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GENERAL STUDIES (TEST CODE : 1515)

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Medium Eng./Hindi	ENGLISH.	Registration Number	694168.
Center	ONLINE	Date	18.12.21.

INDEX TABLE		
Q. No.	Maximum Marks	Marks Obtained
1	10	
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18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
- There are **TWENTY** questions printed in **ENGLISH & HINDI** इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.**
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- 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. No marks will be given for answers written in medium other than the authorized one.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

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Delhi- 110009

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1. Explain the meaning of off-budget borrowings and its role in helping the government raise funds for various expenditures. Also, comment on its desirability. (150 words) 10

बजट-बाहरी उधार (ऑफ-बजट बॉरोइंग्स) का अर्थ स्पष्ट कीजिए और विभिन्न व्ययों के लिए धन जुटाने में सरकार की सहायता करने में इसकी भूमिका का उल्लेख कीजिए। साथ ही, इसकी वांछनीयता पर टिप्पणी कीजिए।

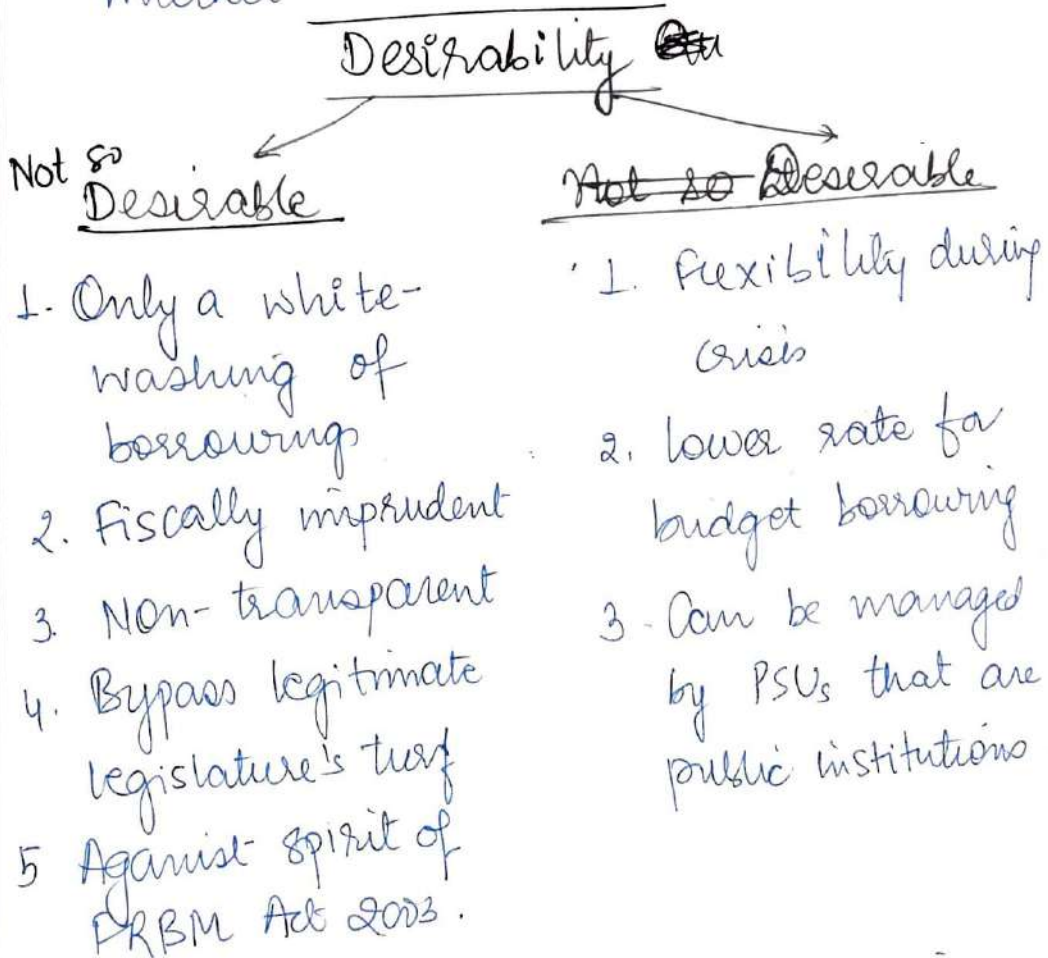
Off budgeting borrowing refers to the government's borrowing against securities or otherwise, often through Public Sector Undertakings (eg FCI), which are not reflected in budgeted borrowing.

Role in helping government raise funds

- ① Given the FRBM Act 2003 limits and NK Singh Committee targets regarding Fiscal Deficit^(FD), off budget keeps FD within limits while letting government borrow
- ② Thus, Parliamentary sanction and scrutiny is bypassed

③ Flexibility during times of crisis, slowdown, etc

④ Less Budgeted deficit improves credibility in international borrowing market



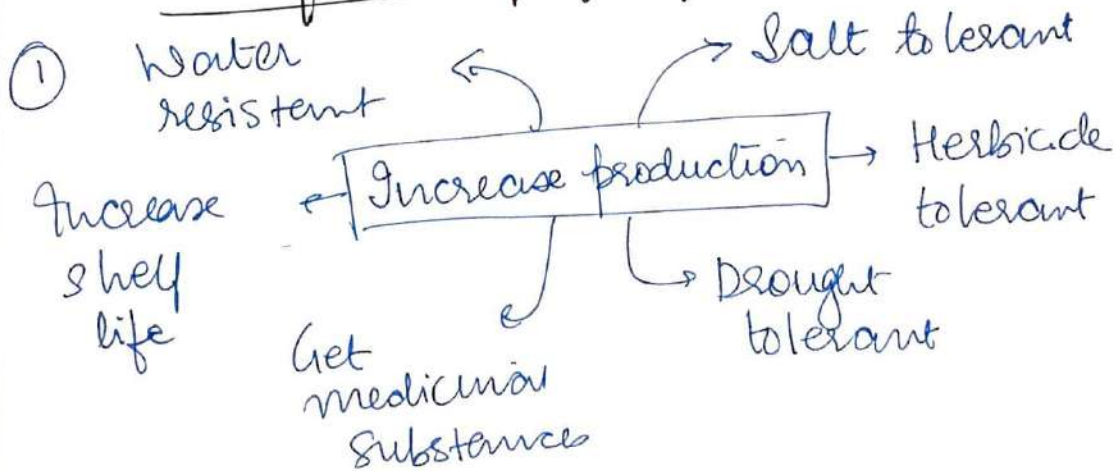
Thus, ~~the~~ off budget borrowings are undesirable and the clearing of them in Annual Financial Statement of 2021 is a welcome step.

2. It is argued that genetically modified food crops are required to ensure food security of India. Examine in view of concerns regarding introduction of GM crops. (150 words) 10

यह तर्क दिया जाता है कि भारत की खाद्य सुरक्षा सुनिश्चित करने के लिए आनुवंशिक रूप से संशोधित खाद्य फसलों की आवश्यकता है। जी.एम. फसलों की शुरुआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

Genetically modified food crops
are crops that have a gene(s) transferred
from another crop/organism
eg GM Mustard, Golden rice.
India is 5th in terms of area
under GM Crops.

GM food crops for food security



- ② Biofortification i.e. additional nutritional value.

eg 1 GM Mustard (DMH-11) to increase productivity through hybrid seed.

eg 2 GM ~~At~~ Rice (Golden Rice) for
pro-vitamin A.

Issues concerning GM food crops

- ① Biosafety i.e. effect on human health and environment-
- ② Emergence of herbicides.
- ③ Lack of labs (only 3 in India) to test foods for GM component
- ④ Labelling is very costly.
- ⑤ Indian food sector is very decentralised and unorganised, therefore regulatory and logistical challenges
- ⑥ Potential for pest resistance
- ⑦ & Possible emergence of superweed

Thus, rigorous ramping up of testing, ~~and~~ research and development and infrastructure is a prerequisite to reaping rich dividends from GM food crops.

3. India's price intervention policies to support its agricultural sector not only create a broken system but also complicate matters related to international trade rules. Critically discuss. (150 words) 10

अपने कृषि क्षेत्र का समर्थन करने के लिए भारत की मूल्य हस्तक्षेप नीतियां न केवल एक अप्रभावी व्यवस्था का निर्माण करती हैं बल्कि अंतर्राष्ट्रीय व्यापार नियमों से संबंधित मामलों को भी जटिल बनाती हैं। समालोचनात्मक विवेचना कीजिए।

India's agricultural sector is among the last vestiges of the license permit quota raj.

Price Interventions

Input-side

- Fertiliser Subsidy
- Electricity Subsidy
- Water Subsidy.

Output-side

- MSP
- APMC Mandis
- Fair and Reasonable Price

A Broken System

1. Less than 40% crops reach mandis.
2. Disintegrated market - low prices.
3. Less than 9% farmers get MSP from FCI.
4. Electricity and Water (subsidised) diverted to non-agri sector
5. RICE-WHEAT system.
6. Corruption in Mandis by Ashtrajis, middle men, etc.

7. Pulapre Balakrishnan argues that price intervention led to squeeze on expenditure on agri-infrastructure
8. Underdeveloped Food Processing Industry due to Essential Commodities Act
9. Lack of private participation due to over regulation
10. Lack of capital and access to ^{formal} finance

Complicated ^{with} international trade rules

1. One of reasons for pulling out of RCEP was to protect agriculture
2. Breach de-minimis limit of 10% (WTO limit)
3. Fertilizer and electricity subsidy is in grey area on WTO rules.
4. Further, export of virtual water through rice is a problem.

Thus, lesser regulation, more private participation is required keeping farmers' sensitivities central.

4. India has an opportunity to become a leading global food supplier provided it has an efficient supply chain and the right marketing strategies. Elucidate. (150 words) 10

भारत के पास एक अग्रणी वैश्विक खाद्य आपूर्तिकर्ता बनने का अवसर है बशर्ते उसके पास एक कुशल आपूर्ति श्रृंखला और सही विपणन रणनीति हो। विशदीकरण कीजिए।

India's is among the top 5 producers of almost every major crop in the world but Agri-Exports are very low

Key factors Bottlenecks in Supply chain

1. Supply chain crisis due to COVID
2. Lack of developed food processing industries
3. Non tariff Barriers like Phytosanitary Barriers
4. According to Dalwai Committee, about 30% of produce is wasted.
5. Lack of diversification (rice-wheat system)
6. High logistical costs, and poor infrastructure.

Need for marketing strategy

± Lack of branding and marketing due to small size, less exposure, lack of private

participation, under developed
food processing sector etc.

Measures taken

1. Agricultural Infrastructure Fund.
2. ~~RA~~ Scheme for Formalisation of Micro food enterprises.
3. Animal Husbandry Infrastructure Development Fund.
4. TOP to TOTAL
5. Cluster based approach and One District One Product Project
6. Vocal for Local.

Way Forward

In light of Agri Exports Policy 2018, the recommendations of High level Expert Group (HLEG) on Agri Exports — targetted approach on 7 "must wins", solving value chain clusters (VCCs), etc — must to revisited.

5. Land banks are increasingly gaining prominence in India to encourage land-use efficiency and enable economic growth. In this context, discuss the benefits of a land bank and state the concerns associated with it.

(150 words) 10

भूमि उपयोग दक्षता को प्रोत्साहित करने और आर्थिक वृद्धि को सक्षम बनाने के लिए भूमि बैंक भारत में तेजी से प्रमुखता प्राप्त कर रही हैं। इस संदर्भ में, भूमि बैंक के लाभों तथा इससे संबंधित चिंताओं का उल्लेख कीजिए।

Land Banks refers to the data sets created by aggregation of information of land (use, efficiency, ownership, etc.) using GIS, GPS, government data, etc.

Recent Development.

DPIIT (Ministry of Commerce) creating National Land Bank (by integrating State Land Banks) to map around 5 ha of land.

Benefits of land bank

1. Can be synergised with Investment Clearance Cell
2. Government can upfront provide land to private sector for public private partnership.

3. Quicker environment clearance, compensation process.
4. Digital records leading to combining with other databases.
5. Integrating with GatiShakti Master Plan in pursuit of infrastructure led growth.

Potential Concerns:

1. Land is a State Subject in the 7th Schedule.
2. National Land Bank only aggregates State Land Banks
3. They don't solve, rather complicate ownership issue.
4. Most documents in areas like Bihar are in Urdu/Persian - logistical issues.

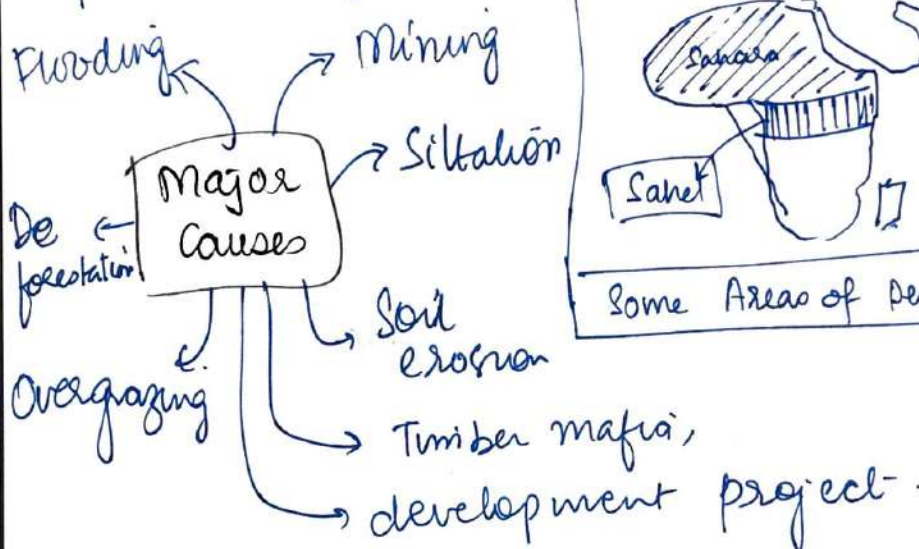
Land Bank is a good ~~for~~ move for ease of doing business and must be a careful exercise.

6. Desertification has been described as one of the greatest environmental challenges of our time and climate change is making it worse. Discuss.

(150 words) 10

मरुस्थलीकरण को वर्तमान समय की सबसे बड़ी पर्यावरणीय चुनौतियों में से एक के रूप में वर्णित किया गया है तथा जलवायु परिवर्तन इसे और बदतर बना रहा है। चर्चा कीजिए।

Desertification refers to the spatial extension and intensification of existing deserts and creation of new ones. eg Sahel region in Sub-Saharan Africa, Haryana-Punjab belt in India.



Challenges posed

- ① Agricultural crisis as lack of water, depleting water table, etc
- ② Lack of drinking water.
- ③ Increased temperature, heat

waves.

- ④ Extreme weather events leading to ~~the~~ climate migrants

Measures taken - Global

- ① Great Green Wall in Africa
- ② UN Convention on Combating Desertification
- ③ One Trillion Trees Challenge

Steps taken - India

1. National Mission for Green India
2. Promote millet production
3. Social forestry promoted.
4. Desert Development Programme 1977-78
5. Drought Prone Areas Programme 1973
6. Wasteland Development Programme 1985

Way Forward

~~For~~ Desertification is a ^{global} crisis
Crisis that needs concrete global
Cooperation.

7. In the context of intellectual property rights, discuss the advantages and disadvantages of releasing projects under an 'Open Source' license.

(150 words) 10

बौद्धिक संपदा अधिकारों के संदर्भ में, 'ओपन सोर्स' लाइसेंस के तहत परियोजनाओं को जारी करने के लाभ और हानियों पर चर्चा कीजिए।

'Open Source' licensing refers to the mandate of software to be "open sourced" i.e. freely available on the internet to be shared, modified and analysed.

eg Android is open sourced i.e. can be used by multiple mobile companies

iOS is closed sourced i.e. can be used only by Apple Inc.

Advantages of projects under it

① Transparency — can be checked for violation of privacy
eg Aarogya Setu was made open sourced to quell fears of surveillance

② Multi-platform usage and diversification leading to vibrant cyber space

- ③ Cheaper of startups to adapt open sourced softwares to their needs i.e.,
Ease of doing Business.

Potential Disadvantages

- ① Disincentivise & foreign investors like Apple from entering Indian markets
- ② ~~Percept~~ Tight rope on IPR rights under TRIPS of WTO.
- ③ Potential of exploitation of "Zero-day vulnerabilities".

Way Forward

Nudging for open source licensing is necessary given data itself has become a strategic national resource. and transparency a necessity.

8. "Indian space sector has been dominated by a single umbrella of government and government institutions." In light of the statement, discuss the significance of Indian Space Association in providing an impetus to space technology in India.

(150 words) 10

"भारतीय अंतरिक्ष क्षेत्रक पर सरकार की एकमात्र संस्था का प्रभुत्व रहा है।" इस कथन के आलोक में, भारत में अंतरिक्ष प्रौद्योगिकी को प्रोत्साहन प्रदान करने में भारतीय अंतरिक्ष संघ के महत्व की विवेचना कीजिए।

AtmaNirbhar Bharat applied to space sector means unlocking the untapped potential of Space Technology by providing ^{level} playing ground to India Inc. for end-to-end project management

1969-2020: Issues

Self sufficient in launch vehicles and satellites but:

- ① Dependent of French for >4000 kg payloads.
- ② Under sufficient in transponder
- ③ Less Budgetary allocation → low research and Development

A moment of opportunity

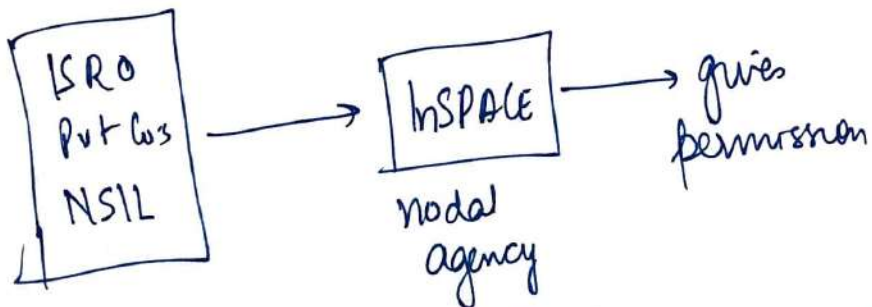
- ① Space India is \$350-380 bn and expected to grow well above 15% per annum

② Space exploration, mining, sample return

③ Venus, Mars and Moon resources

Significance of ~~private~~ InSpace

1. Promote commercial space activity in India
2. Asset creation
3. Launch Vehicle and Satellite production
4. Revenue for ISRO for experimental works.



5. Help NSIL promote "productionisation" of Launch Vehicles, transfer of technology, etc.

The way forward is to have a comprehensive Space Policy.

9. Man and machine both have an important role in national security and making urban areas secure. In this context, discuss how technology is a major stakeholder in addressing the internal security challenges of India.

(150 words) 10

राष्ट्रीय सुरक्षा और शहरी क्षेत्रों को सुरक्षित बनाने में मानव और मशीन दोनों की महत्वपूर्ण भूमिका है। इस संदर्भ में, चर्चा कीजिए कि प्रौद्योगिकी किस प्रकार भारत की आंतरिक सुरक्षा चुनौतियों से निपटने में एक प्रमुख हितधारक है।

As internal security challenges extend to cyber space and non-state actors ~~learn~~ weaponise technology, the synergising of human-machine has become critical eg:-

- ① Border Management: Smart walls, Smart Border Management, sensors.
- ② Critical Infrastructure like government-network, pipelines, etc subject to ~~the~~ ransomware.
- ③ Cyber surveillance by external actors eg potential of Pegasus - making strong IP cell imperative
- ④ Quantum Communication through Q-sats for secure communication.
- ⑤ Constant efforts to counter trafficking,

hawala, etc on DARK NET.

⑥ Dealing with the challenge of
Crypto currency.

④ Measures taken

① FICN coordination Group for Intelligence
Sharing

② ~~##~~ NATGRID.

③ Revamped Multi Agency Centre (R-MAC)

Further suggestions

① Robust Cyber Dome

② De-couple critical infrastructure
from China.

③ Have strong Public Data Protection Bill.

Internal Security Issues are
widening in scope and the
security apparatus must keep with
the pace

10. National Security Guard (NSG) has emerged as a formidable force equipped to handle various manifestations of terrorism. Discuss the mandate and achievements of this force. **(150 words) 10**

राष्ट्रीय सुरक्षा गार्ड (NSG) एक पराक्रमी बल के रूप में उभरा है जो आतंकवाद के विभिन्न रूपों से निपटने के लिए सुसज्जित है। इस बल के अधिदेश और उपलब्धियों की विवेचना कीजिए।

The National Security Guard (NSG) was formed in the aftermath of the assassination of the then PM Indira Gandhi.

Mandate :-

- ① Counter terror threats against internal disturbances
- ② Carry out covert operations to prevent terror incidents
 ↳ eg Black Cats; operations in 26/11 attacks.
- ③ Intelligence gathering on terror network
- ④ Protection of prominent personalities including Prime Minister.
- ⑤ Anti-hijacking operations

Achievements

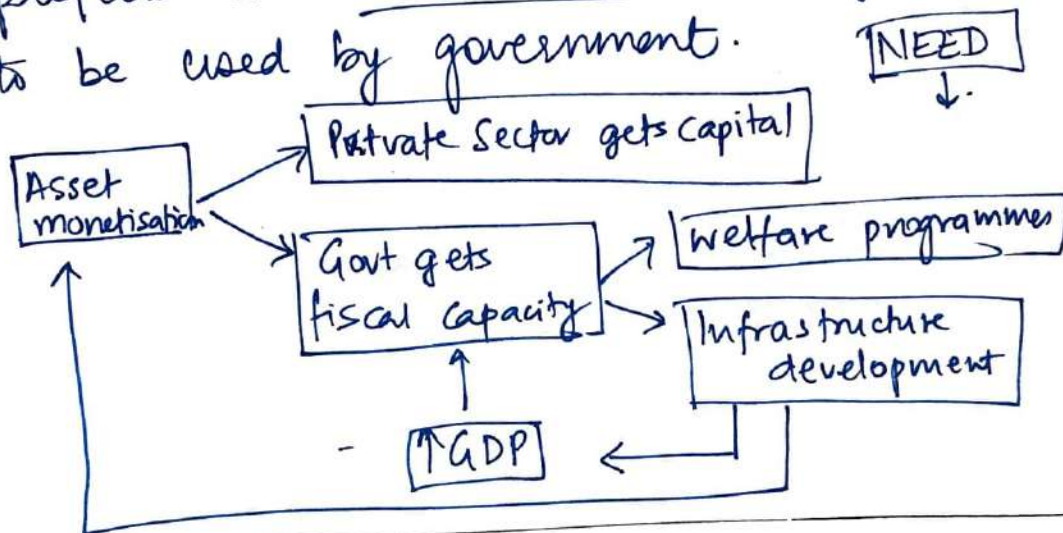
- ① Successful neutralisation of terrorists during 26/11 attacks.
- ② Operation Munderbolt
- ③ ~~Synergising~~ ^{Coordinating} with Central Armed Police forces
- ④ Emerged as prime security force of India.

In the short span of its existence, NSG has proved to be an effective body. With the newly created 4 hubs of NSG in Delhi, Mumbai, Kolkata and Chennai - the organisation has only an upward trajectory.

11. ① What do you understand by asset monetisation? Why is it needed in India?
③ In this context, discuss the issues that need to be addressed for the National Monetisation Pipeline to succeed. (250 words) 15

परिसंपत्ति मुद्रिकरण से आप क्या समझते हैं? भारत में इसकी आवश्यकता क्यों है? इस संदर्भ में, उन मुद्दों पर चर्चा कीजिए जिन्हें राष्ट्रीय मुद्रिकरण पाइपलाइन के सफल होने के लिए समाधान करने की आवश्यकता है।

Asset monetisation refers to the temporary arrangement of leasing out idle capital and brownfield projects to unlock their monetary value to be used by government.



Need for Asset Monetisation in India

- ① In pursuit of \$5 trillion economy, Chakravarty Task Force was set up which recommended \$111 Bn National Infrastructure Pipeline. Part of it (around 10%) is expected to be

funded by NMP.

② 15th Finance Commission recommen-
ded the monetisation of defence
lands to create a "Defence Modernisation
Fund".

③ Economic advantages:

- (i) Unlock idle capital and land
- (ii) Boost private sector
- (iii) Scope for public private partnership.
- (iv) Upfront revenue and stream
revenue for infrastructure development
- (v) ~~Better~~ fiscal prudence and
consolidation.
- (vi) Optimal allocation of scarce
resources for efficient production

Issues that need to be addressed

① Given slowdown, and COVID crisis
the private sector is facing crunch

in access to finance

- ② Some have equated to Selling "family gold" silver"
- ③ Manish Sahasrwal argues that property-value based on market value does not include green value
- ④ Economists argue that the present monetisation plan of \$ 6 Bn is almost half of what is required for NIP (≈ \$10-11 Bn)
- ⑤ Given demand-supply crunch, the properties are expected to be undervalued.
- ⑥ The other options like InvITs, REITs, etc also need to be explored.

Monetisation must be a cautious exercise and goals must be rationally set. as for a feasible Infrastructure-led growth model.

12. What is social stock exchange (SSE)? Discuss the need for setting up of SSEs and key challenges in their effective implementation. (250 words) 15

सोशल स्टॉक एक्सचेंज (SSE) क्या है? SSEs की स्थापना की आवश्यकता और उनके प्रभावी कार्यान्वयन में विद्यमान प्रमुख चुनौतियों पर चर्चा कीजिए।

Social Stock exchange is a market institution of financial products that facilitates and vet ~~etc~~ for authenticity ~~socially~~ social service bodies for electronic raising of funds through securitisation, etc.

Need for and advantages of SSEs

- ① Access to finance to civil society organisations, NGO, etc
- ② Credible route for philanthropists to finance vetted social sector
- ③ Avenue to use ~~&~~ Corporate Social Responsibility (CSR) Funds.

④ Increase visibility of the social sector.

⑤ Formalise and digitise social enterprise.

Key challenges to effective implementation

① The definition of social enterprise needs to be precise yet inclusive.

② Valuation of social sector is difficult and vague.

③ There are more than 2 Million social enterprises and experts question ability of SSE to serve all of them.

④ Lack of awareness of SSE in:-

(a) Social enterprises

(b) Potential financiers

- ⑤ May be biased against rural social enterprise with less electronic exposure

Suggestions

- ① Conduct Social Impact Assessment to evaluate enterprise value
- ② Educate Market participants
- ③ Embed the architecture with transparency and accountability like NITI-Aayog's Darpan Portal.

SSE is a laudable step and SEBI's draft report is a appreciable but the structure needs to be made even more inclusive.

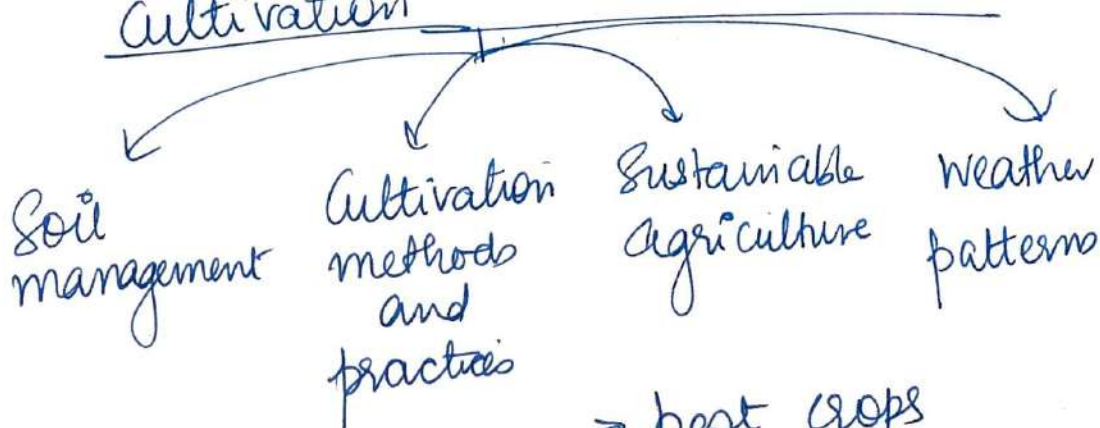
13. In the context of India, highlight the importance of agriculture extension. What are the challenges faced in provisioning of agriculture extension services? How does the National Mission on Agricultural Extension & Technology (NMAET) address these issues? (250 words) 15

भारत के संदर्भ में, कृषि विस्तार के महत्व पर प्रकाश डालिए। कृषि विस्तार सेवाओं के प्रावधान में सामना की जाने वाली चुनौतियां कौन-सी हैं? कृषि विस्तार और प्रौद्योगिकी पर राष्ट्रीय मिशन (NMAET) इन मुद्दों का कैसे समाधान करता है?

Agriculture extension refers to the provision of telephonic, electronic or tele-advice to agriculturalist regarding best practices, soil information, weather prediction, etc.

Importance of agricultural extension

- ① Generate awareness regarding Cultivation



- ② Advise regarding
- best crops
 - amount of fertiliser
 - type of seeds.
 - ideal services.

③ Marketing advice

- ↳ Available markets eg APMC, e-NAM, etc
- ↳ Possible food processing options, branding, cold storage, cooperative's organisation & and other facilities

Challenges in Agri-extension

- ① Lack of awareness about such services
- ② Unaffordability of such services
- ③ Lack of private sector interest
- ④ Lack of reliability of meteorological data.
- ⑤ Need to broaden scope from info-awareness to hand-holding approach

National Mission on Agricultural Extension and Technology

- ① Encourages entry of private players and their synergistic collaboration with on ground Micro Finance Institutions, etc
- ② Encourage research and development on technology for precise advisories
- ③ Utilisation of satellites, state-of-the-art-technology
- ④ Converge with Soil Health Card.

Way Forward

It is the need of the time to double farmer's income. According to Ashok Dalwai Committee, agricultural practices need to be made compatible with 21st century levels for ~~this~~ the goal and to have a sustainable and resilient agriculture

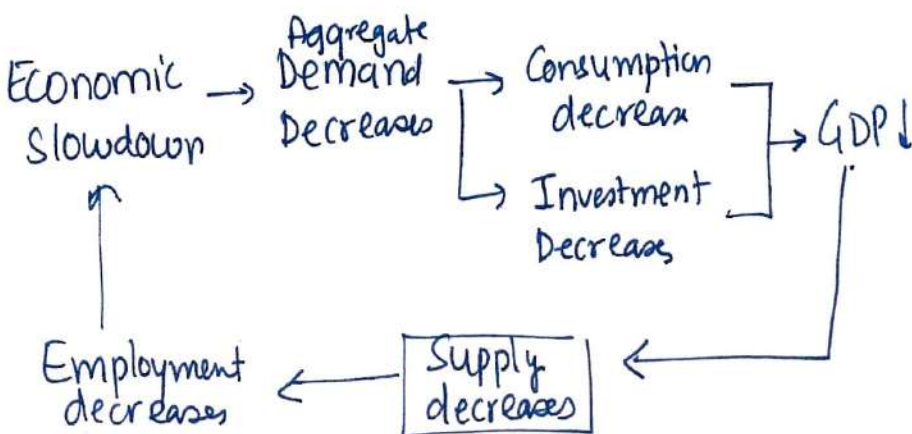
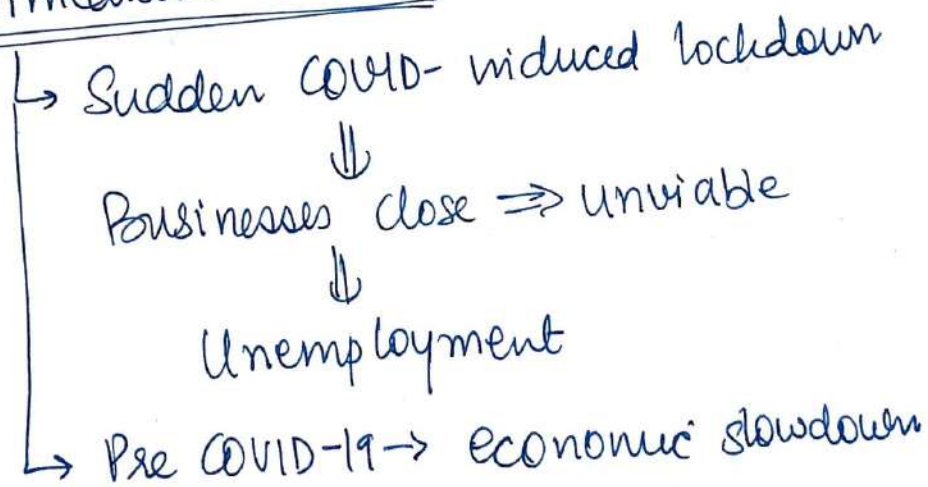
14. Clearly delineate the 'employment problem' that India currently faces. Also, explain the fundamental reasons behind existence of this problem. (250 words) 15

भारत वर्तमान समय में जिस 'रोजगार समस्या' का सामना कर रहा है, उसे स्पष्ट रूप से निरूपित कीजिए। साथ ही, इस समस्या के अस्तित्व के मूल कारणों की व्याख्या कीजिए।

Unemployment rate entry the double digit territory, ~~compa~~ the demography is facing the question of divident versus disaster.

The Employment Problem

Immediate Causes



Medium term Causes

- ① Disguised Unemployment in agriculture as Indian economy skipped the 2nd stage of Lewis model (manuf-acturing) and jumped to service
- ② Mechanisation of job.
- ③ Informalisation of jobs.

Fundamental reasons

- ① Lack of employability i.e. the education system and curricula are too outdated.

↓ Employability → ↓ Creative input → ↓ incentive to employ → ↑ Unemployment

- ② ~~Poor~~ Lack of Skill Development :-
~~eg~~ Given the lack of manufacturing sector, agri-labourers can't go to service sector. Even skills centric sector is out of limits

③ Disguised unemployment in agriculture

④ Labour Laws: Strict laws regarding hire and fire means that additional hiring is an option that is resisted

⑤ Measures that can be taken

① According to goal of National Manufacturing Policy 2011, create 100 Million jobs in employment

② Skill development through schemes like PM Kaushal Vikas Yojana.

③ Update and upgrade education through the new education policy

④ Easier hire and fire through new labour laws

⑤ Modernise agriculture sector

Employment in India cannot remain in its present state as its potential is much higher

15. Although steps have been taken for integrating the dispersed logistics activities of maritime trade, much more needs to be done to make India a maritime powerhouse. Discuss. (250 words) 15

हालांकि समुद्री व्यापार की बिखंडित लॉजिस्टिक गतिविधियों को एकीकृत करने के लिए विभिन्न कदम उठाए गए हैं, फिर भी भारत को एक समुद्री पावरहाउस बनाने के लिए और भी बहुत कुछ किए जाने की आवश्यकता है। चर्चा कीजिए।

India is geographically blessed with more than 7000 km of maritime boundary with natural and artificial harbour — located at the junction of Indo-Pacific — from where more than half world trade passes through.

Steps taken for integrating the dispersed logistical activities of maritime trade

① SAGARMALA Project

- 500+ projects that connect all coastal cities through road, rail, airport, etc
- Sagarmala Sea Plane Services based on Hub and Spokes Model.

Port led industrialisation

- SEZ
- Industries

4 pillars of
Sagarmala

Port modernisation

- efficiency
- Capacity
- number of ports

Coastal Community
Development

- Skill development
- Island development.
- community participation

Port Connectivity

- Waterways
- Industrial
Connectivity

② Inland Waterways Project

③ Proposed 30 links of Inter-linking of rivers will make them navigable — can be used to transport goods.

What more can be done?

① Public-Private Partnership in Ports, CEZs (Coastal Economic

- Zones, etc) must be scaled up
- ② FDI norms must be relaxed.
 - ③ Whereas anti-dumping duties that are bona fide must continue, the spectre of licence permit raj must go.
 - ④ Single Window Clearance
 - ⑤ World class infrastructure
 - ⑥ Promote private participation in the logistical services
 - ⑦ Integrate Sagarmala with Bharatmala

Thus, ~~the~~ as resiliency of supply chains become ever more important and India eyes 5 trillion dollar economy through infrastructure development, logistical integration of maritime trade becomes ^{the} crucial link.

16. Accounting for natural capital and ecosystem services is crucial to understand the link between the economy and environment. Discuss with specific references to India's initiatives in this regard. (250 words) 15

अर्थव्यवस्था और पर्यावरण के मध्य संबंध को समझने के लिए प्राकृतिक पूंजी और पारिस्थितिकी तंत्र सेवाओं के लिए लेखांकन महत्वपूर्ण है। इस संबंध में भारत द्वारा की गयी पहलों के विशिष्ट संदर्भ के साथ चर्चा कीजिए।

Natural Capital Accounting and Ecosystem Services (NCAVES) is an initiative of UNDP, EU, etc to account for the total natural capital with respect to Brazil, Mexico, India, South Africa and China.

Natural Capital = Individual ecosystem assets + Community environment assets + Ecosystem service

↙ ↘
 biotic abiotic

Natural capital ~~that~~ captures the link between environment, economy and ecology.

In India, the nodal coordinating body is ~~the~~ Ministry of Statistics and Programme Implementation.

① MoSPI with NCAVES has released "ENVIS Stats" which estimate the ecosystem services, & accounting and capital of India.

② India held India NCAVES Forum 2021, organised by MoSPI

③ MoSPI further developed India-FVL tool.

④ Recently, "Ecosystem accounts of India" was also released

NCAVES as an exercise is important as:-

① It overcomes the monetary limitations of GDP

② It informs policy making.

- ③ It helps in monitoring progress of initiative
- ④ Generates awareness in the civil society.
- ⑤ Estimates financial need for climate change mitigation and adaptation
- ⑥ Promote natural Capital business model
- ⑦ Understand spatial and temporal variations of environment-economy dynamics.

Thus, India is pro-actively participating in NCAVES which clearly is a climate sensitive and climate-imperative exercise.

17. Rapid and unplanned urbanisation accompanied by population growth have increased both the risk and impact of natural disasters. Discuss the statement along with adequate measures to address the relevant concerns in India. (250 words) 15

जनसंख्या वृद्धि के साथ-साथ तीव्र और अनियोजित शहरीकरण ने प्राकृतिक आपदाओं के जोखिम और प्रभाव दोनों को बढ़ा दिया है। भारत में विद्यमान प्रासंगिक चिंताओं के निवारण हेतु यथोचित उपायों के साथ इस कथन की व्याख्या कीजिए।

Sunil Khulnani in "The Idea of India" calls post-Independence era as the largest rural-to-urban transition in history.

Concerns regarding natural disasters

- ① Urbanisation in India has been haphazard and uneven, leading to improper, if any, planned development of cities. This significantly increases the impact of natural disasters.
- ② Due to the aforementioned, ~~the~~ the buildings are not disaster resilient and are overburdened.
(prone to earthquakes)

- ③ Uneven urbanisation implies the encroachment of river banks i.e. being prone to floods. This is often seen in Mumbai, Bihar, etc.
- ④ Given the lack of proper observance of guidelines, earthing of electric networks is improper, leading to vulnerability to lightning.
- ⑤ Given the ~~fact~~ use of wood in North East region in the current era of climate change, vulnerability to forest fires increases.
- ⑥ Thus, governance, land-use, infrastructure, unplanned growth and improper drainage have increased vulnerability of cities eg the recent Hyderabad and Pune floods.

Adequate Measures to address concerns

Following a pro-active, holistic and integrated approach:-

- ① Resilient infrastructure - either retro-fitting or greenfield
- ② Prevent encroachment of river banks
- ③ Better response teams when hazard has hit
- ④ Creation of new planned cities like GIFT City, JnURM, etc
- ⑤ Observance of building guidelines, "nudge" green buildings
- ⑥ Use of natural material in cities
- ⑦ Urban forestry eg Miyawaki
(みやわき in Japanese)
- ⑧ Future-proof development
- ⑨ Community inclusive approach

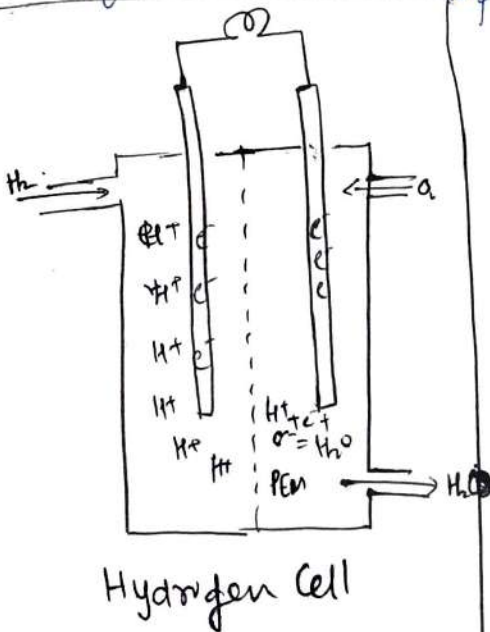
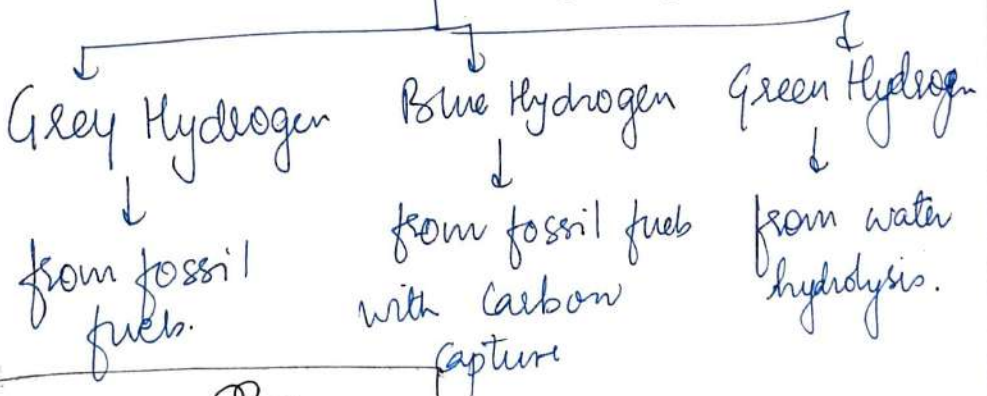
As urban population surges, urban disaster management becomes central to human development story of India

18. National Hydrogen Mission can be a game changer for India's rising energy demands. Comment. (250 words) 15

भारत की बढ़ती ऊर्जा मांगों के लिए राष्ट्रीय हाइड्रोजन मिशन एक गेम चेंजर हो सकता है। टिप्पणी कीजिए।

The Union Budget 2021-22 proposed the National Hydrogen Mission to address the energy needs of India in a clean, sustainable and long term manner. ₹ 1500 crore allocated.

Sources of Hydrogen



Advantages of H-cell

1. High Power density
2. Sustainable
3. Future of hydrogen based economy
4. Store renewable energy.

Measures taken

- ① MORTH has proposed amendments to Central Motor Vehicles Act to assess the standards of Hydrogen cell based activities.
- ② IOCI has begun the first hydrogen fuelled (H-CNG) buses in Delhi with emits 70% less Carbon Monoxide.
- ③ ISRO, CSIR and other labs are pro-actively working on hydrogen technology.

Need for Hydrogen Mission

- ① Given the temporal variation of solar and wind energy and need to connect renewable energy to grid — storage is required thus, hydrogen cell required.

② As the economy "phases down" from coal, methane- and hydrogen-based economy seem the best bet

③ Specifically in Delhi, ~~for~~ HCNG buses mitigate the worsening air pollution.

④ Potential Challenges

① A lot of material required for batteries is imported from China. i.e. dependence for raw material

② The cost of hydrogen-tech is still very high

③ The automobile sector, and economy in general, is in a crisis and may not have the appetite for experimentation

To shift towards a sustainable economy, ~~high~~ hydrogen-based activities is a key component.

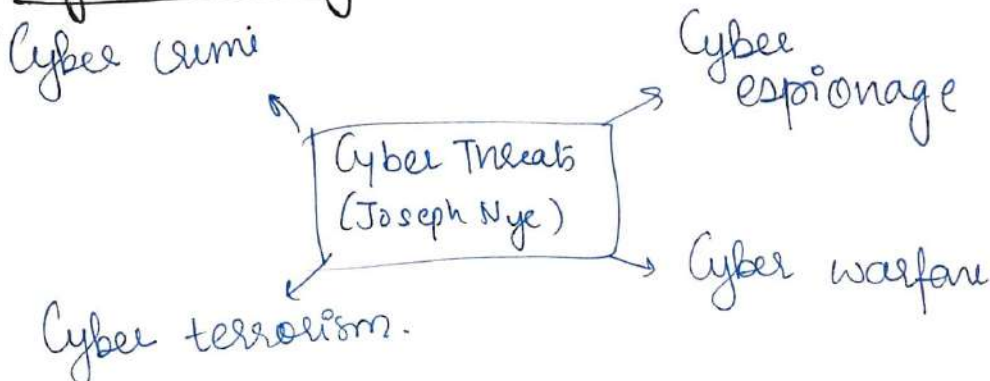
19. Despite geo-strategic instability of its region and a keen awareness of the cyber threat it faces, India has made only 'modest progress' in developing its policy and doctrine for cyberspace security. Critically examine.

(250 words) 15

अपने क्षेत्र की भू-रणनीतिक अस्थिरता और इसके समक्ष विद्यमान साइबर खतरों के संबंध में व्यापक जागरूकता के बावजूद, भारत ने साइबरस्पेस सुरक्षा के लिए अपनी नीति और सिद्धांत विकसित करने में केवल 'साधारण प्रगति' की है। समालोचनात्मक परीक्षण कीजिए।

As data becomes the new oil, modern warfare is shifting towards cyber warfare — both critical infrastructure and individual data being threatened.

Cyber Challenges



Present policy and doctrine ecosystem

- ① IT Act 2008 — the primary law dealing with cyber crime.
- ② National Cybersecurity Policy 2012
 - (a) protect cyber space
 - (b) strengthen regulation

- ③ CERT - in
- ④ National Cyber Security Coordination Centre
- ⑤ National Critical Cyber Information Infrastructure Protection Centre
- ⑥ Cyber Surakshit Bharat Initiative

Potential Insufficiency of present ecosystem

- ① The hardware infrastructure is largely import dependent
- ② The institutional mechanisms have largely been piecemeal - lack of holistic and integrated approach.
- ③ The ecosystem is especially vulnerable to zero-day exploits and zero-click attacks eg Pegasus.

- ④ The IT Act 2000 does not fully address the newer realities.

Suggestions

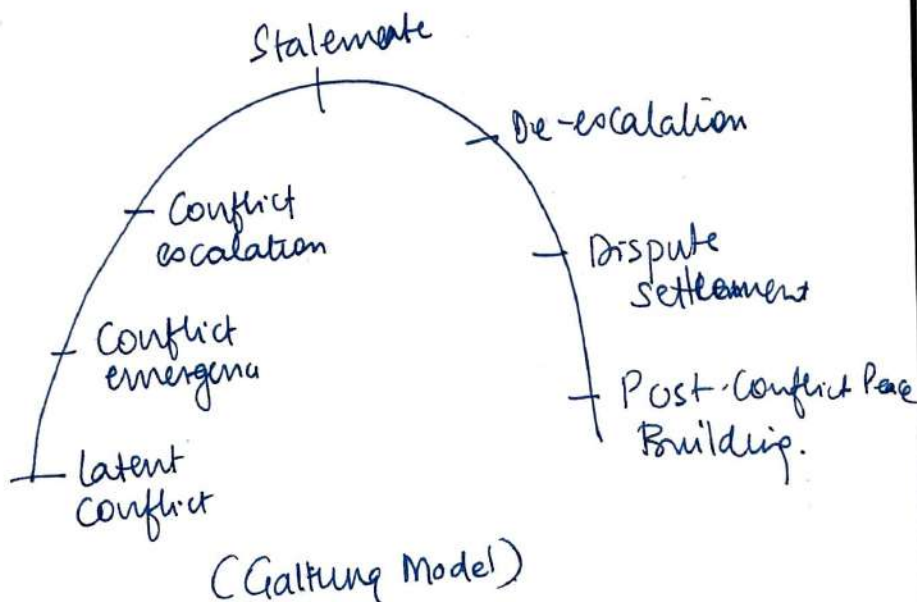
- ① PLI scheme for microchips is a welcome step. Similar incentives are required for other hardware.
- ② Research on frontier communication technology like Quantum Satellite communication.
- ③ Dedicated Inter-ministerial standing agency to tackle issues.
- ④ Holistic and comprehensive approach of electronic infrastructure m to m.

Both internal and external security scenario demand a comprehensive cyber security ecosystem for the security and safety of India and its citizens.

20. Developmental interventions alone cannot play a defining role in the resolution of existing and protracted internal conflicts in various parts of India within a reasonable time frame. Discuss. **(250 words) 15**

भारत के विभिन्न हिस्सों में व्याप्त और दीर्घकाल से जारी आंतरिक संघर्षों को उचित समय सीमा के भीतर हल करने में केवल विकासात्मक हस्तक्षेप एक निर्णायक भूमिका नहीं निभा सकते हैं। चर्चा कीजिए।

Johan Galtung defines "Protracted Social Conflicts" as the continuum of latent conflict escalating to conflict and de-escalating to peace building.



Putting this model in Indian context there are 2 scenarios:-

- (a) Conflicts due to lack of economic development of Naxalism

- (i) Here the confidence in Indian state is shaken
- (ii) The ~~at~~ response of state has become more than economic deprivation
- And thus, there is need for more than economic development → confidence building must complement them.

(b) Conflicts due to identity
eg language, regionalism, tribal rights, etc.

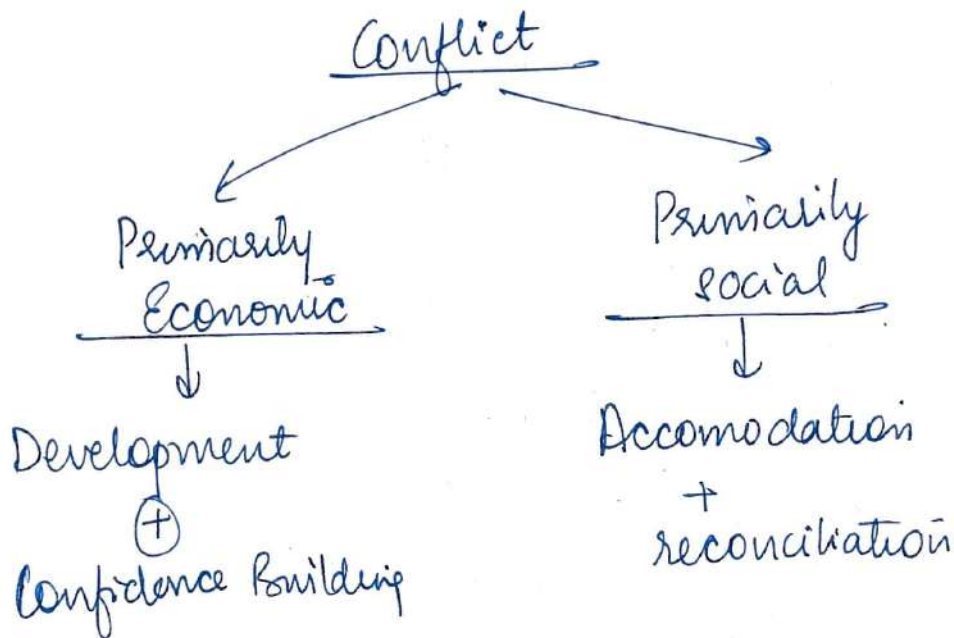
Here the main issue is not development — it is the need for recognition and assimilation of identities in the larger fold of India

Past examples

- (a) The demands of Assam Students' Associations were accepted and brought into mainstream

⑥ The reorganisation of state was an effort to address the language question.

Thus, the approach must be :-



Nonetheless, separatist elements and violent elements have to be neutralised to protect the sovereignty and integrity of India.