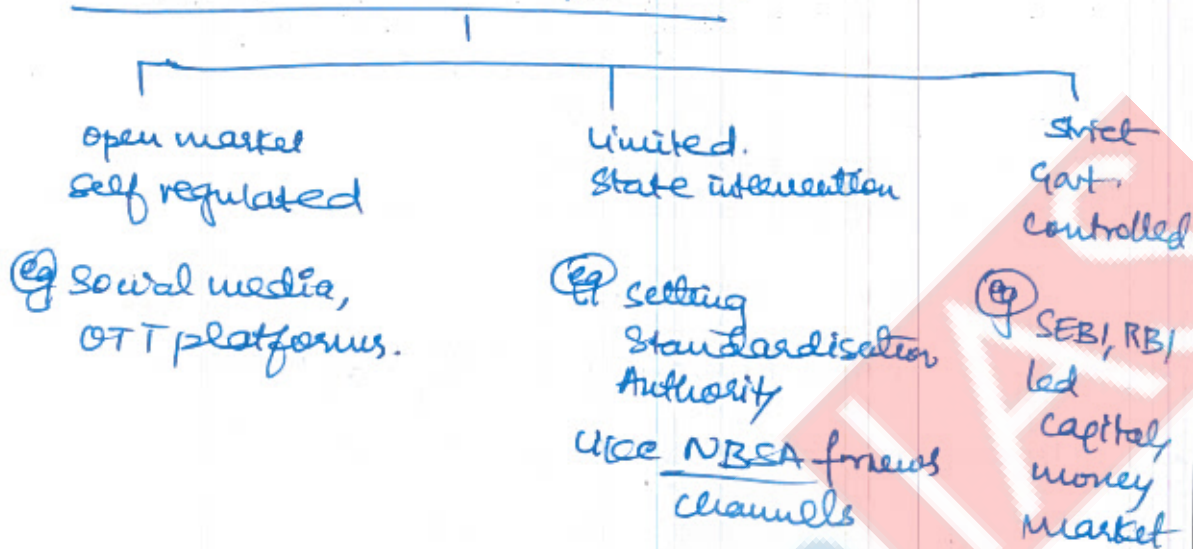
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- ① - security by cryptography
- ② - transparency in P2P ledger.
- ③ - Anonymity through encryption.
- ④ - Digitisation of economy (cashless & formal)

concerns for macroeconomic & financial stability

- ① Fluctuating price and not attached to any asset - based on speculations only
  - ② Undermine state sovereignty
  - ③ Not accepted globally
  - ④ Frauds, terror funding
- eg MtGox platform

## various options for regulation



## most desirable for India

Limited state intervention with standard setting.

(1) It'll balance economy with state responsibility

(2) plut standards, regulations

eg New IT Rules 2021, New e-commerce Rules 2020

(3) Engage in global consensus

eg Global minimum corporate tax by G7

### way ahead

India's new digital currency bill 2021 while abolishing all private currency try to achieve similar objective

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.2) China plus one strategy has opened up new vistas of opportunities for the nation to integrate into global value chains and create new manufacturing jobs. In this context, identifying the inhibiting factors, suggest strategies to leverage global quest for supply chain resilience to emerge as a global export hub. (10 Marks, 150 words)

चीन प्लस वन रणनीति ने राष्ट्र के लिए वैश्विक मूल्य श्रृंखलाओं में एकीकृत होने और नई विनिर्माण नौकरियां पैदा करने के अवसरों के नए रास्ते खोल दिए हैं। इस संदर्भ में, अवरोधक कारकों की पहचान करते हुए, वैश्विक निर्यात केंद्र के रूप में उभरने हेतु लचीली आपूर्ति श्रृंखला के लिए वैश्विक खोज का लाम उठाने के लिए रणनीतियों का सुझाव दें।

(10 अंक, 150 शब्द)

China plus one strategy is manufacturing expansion  
policy adopted by companies and governments to  
diverse their setup beyond China and reduce  
Chinese monopoly, by expanding eggs in other basket

(eg) Apple setting factory in India

opportunities for India to be part of global value  
chain and attract anchor firms fulfilling India's  
dream of Make in India for the world (Economic  
Survey 2018)

Strategies to leverage global quest for supply  
chain resilience

(1) International initiatives on similar objective

- (eg) SCRI - Supply Chain Resilient Infrastructure
- CDR - Coalition for Disaster Resilient Infrastr.
- Blue Dot Network

- (2) Easing regulatory norms and removing complexities
  - (a) Giving Tax benefits, labour law flexibility (New 4 labour codes)
- (3) Strengthen infrastructure: Physical infrastr. for decreasing ICOR and social infrastructure for bridging skill gap
- (4) Global connectivity measures like Cagarmala, Bharatmala

It will help solve inhibiting factors

Regulatory cluttered & complex red tapian

Poor education & high skill deficit.  
(India skills Report 2018)

Lack of connectivity & infrastructure  
(Logistics Cost 14%)

Lack of funds

Way ahead

PLI scheme, Ureal for local, Afmaur blue

Abhiyan, Make in India, SKILL India will ensure India emerging as major manufacturing destination

**Feedback**  
(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.3) Why has there been no significant reform in agricultural sector in the past few decades, even when a broad consensus exists that farming is becoming non-remunerative and unsustainable?

(10 Marks, 150 words)

पिछले कुछ दशकों में कृषि क्षेत्र में कोई महत्वपूर्ण सुधार क्यों नहीं हुआ है, जबकि इस बात पर व्यापक सहमति है कि खेती गैर-लाभकारी और गैर-टिकाऊ होती जा रही है?

10 अंक, 150 शब्द)

Future belongs to nation with grains, not guns  
- MS Swaminathan

Recent Covid 19 showed resilience of agriculture sector, with only sector showing positive growth (+3.4%) while whole economy going downturn (-7.7%).

Despite such promising aspect, India with ~50% workforce in agriculture has not seen major reform (since Green Revolution in 1960s-70s) making farming non-remunerative & unsustainable due to:-

(1) Lack of political consensus & federal conflict + Agriculture being state subject. Despite Union model land Reform Act 2013, Model Agriculture Marketing Act, Model Tenancy Act, there is still onus on State Govt. to act.

(2) Over reliance on service sector led jobless growth as employee elasticity is less

(3) lack of Agri-tech innovations & Agri-entrepreneurship

(4) Unreformed APMCs and nexus:-

High middlemen led APMCs, multiple fees, cartelisation defeating the purpose of APMCs Mandis

Ex. ENAM, RAKAM

(5) Fragmenting landsize as >80% farmers with <2 hectare, making agriculture non-economical  
lack of thrust to contract farming & administrative issues (Ex) PepsiCo - Gujarat farmers case.

(6) Social unrest & protest - (Ex) Recent Agricultural laws repealing way ahead

India need structural transformation of Agriculture with marketing, production & land management as seen with steps like land record modernisation (Bhoomi, Suavitva),

Tenancy security, PMKISAN, MGNREGA, SAMPADA yojana (food processing), etc.

## Feedback

(For OFFICE use only)

Structure / Presentation

Question Interpretation

Content

Value Addition

Total



Q.4) Food processing sector can be the key to bridging the gap between food sufficiency and nutrition deficiency in the country. Examine. (10 Marks, 150 words)

खाद्य प्रसंस्करण क्षेत्र देश में खाद्य पर्याप्तता और पोषण की कमी के बीच की खाई को पाटने की कुंजी हो सकता है। परीक्षण करें। (10 अंक, 150 शब्द)

Food processing is the sunrise sector where agriculture meets industry. India is 5th largest food processing industry in world.

### Food Sufficiency

- Problem of plenty in Buffer Stocks
- Green Revolution led high production & food surplus. (rice, wheat)
- Largest producer of milk, cattle population, Banana, mango etc.

### Nutritional Deficiency

- hidden hunger & child malnutrition
- Anaemia in women

Global Hunger Index  
India rank 101/116  
(2021)

### Food Processing as bridge

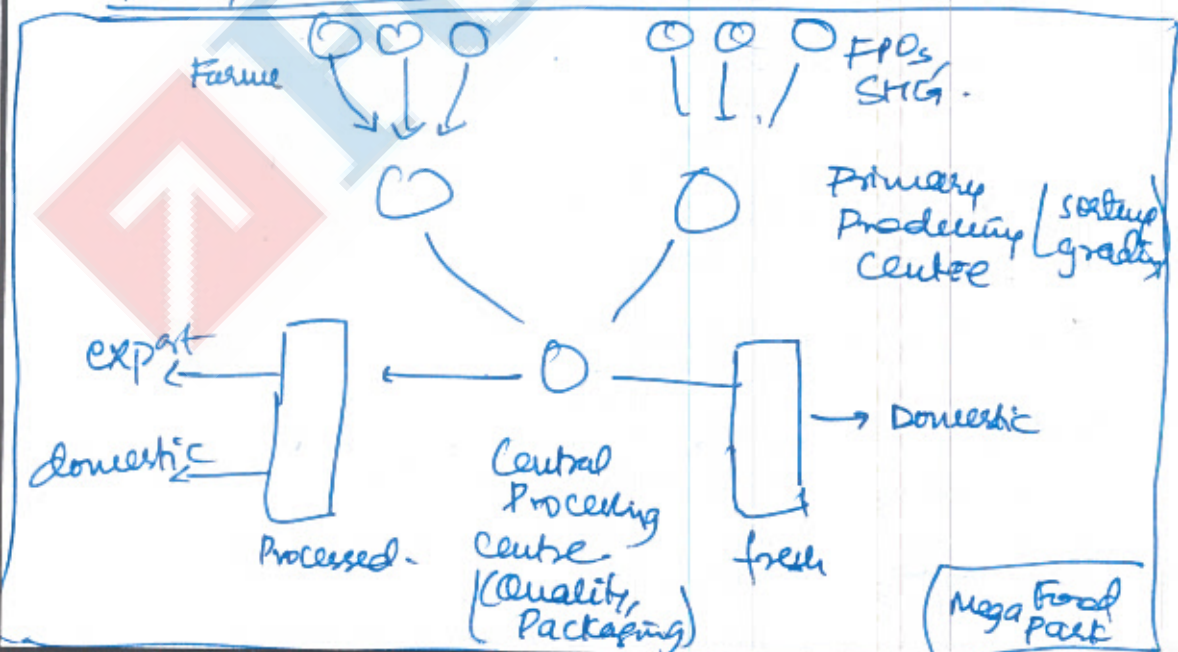
It converts food into value added products with high nutrition.

(eg) wheat, Rice → Multigrain bread.  
Mango, Pineapple → Juices, Syrup

- (2) Increasing longevity & storage facilities.
- (3) Increase family income thus bridging food budget squeeze
  - (eg) Access to nutritious oats, millet, protein (~~protein~~)
- (4) Strengthen crop diversity and demand for nutritious food
  - (eg) - Pulses, millets
  - Fisheries, Animal Husbandry

## Way Ahead

megafood park scheme, SAMPADA, Gram Samudhaya Yojana trying to empower food processing sector to produce staple like Amul, millet cluster network.



Feedback	
(For OFFICE use only)	
Structure/ Presentation	
Question Interpretation	
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Q.5) Artificial Intelligence (AI) is often seen as a kind of panacea for many of the current problems and ills, but like all advances in technology it tends to be a double-edged sword. Critically analyze this statement in light of recent advancement in artificial intelligence. (10 Marks, 150 words)

कृत्रिम बुद्धिमत्ता (AI) को अक्सर मौजूदा समस्याओं और बीमारियों में से कई के लिए रामबाण के रूप में देखा जाता है, लेकिन प्रौद्योगिकी में सभी प्रगति की तरह यह एक दोधारी तलवार है। कृत्रिम बुद्धिमत्ता में हाल की प्रगति के आलोक में इस कथन का समालोचनात्मक विश्लेषण करें। (10 अंक, 150 शब्द)

Artificial Intelligence is mimicking of human brain, intelligence by machines, computers based on learning, reasoning and self correction.

(eg) Google maps, youtube video feed.

AI as panacea for many current problems

- ① Health - Better diagnostics, predictions.  
(eg) Aarogya Setu, Remote monitoring  
- Analysis of virus genology and genome sequencing
- ② Agriculture - Problem of productivity, efficiency.  
- Transparency & global connectedness (eg) PMKAM  
- Crop prediction & weather pattern simulation  
(eg) Hydroponics
- ③ Trade & Commerce - High efficiency through route mapping, logistics management  
(eg) Amazon fulfilment

- ① Social problems of disabled, elderly, students
- eg Natural language Processing by Siri, Alexa
  - Customised learning for students

But it is double edge sword

- (1) High data prone to privacy, security threat
- eg Advance data leak.
  - Cambridge Analytica Case
- (2) Challenging State Digital Sovereignty
- eg Australia - Facebook Controversy
- (3) Misuse by hackers, terrorists.
- eg money laundering,
  - Cryptocurrency misuse.
- (4) Technology dependency & high cost make developing countries vulnerable.
- eg data storage abroad
- Way Ahead
- Artificial Intelligence as global common technology
- need global governance to prevent misuse.
- eg Budapest Convention on cybersecurity
  - Data Protection Law (BN Srikrishna)

## Feedback

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Structure / Presentation

Question Interpretation

Content

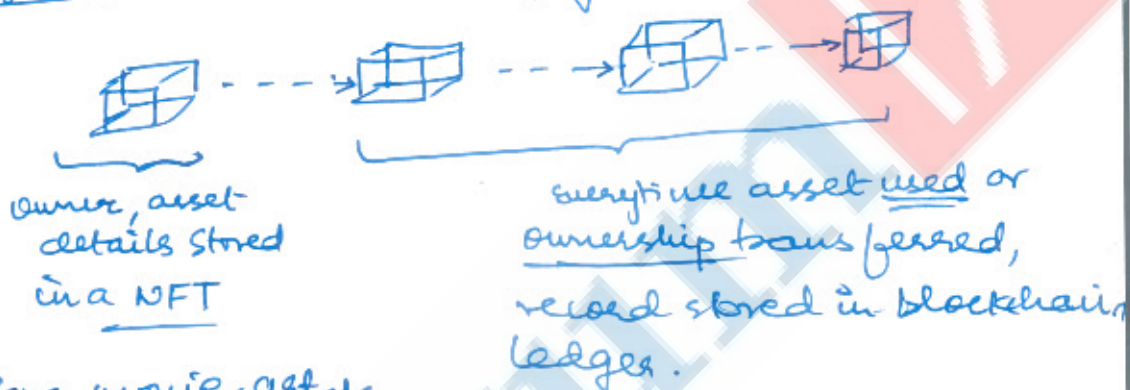
Value Addition

Total

Q.6) What do you understand by non-fungible token (NFT)? Discuss its significance in trade of digital artwork. (10 Marks, 150 words)

नॉन-फिजिबल टोकन (NFT) से आप क्या समझते हैं? डिजिटल कलाकृति के व्यापार में इसके महत्व की चर्चा कीजिए। (10 अंक, 150 शब्द)

Nonfungible token (NFT) is digital storage of any digital asset in blockchain format to prevent illegal use and illicit copying



eg Song, movie, art etc.

Significance in trade of digital artwork

- (1) helps in preserving Intellectual Property Rights and act as authentic proof of ownership as cannot be changed (immutable)
- (2) decentralised, transparent network helps owner to check usage of artwork and prevent illegal, unwanted usage.

(iii) Helpful for patent regimes in efficient management of copyright, trademarks records

(iv) Create digitisation of IP records and brings transparency in trade deals.

way Ahead

Nonfungible Token is promising use of Blockchain technology which should be

promoted by creating affordable, technologically

Sustainable platform across globe.

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.7) Examine the reasons for the rising trend in the incidences and widespread occurrences of landslips in hilly terrains of the country. Highlighting National Disaster Management Authority (NDMA) Guidelines on Landslide Hazard Management, suggest ways to mitigate impact of landslips.

(10 Marks, 150 words)

देश के पहाड़ी इलाकों में भूस्खलन की घटनाओं और ऐसी व्यापक घटनाओं में बढ़ती प्रवृत्ति के कारणों की जांच करें। भूस्खलन जोखिम प्रबंधन पर राष्ट्रीय आपदा प्रबंधन प्राधिकरण (NDMA) के दिशानिर्देशों पर प्रकाश डालते हुए, भूस्खलन के प्रभाव को कम करने के उपाय सुझाएं।

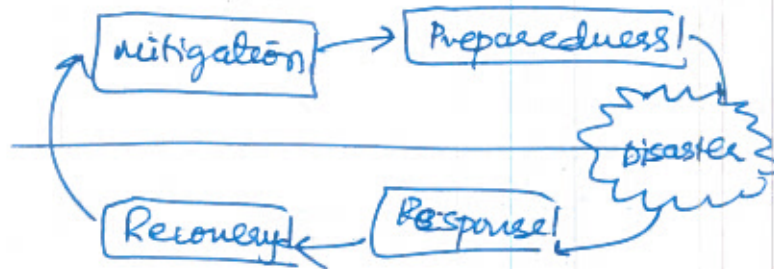
(10 अंक, 150 शब्द)

12% of India's land is prone to landslides and recent landslips in Uttarakhand (2021, 2013) highlight its gravity & impact of lives, public property.

Reasons for rising trend in incidences

- (1) Global warming increasing melting of ice, thus land becoming more subsiduous, unstable.
- (2) Anthropogenic activities of excessive construction on slopes, mining making land vulnerable
- (3) Poor dam management, Glacial lake outburst floods causing landslips in downstream.
- (4) increased instances of disasters like earthquake, landslides, river floods adding woes of landslips

## National Disaster Management Guidelines



NDMA - [Disaster cycle] - guidelines on mitigation, Preparedness, Response, Recovery

## Methods to mitigate impact of landslides

- (1) Hazard mapping - Zonation, land assessment to quantify danger & vulnerability
- (2) Early warning system to act as alertness in time of unwanted event
- (3) Governance - local government, civil society to create preparedness plan, identify response action, create food buffers etc
- (4) Awareness - conducting citizen awareness drive.

### Way Ahead

landslide mitigation Rules 2019 try to bring uniformity in landslide management

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total



Q.8) Critically evaluate the proposed changes in Forest conservation Act 1980 keeping in mind rights of local population and developmental needs of the country. (10 Marks, 150 words)

स्थानीय आबादी के अधिकारों और देश की विकासात्मक आवश्यकताओं को ध्यान में रखते हुए वन संरक्षण अधिनियम 1980 में प्रस्तावित परिवर्तनों का समालोचनात्मक मूल्यांकन करें। (10 अंक, 150 शब्द)

Forest Conservation Act 1980 is proposed to be changed in line with recent Draft National Forest Policy 2018 to make forest management updated with changes of last 4 decades.

Proposed changes!

- (i) Private sector participation - (Production forest) in creating green cover.
- (ii) Authority - National Forestry Board.  
National Forest Conservation Authority.
- (iii) CAMPA funds distribution among Union: State  
10%: 90%.
- (iv) Role & Habitat rights of tribals acknowledges

Rights of local population & developmental needs

- (1) It helps in furthering green cover by promoting afforestation.
- (2) Limited role of local population in forest

management

- (3) Tribals rights still not included fully as need to prove their indigenous rights
- (4) Topdown approach in forest management
- (5) Production forest having negative allelopathic properties, and would lead to extinction of natives
  - (a) Eucalyptus

Way Ahead

Forest Conservation Act to be made synchronous with Forest Rights Act 2005 and local people, ecological concern should be incorporated in development agenda

### Feedback

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Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.9) Wars of future will be decided less by the heft of the adversaries and more by their swiftness, agility and interconnectedness. In light of this statement, discuss the significance of integrated theatre command and various challenges associated with its implementations.

(10 Marks, 150 words)

भविष्य के युद्धों का निर्णय विरोधियों की ताकत से कम और उनकी तेजी, चपलता और परस्पर जुड़ाव से अधिक होगा। इस कथन के आलोक में एकीकृत थिएटर कमांड के महत्व और इसके कार्यान्वयन से जुड़ी विभिन्न चुनौतियों पर चर्चा करें।

(10 अंक, 150 शब्द)

with emerging zone of warfare as cyberspace and digitisation of conventional warfare like drone attacks, wars of future tend to be highly sophisticated, disproportionate, bloodless and threatening

significance of integrated theatre command

(1) Helps in better coordination between navy, military & airforce.

eg Andaman & Nicobar Integrated Theatre Command

(2) Act as uniform direction and unity in attack - more swiftness, agility

eg If Airbase damaged - Navy & military can respond and vice versa

(3) Decrease response time and increase productivity

## Challenges associated with implementation

- (1) Communication gap and flow of information
- (2) Behavioural issue of dedication, attachment to one's service
- (3) Logistical challenges with different armies to coordinate with one another
- (4) Lack of unified National Security Doctrine to ensure uniformity

### Way Ahead

One Chief of Defence Staff, integrated Theatre Command should be taken at priority as recommended by Shetkumar Committee

### Feedback

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Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.10) Evolution of threats has made conventional warfare not only expensive but also futile. Highlighting various asymmetric threats faced by the country, elucidate various counter measures that can be taken to tackle them. (10 Marks, 150 words)

खतरों के विकास ने पारंपरिक युद्ध को न केवल महंगा बना दिया है बल्कि निरर्थक भी बना दिया है। देश द्वारा सामना किए जाने वाले विभिन्न विषम खतरों को उजागर करते हुए, उनसे निपटने के लिए किए जा सकने वाले विभिन्न काउंटर उपायों को स्पष्ट करें। (10 अंक, 150 शब्द)

With recent cyber attacks like Netpetya (2017) and space programme (Anti-satellite mission by Russia, Space Army by China, USA), conventional warfare on land, water, sea seems futile.

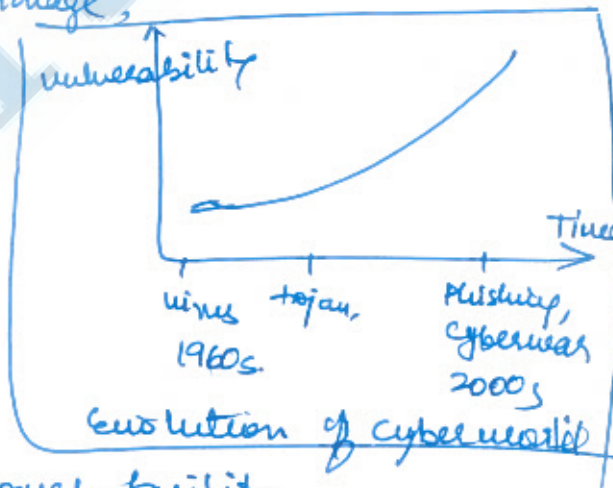
## Various Asymmetric threats

(1) Cyber attack, cyber espionage, cyberwar, cyberterror

eg Stuxnet;

(2) Digitisation of critical infrastructure

eg - capital market, dams, nuclear power facility



(3) Protection of satellites - communication, control.

(4) Disproportionate; anonymous, faceless attack.

## Measures to counter

### (1) Policy reform

- (eg) - National Cybersecurity Policy 2013
- IT Act 2008.

### (2) Institutional readiness

- (eg) - National Critical Information & Infrastructure Protection Centre (NCIIIPC)
- National Cyber Security Coordination Centre (NCCSC)
- India Cyber Crime Coordination Centre
- CERT-In.

### (3) Increasing people awareness

- (eg) PM GDISHA

### (4) Coordination & modernisation of police force

- (eg) Kerala - Cyberdome project

### Way Ahead

Asymmetric warfare need proactive & swiftness as according to CertIn there is 1 cybercrime every 10 min in India

#### Feedback

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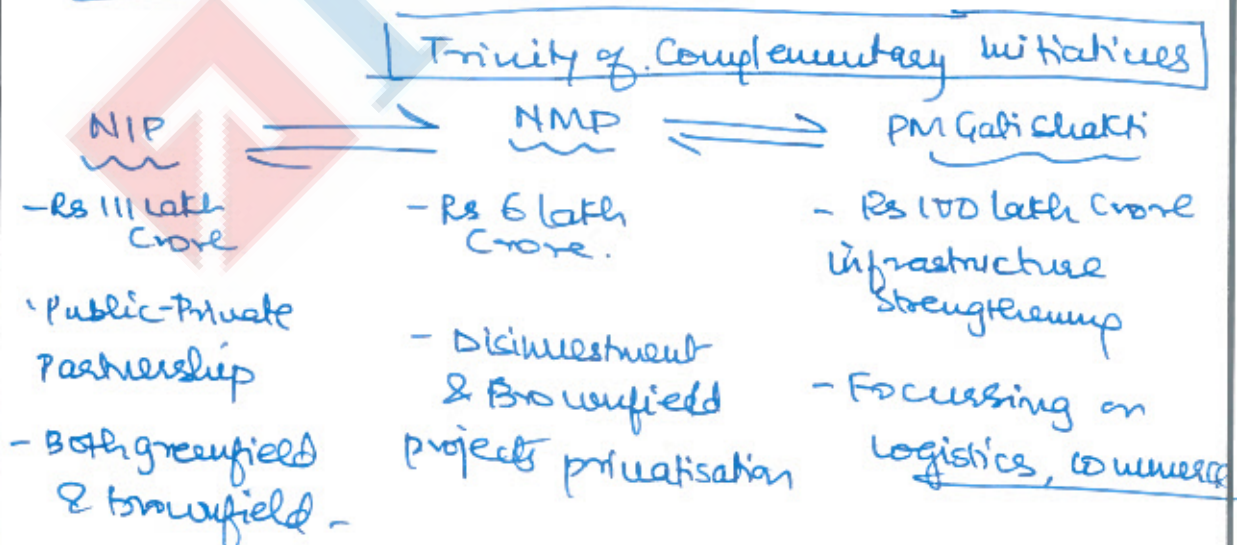
**Q.11) National Infrastructure Pipeline (NIP), National monetization pipeline (NMP) and PM Gati-Shakti form a trinity of complementary initiatives that can address the critical issues plaguing the infrastructure sector in the country. Discuss.** (15 marks, 250 words)

राष्ट्रीय अवसंरचना पाइपलाइन (NIP), राष्ट्रीय मुद्राकरण पाइपलाइन (NMP) और पीएम गति-शक्ति पूरक पहलों की एक त्रिमूर्ति हैं जो देश में बुनियादी ढांचा क्षेत्र से जुड़ रहे महत्वपूर्ण मुद्दों को संबोधित कर सकते हैं। चर्चा करें।

(15 अंक, 250 शब्द)

India ranks 44 in World Logistics Index (World Bank) (2018) with logistics sector comprising 14% of cost (world average - 6%). Highlighting deplorable standards of infrastructure in the country.

To solve this anomaly, Govt recently launched National Infrastructure Pipeline (NIP), National Monetisation pipeline (NMP) and PM Gati Shakti in Budget 2021, as part of Atmanirbhar Bharat Yojana.



## Addressing critical issues plaguing infrastructure sector :-

### Issues

- (1) Lack of funds due to Twin Balance sheet and Non Performing Asset (NPA)  
 Acc to RBI, NPA expected to rise to ~12% from 8-10% (2018)
- (2) Lack of policy support - Red tapism, delay in clearances (Regulatory cholesterol)
- (3) Land procurement - restrictions
- (4) Private sector apathy and hesitant to participate - Psychological barriers
- (5) Environmental activism - leading to project delays. (eg. Tehri dam protest)
- (6) Logistics model lopsided towards road sector (60% by road, while China - 50% by waterways, USA - 50% railways)
- (7) Only focus on hard infrastructure i.e. Road, Rail



## Addressing these concerns

- (1) Funds availability by NIP, NMP
- (2) Govt. proactive coordination and clearances in NIP.
- (3) Funds pooling to alluviate private sector concern & bureaucrasy  
(Union : state : Private)  
39 : 40 : 21
- (4) Improve technology, expertise in execution  
eg 3D printing in real estate.
- (5) Balanced promotion of sectors - Urban infrastr., Railways, Roadways given preference in NIP.
- (6) Focusing on social infrastr. as well - Education, Health

## Way Ahead

"You & I travel by  
"It is duty of King to ensure trade & commerce and promote it by creating market towns, trading pathways"  
- Arthashastra.

Kelkar Committee recommendations of PPP policy  
& new methods of Hybrid Annuity Model to be adapted to boost infrastructures

## Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total



Q.12) Move from Washington consensus to Cornwall consensus reflects a shift from fast liberalization to rapid decarbonization, from profit to people, and from free market to public-private partnership aimed at creating sustainable, equitable and resilient economies. Analyze.

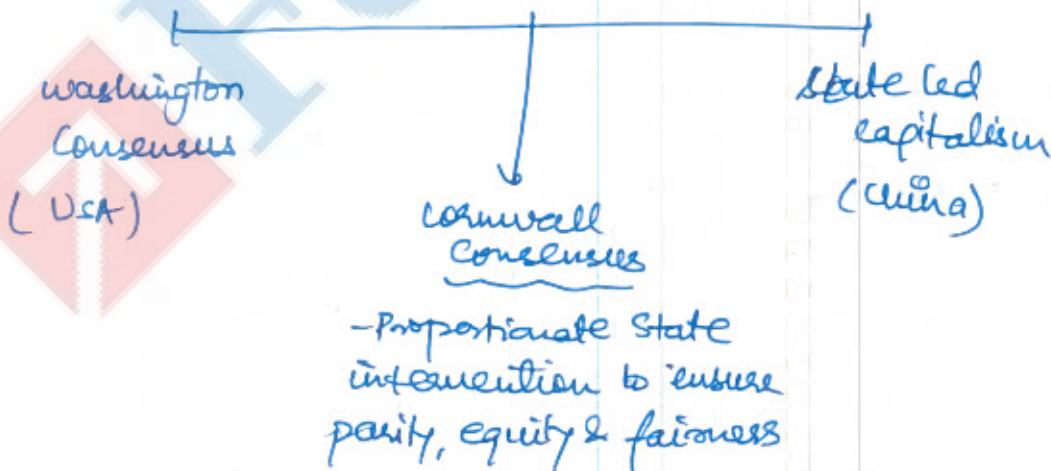
(15 marks, 250 words)

वाशिंगटन सहमति से कॉर्नवाल सहमति की ओर बढ़ना तीव्र उदारीकरण से तीव्र डीकार्बोनाइजेशन की ओर, लाभ से लोगों की ओर, और मुक्त बाजार से सार्वजनिक-निजी भागीदारी में स्थायी, न्यायसंगत और लचीली अर्थव्यवस्था बनाने के उद्देश्य से एक बदलाव को दर्शाता है। विश्लेषण करें।

(15 अंक, 250 शब्द)

Recent G7 summit led Caerbis Bay Declaration led to emergence of Cornwall consensus, which is adequate state intervention in market to balance all stakeholders concern.

washington consensus emerged after world war II with institutions like World Bank, IMF advocating freemarket economy based on Adam Smith principles.



(eg) global minimum corporate tax to check Base Erosion Profit Shifting (BEPS)

Communities creating sustainable, equitable and resilient economies as:-

(1) Fast liberalisation to rapid decarbonisation

(i) Rapid globalisation, industrialisation & high fossil fuel-based energy to tackling emissions.

(eg) decreasing pollution emission.  
- Environmental Impact Assessment

(ii) Hand off ~~rest~~ with hand of caution

(eg) Roundtripping, Tax evasion by corporates (Treaty shopping)

(iii) Bigtech vs state : Challenging digital sovereignty

(eg) Australia - Facebook controversy

(2) Profit to people

(iv) Exploitative capitalism to compassionate capitalism

(eg) Corporate Social Responsibility by corporates

(v) Unethical e-commerce practices to be checked

like predatory pricing, favouring selected sellers. (eg) New e-commerce rules of India

(ii) Protecting gig economy workers

(eg) California (USA) - considering Uber drivers as employees

Freemarket to public private participation

(iii) limited privatisation, liberalisation to bring efficiency, efficacy.

(iv) International collaboration to build consensus on emerging MNCs.

(eg) Apple, Facebook, Microsoft - much larger than countries economy

way ahead

India's Digital Service Tax, Equalisation Levy are steps in similar direction to ensure level based economic activities

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.13) Examine the rationale behind introduction of Minimum Support Price (MSP) in agricultural sector. In your opinion, can legalizing MSP provide a solution to address woes of the farmers in the country? (15 marks, 250 words)

कृषि क्षेत्र में न्यूनतम समर्थन मूल्य (MSP) की शुरुआत के पीछे तर्क का परीक्षण करें। आपकी राय में, क्या न्यूनतम समर्थन मूल्य (MSP) को वैध बनाने से देश में किसानों की समस्याओं का समाधान हो सकता है? (15 अंक, 250 शब्द)

Minimum Support Price is market intervention by state done to provide a base minimum guaranteed price for their produce to farmers and insulating them with any market shocks, fluctuations

### Rationale behind MSP

(1) Give market security and price assurance to farmers.  
by Open Ended Procurement

(eg) FCI for wheat, Rice.

(2) leads to better decision

making by farmer and invest in productivity

(eg) Green Revolution

(3) stability in income, predictable income to farmer

### MSP Basic

- Declared by Govt and calculated by GAEP
- For 23 Crops
- Before every harvest season.
- Based on  $(A_2 + FL) \times 1.5$  times

(4) Ensure food security to consumers by ensuring food availability.

Legalising MSP is demand recently came up during farmers protest in Delhi, Haryana, Punjab it highlights ills of MSP policy that despite being promised for 23 crops. MSP restricted practically to few crops and few states

Legalising MSP as solution

(1) Woes of non remunerative agriculture.

- (i) It'll ensure legal assurance for income support as presently, MSP is an executive policy only
- (ii) Attract youth to enter agriculture, and prevent distressed urban migration.
- (iii) lack of funds to invest in technology.  
∴ increase mechanisation, productivity

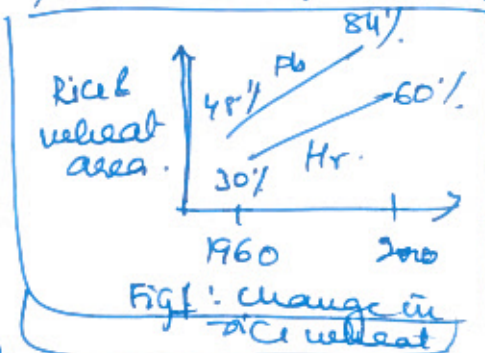
(2) Balanced Growth

- (vi) Ensure pan India expansion of infrastructure for procurement
- (vii) Ensure coverage of all crops, proportionately.
- (viii) Reduce rich-poor divide by - income given to all

Legal MSP is not solution for all uses as

- (1) increased burden on state. Food subsidy already highest in Budget. [RS 4 lakh crore out of RS 36 lakh crore Budget 2021-22]
- (2) leads to illpractices of water exploitation, overuse of Fertilizers, pesticides  
 (eg) Yavatmal farmers death due to pesticides
- (3) Endanger food security by disturbing cropping pattern.

(eg) Haryana-Punjab (fig 1)



way ahead

Systemic reforms with  
infrastructure development, SAMPADA,  
Fasal Bina Yojana, Contract Farming can ensure  
 holistic farmer development

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.14) Technological interventions envisioned under AgriStack will help in increasing the income of farmers and improving the efficiency of the agriculture sector by creating a seamless digital ecosystem. Examine. (15 marks, 250 words)

एग्रीस्टैक के तहत परिकल्पित तकनीकी हस्तक्षेप से किसानों की आय बढ़ाने और एक सहज डिजिटल पारिस्थितिकी तंत्र बनाकर कृषि क्षेत्र की दक्षता में सुधार करने में मदद मिलेगी। परीक्षण करें। (15 अंक, 250 शब्द)

~~Ministry of Agriculture~~

"Indian Agriculture is in technology fatigue"

- Former PM Manmohan Singh

Agriculture is data intensive sector with relying upon weather, soil, seed, water, quality and quantity data, market pricing, visibility, still devoid of technological benefit

To correct the situation Ministry of Agri. came up with IDEA - Indian Digital Ecosystem for Agriculture to build AgriStack for Indian farmers

AgriStack help in increasing income of farmers

Better Output

- (i) High productivity through better inputs management
  - land assessment: BHODMI, SVAMITVA
  - weather prediction: INSAT, CAPE (ISRO)



- High quality certified seeds - G.M.O.

(eg) Bt Cotton.

(ii) Data driven decision making and assessment

(eg) - crop prediction models

Better price realisation

(iii) visibility in market prices - transparency

(eg) eNAM, RAKAM

(iv) collective bargaining power - FPOs promotion

(v) Financial Inclusion - Direct Benefit transfer under PMKISAN.

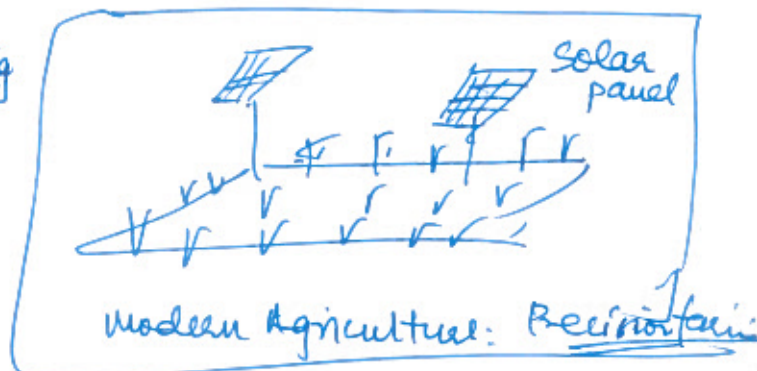
Improving efficiency of agriculture

(1) Balanced inputs usage

(eg) - nanofertilisers, nanopesticides linked with AgriStack to check overuse.

(2) Precision farming

(eg) linked with ISUM, drip irrigation



(3) new age farming techniques

(eg) Hydroponics, Aquaponics

(4) linked with allied sector.

(eg) Fisheries under Blue Economy

· SAMPADA (Food Processing)

way ahead

India needs to overcome digital infrastructure  
digital literacy gap to make Agristack a success.

India-Israel Agricultural coop.

is much needed step in this regard

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

Q.15) Describe the salient features of National Biotechnology Development Strategy 2021-2025 and discuss the application of biotechnology in promoting food security, conserving biodiversity, and controlling pollution. (15 marks, 250 words)

राष्ट्रीय जैव प्रौद्योगिकी विकास रणनीति 2021-2025 की मुख्य विशेषताओं का वर्णन करें और खाद्य सुरक्षा को बढ़ावा देने, जैव विविधता के संरक्षण और प्रदूषण को नियंत्रित करने में जैव प्रौद्योगिकी के अनुप्रयोग पर चर्चा करें।

(15 अंक, 250 शब्द)

Recent covid 19 pandemic highlighted need of Biotechnology to save human lives through better diagnostics (RT-PCR, RAT), vaccines (Moderna, Pfizer, Covishield) and prediction, monitoring (tele-medicine).

In this light in Budget 2021, Govt came up with National Biotechnology Development Strategy 2021-2025 to provide overarching boost to this sunrise sector.

### Salient Features

- (1) Standardisation in rules, governance support to boost private participation under Department of Biotechnology, BIRAC.
- (2) Funding support of Rs 1600 Crore to promote R&D, commercialisation of technologies.

(3) Develop human resource and linkage with other schemes like KIRAN, PM Research Fellowship, VATRA.

(4) Strengthen private sector - participation and translating technology into enterprises.

(5) Link with IPR policy and Traditional Knowledge Digital Library to boost technology in traditional medicines.

## Application of Biotechnology.

### II Food Security

(i) Improving nutritional content & productivity

⊕ Genetically modified crops - Bt Cotton, Golden Rice

(ii) Help in food preservation, improving longevity

⊕ Food irradiation, cold storage centres

(iii) Addressing environmental enteropathy and diseases

⊕ Gene Therapy, Stem Cell therapy

(ii) Better quality meat, animal husbandry, fishes through gene editing.

(eg) cloning, hybridisation

## Conserving biodiversity

(i) Reintroducing extinct threatened animals.

(eg) Cryopreservation, Gene banks.

(ii) Understand birds, animal diseases

(eg) - Genome sequencing of all eukaryotes.  
(Global BioGenome Project).

like Cows (Bovine Animals) - Foot & mouth disease  
Lion - Canine Distemper Virus

(iii) Equitable access benefit sharing and animal protection

(eg) Cartagena, Nagoya Protocol under UNCBD

## Controlling Pollution

(iii) bioremediation (eg) oil zipper developed.

by TERI. to check oil spill.

(ix) Better pollution monitoring (eg) W40, GRAP  
This biotechnology helping in multiple ways

### Feedback (For OFFICE use only)

Structure/  
Presentation

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Value  
Addition

Total

Q.16) Write short notes on the following:

(15 marks, 250 words)

- Semi-cryogenic engine
- Subunit, Conjugate and m-RNA vaccine.
- Indian Satellite Navigation Policy-2021 (SATNAV Policy - 2021)

निम्नलिखित पर संक्षिप्त टिप्पणी लिखिए:

(15 अंक, 250 शब्द)

- सेमी-क्रायोजेनिक इंजन
- सबयूनिट, कॉन्जुगेट और एम-आरएनए वैक्सीन।
- भारतीय उपग्रह नेविगेशन नीति-2021 (SATNAV नीति - 2021)

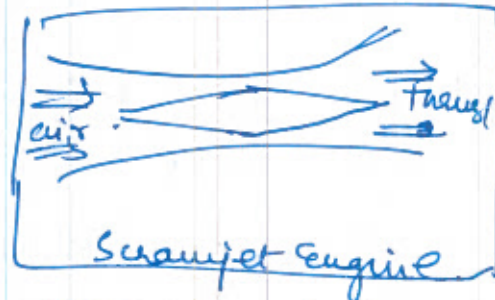
(a) Semi cryogenic engine

These are advanced cryogenic engines which tries to improve efficiency of cryogenic engines

eg) Ramjet, Scramjet

They try to use atmospheric air for

ignition purpose and decrease fuel cost and increasing payload capacity



## 1) Subunit conjugate & mRNA vaccine

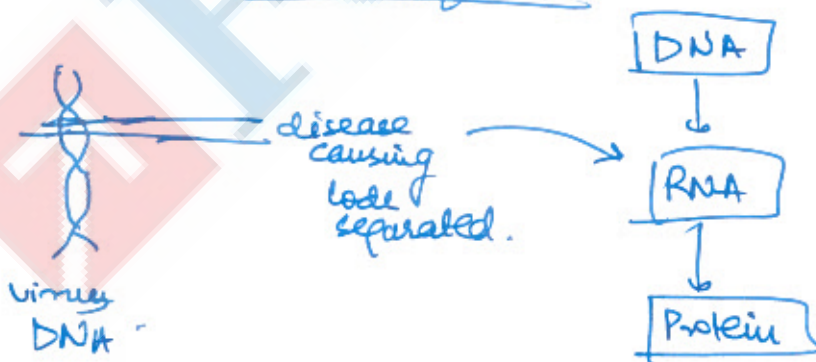
Subunit vaccines made from part of virus that causing disease.

(eg) spikes in coronaviruses

which are then attached to carrier virus to induce similar response by body and thus not expose to virus wholly.

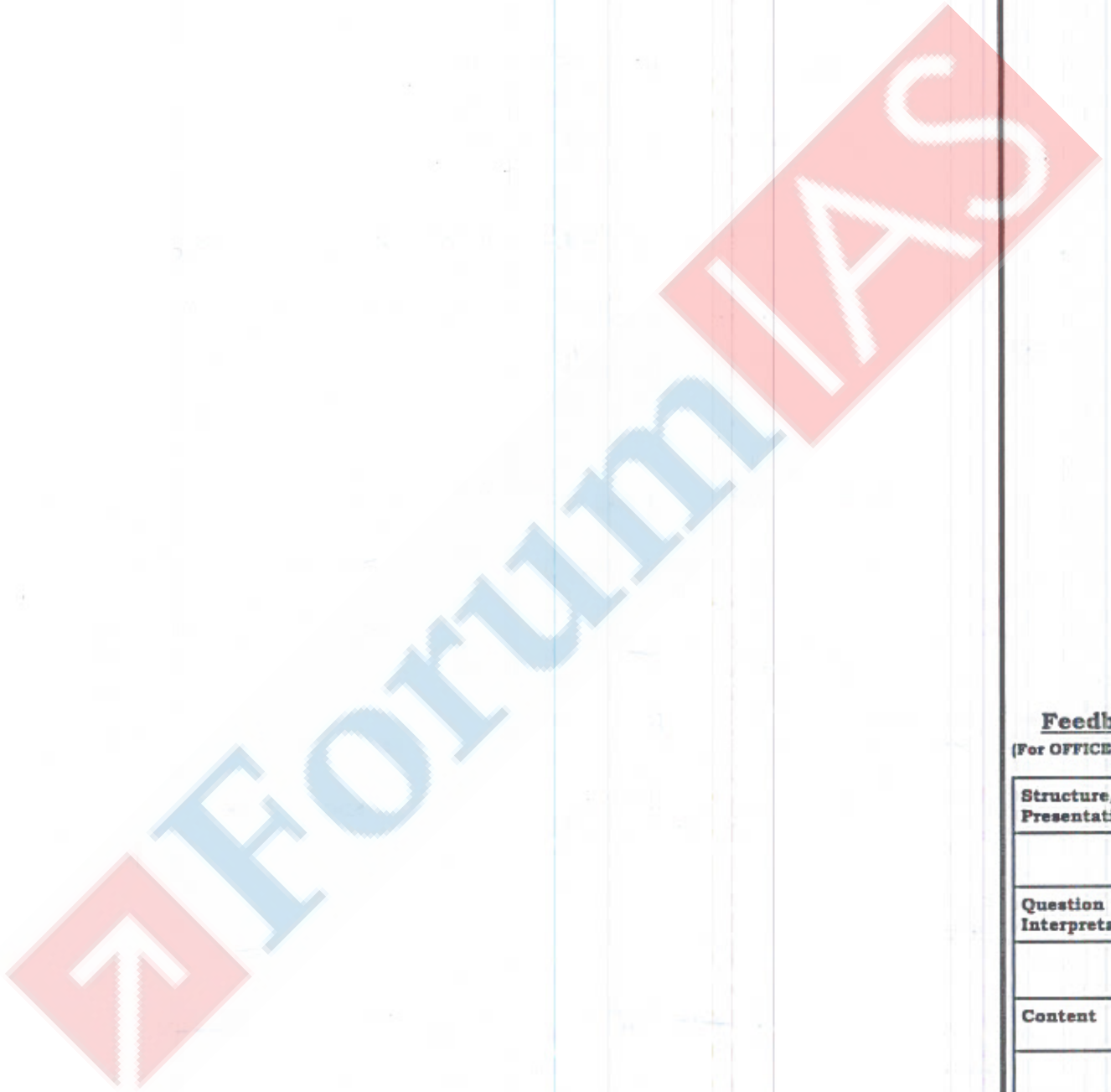
mRNA vaccines are advanced genetically coded vaccines wherein messenger RNA is transcribed and translated to induce immune protein.

(eg) Moderna, Pfizer



human cellular biology

It doesn't expose to virus and just act as command given to immune response system to build relevant proteins.



**Feedback**  
(For OFFICE use only)

<b>Structure/ Presentation</b>
<b>Question Interpretation</b>
<b>Content</b>
<b>Value Addition</b>
<b>Total</b>



**Q.17) One Sun, One World, One Grid (OSOWOG) gives an actionable agenda to International Solar Alliance (ISA) for attaining its goal of making solar energy available 24X7 at affordable cost for all. Elucidate, Also, discuss associated challenges and significance of OSOWOG to decarbonize the energy sector and promote green energy. (15 marks, 250 words)**

एक सूर्य, एक विश्व, एक ग्रिड (OSOWOG) सभी के लिए सस्ती कीमत पर 24X7 सौर ऊर्जा उपलब्ध कराने के अपने लक्ष्य को प्राप्त करने के लिए अंतर्राष्ट्रीय सौर गठबंधन (ISA) को एक कार्यवाही योग्य एजेंडा देता है। इसके अलावा, ऊर्जा क्षेत्र को डीकार्बोनाइज करने और हरित ऊर्जा को बढ़ावा देने के लिए OSOWOG की संबंधित चुनौतियों और महत्व पर चर्चा करें। (15 अंक, 250 शब्द)

One Sun One world One Grid (OSOWOG) is initiative of India under International Solar Alliance, reiterated in recent Glasgow Summit (COP26) for attaining goal of solar energy available to all.



One Sun, one world One Grid : Harnessing Solar Energy 24X7. and distributing, storing it everywhere.

Fig: OSOWOG plan.

It is ambitious project to connect whole world as one grid. As solar energy is 24x7 available across globe; the solar energy can be tapped anywhere and then based on requirement can be transmitted everywhere.

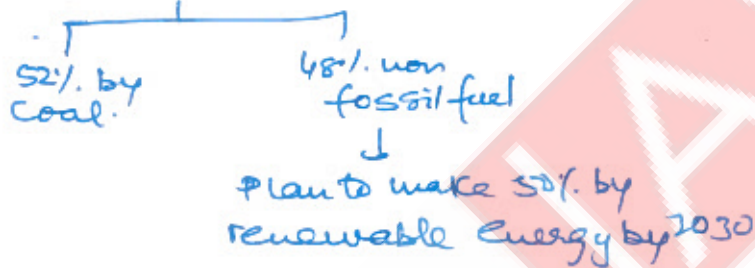
## Challenges.

- (i) High cost for the project
- (ii) Difficult to ensure global cooperation amid political turmoil, conflict
  - (a) TAPI pipeline not implemented due to Afghanistan internal funds, India-Pak relations
- (iii) Technology transfer from west is questionable
- (iv) Implementation challenges to connect continents in one grid.
- (v) High fragility as whole grid vulnerable to disruptions anywhere
- (vi) Lack of consensus as developing countries promoting BSOWOG, while developed world not in affinity

## Significance of SDG 7 to decarbonize energy

(1) Reduce fossil fuel dependence for energy generation

(eg) India - 390 GW (installed capacity)



(2) Efficient as need less space and can be installed in versatile manner

(eg) Rooftop solar plants  
- KUSUM - solar setup in farmlands

(3) Beneficial for tropical countries, where solar energy is abundant

(eg) Africa: Energy deficit but solar energy surplus.

(4) Less damaging to environment viz-a-viz Dams, Thermal power plant (eg) no displacement, submergence of forest, no GHG emissions

### Way Ahead

there is need to converge collective interest over personal interest to make SDG 7 as success like Montreal Protocol

### Feedback

(For OFFICE use only)

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Presentation

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Interpretation

Content

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Addition

Total



Q.18) Coal as a resource as well as sector is beset with multiple problems, still, India can only phase-down and not phase-out usage of coal. Analyze. (15 marks, 250 words)

एक संसाधन के साथ-साथ क्षेत्र के रूप में कोयला कई समस्याओं से घिरा हुआ है, फिर भी, भारत केवल इसके उपयोग को कम कर सकता है और इसे बाहर नहीं कर सकता है। विश्लेषण करें। (15 अंक, 250 शब्द)

In recent Glasgow Summit (COP26), ~~India~~ <sup>world</sup> went for "phasedowning" "phase-down" of coal and not "phase-out," of coal to preserve rights of emerging economies like India.

Final statement | Phasedown the coal & ~~fossil fuel~~  
Phaseout inefficient fossil fuel based initiatives

### Problems with coal-

(1) Environment damage with high green house gas emissions like CO<sub>2</sub>, O<sub>3</sub>, NO<sub>x</sub>.

(2) Critical import dependence as India meeting 60% coal demands by import.

∴ Compromise CAD, forex reserves.

(3) Coal mining led issues of displacement of

### India Energy mix.

- Installed Energy - 370GW
- Coal based (52%)
- Non fossil fuel (48%)
  - Renewable 40%
  - Nuclear 2%

indigenous tribals, ecological damage

(eg) POCSO, vedanta mining issue

(4) Quality of coal - Indian coal high in Sulphur content which is more detrimental.

(5) Corruption & governance issues in coal extraction

(eg) Jharkhand

~~still~~ India is trying to promote alternate energy through nuclear, solar, small hydropower, Green H<sub>2</sub> projects. (175 GW by 2022) to reduce coal dependency.

But still, India needs "coal" as:

(1) high energy requirement - due to developmental agendas (eg) manufacturing boost through Atmanirbhar Yojana  
- Urbanisation through AMRUT, RURBAN

(2) Ease, technological access and experience in thermal electricity generation - also relatively cheaper.

(3) Import dependency and funds constraint

- (eg)
- solar cells - USA
  - Uranium (nuclear) - Kazakhstan

(4) Other initiatives time taking

(eg) Nuclear energy phase III still in development mode, need atleast 3-4 more decades

way Ahead

Indian Panchaangit and Sustainable Development

Goal #7 tries to balance ecology with

economy by gradually reducing coal based energy to achieve Carbon net zero by 2070

### Feedback

(For OFFICE use only)

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Presentation

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**Q.19) Border management and security of frontier regions revolve around controlling infiltration, incursion and insurgency. Differentiating between infiltration, incursion and insurgency, elucidate reasons for continued existence of these security challenges and recommend steps for their effective management. (15 marks, 250 words)**

सीमा प्रबंधन और सीमावर्ती क्षेत्रों की सुरक्षा घुसपैठ, आक्रमण और उग्रवाद को नियंत्रित करने के इर्द-गिर्द घूमती है। घुसपैठ, आक्रमण और विद्रोह के बीच अंतर करें, इन सुरक्षा चुनौतियों के निरंतर अस्तित्व के कारणों को स्पष्ट करें और उनके प्रभावी प्रबंधन के लिए आवश्यक कदमों की सिफारिश करें। (15 अंक, 250 शब्द)

India has 5000+km land border and 7500+km maritime borders with hostile neighbours like Pakistan, China leading to Border management complexities.

eg) Recent DRone attack in Jammu & Kashmir

Infiltration	Incursion	Insurgency
<p>① <u>Clandid, covert movement of civilians across borders</u></p> <p>eg) <u>Rohingya (Myanmar)</u>, <u>Chakma, Hajangs, (Bangladesh)</u>, <u>Tamils (Sri Lanka)</u>.</p> <p>② <u>Used as technique by terrorist, organised criminals to use human as decept</u></p>	<p>① <u>Mysterious, provoking action by state sponsored actors like military to assert domination</u></p> <p>eg) <u>China in Galwan</u>, <u>Poklam standoff</u></p> <p>② <u>Aim to threaten neighbouring territory</u></p>	<p>① <u>Violent collective action by local against state authority</u></p> <p>eg) <u>North East insurgency</u> - <u>left wing extremism</u></p> <p>② <u>Due to resentment against own government</u></p>

## Reasons for continued existence of these securities challenges

### (i) Geographical constraints

(i) Diverse geography along border areas like swampy marshland, forest, hilly mountains, which make surveillance difficult

(ii) Porous borders and open borders. Misused.

eg Myanmar, Bangladesh - highly porous.

- Nepal :- Open Border

(iii) Terrain used by locals to deceive officials

eg Naxals in Chambal valley : Guerrilla warfare

- Nilgiri (Shola forest) as hideout at confluence of Tamil Nadu, Andhra, Karnataka

### (ii) Administrative concerns

(iv) Lack of public participation and limited delegation of power

(v) High handedness & one size fit all approach

eg Recent killings by Army in North East,

- AFSPA in past



## 3) Socio Economic factors

(i) Poor infrastructure, unemployment opportunities and illiteracy, malnutrition in masses

(ii) ethnic diversity and tribal conflicts add misery (eg) Kuki-Naga in past

## 4) International factor

(iii) Role of China, Myanmar in providing ideological, capital, technological, physical

support (eg) NSCN-IM in Myanmar

## Steps for management-

### 1) Socio economic development-

(eg) - BPOs, Poultry, Food processing in North East  
 - Education (Pala Cabin, Chabla Aasman) in Manipalgarh (Dantewadra)

### 2) Strict border management

(eg) CIBMS, Laser fencing  
 - Check drugs, trafficking, infiltration

### 3) Political participation

(eg) Implementing PESA

Way Ahead These emergency went down from 200 distt (2010) to 56 distt (2020), needs further steps like SAMANPANA

### Feedback

(For OFFICE use only)

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Q.20) Misuse of social media has emerged as a new threat to internal security of the country. Elaborate with example. Suggest suitable strategies for countering the threats emanating from social media with special emphasis on IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. (15 marks, 250 words)

सोशल मीडिया का दुरुपयोग देश की आंतरिक सुरक्षा के लिए एक नए खतरे के रूप में उभरा है। उदाहरण सहित विस्तृत विवरण करें। आईटी (मध्यवर्ती दिशानिर्देश और डिजिटल मीडिया आचार संहिता) नियम, 2021 पर विशेष जोर देते हुए सोशल मीडिया से उत्पन्न होने वाले खतरों का मुकाबला करने के लिए उपयुक्त रणनीतियों का सुझाव दें।

(15 अंक, 250 शब्द)

"Social media is a double edged sword"  
- Noam Chomsky

Recently due to rapid digitisation, social media emerging as new threat to internal security as causing law & order problems

- eg
- WhatsApp based mob lynchings -  
like Una flogging, Muzaffarnagar riots
  - Cambridge Analytica Controversy
  - Infodemic in Covid-19.
  - Mass exodus of north eastern tribals from Bengaluru (2017)
  - misuse for radicalisation (KAS in Kerala)

## Strategies for countering threats

### IT Rules 2021

- (i) Compliance officer in India to coordinate with state authority
- (ii) Grievance officer and checking "message originator", "tracing" to find source of message
- (iii) Self regulation of social media news

### Strategies to counter threat

#### Administration

- (i) coordination with big tech companies to cooperate in investigation and prevent misuse of platform.
  - eg - tracing origin
  - WhatsApp limiting "forward" to 5 people only
- (ii) set standards, guidelines for effective conduct of social media platforms
  - eg - Pulling down sensitive content
  - self regulation, NBSA for Digital media
- (iii) increasing capacity - human resources
  - eg National Critical Information and

(iii) Infrastructure Protection Centre (NCIIPC)

(iv) overarching policy @ National Cyber Security Policy 2013  
- IT Act 2008 & IT Rules 2013

## Citizens

(4) Creating awareness about social media misuse & vulnerabilities

@ cyber suraksha Abhiyan  
- PMGDISHA.

## Way Ahead

International standards like Budapest Convention, Talinn Manual 2.0, Grand zero Summit should be conducted for social media as it is borderless, transnational concern

@ Christchurch killing telecasted LIVE on facebook

### Feedback

(For OFFICE use only)

Structure/  
Presentation

Question  
Interpretation

Content

Value  
Addition

Total

## Mentor Feedback Questions

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....

### Test Goal

- 1 .....
- 2 .....
- 3 .....

### Outcomes

- 1 .....
- 2 .....
- 3 .....

### Marking Scheme

Mark	Good	Average	Below average
10 Marker	3.75 – 5.0	3.0 – 3.5	< 3.0
15 Marker	5.75 – 7.0	4.0 – 5.5	< 4.0
✓✓	Key / Relevant Point		
✗	Vague / Irrelevant		

\* Subject to change without prior notice.

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