

NEXT IAS

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(To be filled by candidate)

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MAIN TEST SERIES 2023 (ANUBHAV GS-III)

GENERAL INSTRUCTIONS

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SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. :

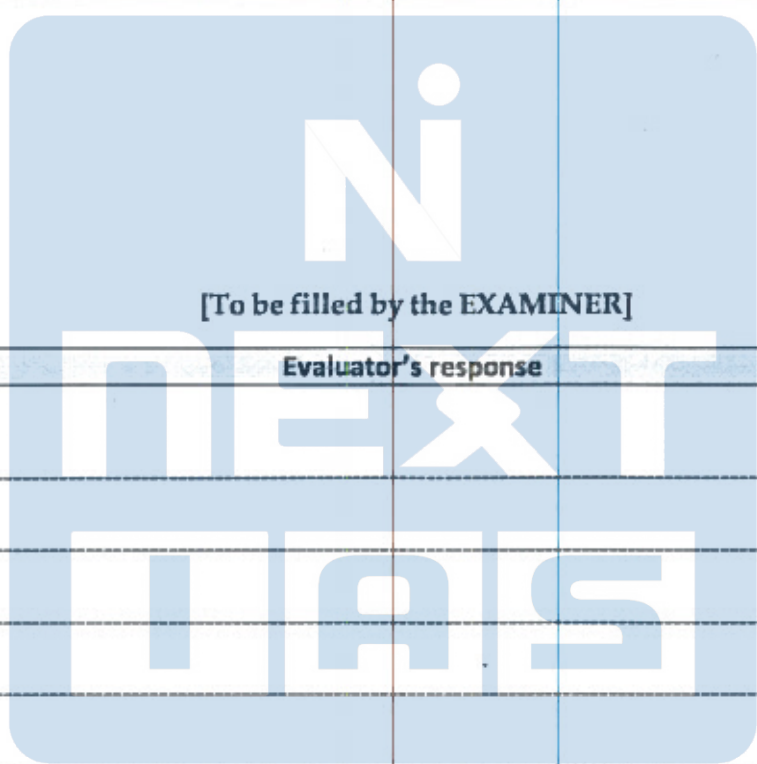
[To be filled by the STUDENT]

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

Ni

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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



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1. उपरोक्त मूल्य सूचकांक (CPI) एवं थोक मूल्य सूचकांक (WPI) के बीच अंतर स्पष्ट कीजिए। क्या आपको लगता है कि WPI की तुलना में CPI मुद्रास्फीति का बेहतर माप है? सिद्ध कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक
- Differentiate between Consumer Price Index (CPI) and Wholesale Price Index (WPI). Do you think that CPI is a better measure of inflation as compared to WPI? Substantiate. (Answer in 150 words) 10 Marks.

CPI and WPI are indices to gauge Inflation levels in an economy and while CPI is from consumers point-of-view, WPI is from producers point of view.

Presently, CPI is at 6.9%, above the RBI mandated ceiling of 6%.

	Consumer Price Index	Wholesale Price Index
definition	the rise in price in the value of basket of <u>goods and services</u> over a base year.	rise in price in the value of basket of <u>goods</u> over a base year
Base year	2011-12	2011-12
Basket	includes food, fuel, services	includes manufacturing etc
released by	DEA	DPIIT
used as a measure of inflation	✓	earlier used

CPI was used as a measure of inflation recently, as :

- (1) It covers diverse range of goods
- (2) Point of view of consumers
- (3) Its inclusion of services provides a broader picture of economy
- (4) It is released monthly and gives policymakers options to change tracks in case of rising or dipping inflation
- (5) It gives deeper insights into the structural reforms required in an economy
- (6) Inclusion of food product ensures that core inflation is also looked into
- (7) Reflection of unemployment rates as $\text{inflation} \propto \text{employment rates}$.

Thus, CPI is a better measure of inflation due to its ability to paint a holistic picture of economy and ensure course correction.


2. रोजगारविहीन संवृद्धि भारत के विकास पथ का एक अंतर्निहित लक्षण है। भारत में उच्च बेरोजगारी दर के पीछे प्रमुख कारण क्या हैं? भारत में समग्र रोजगार वृद्धि दर में सुधार हेतु उपचारात्मक उपाय सुझाइए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

Jobless growth is an inherent feature of India's growth trajectory. What are the major reasons behind the high unemployment rate in India? Suggest remedial measures to improve the overall employment growth rate in India.
(Answer in 150 words) 10 Marks

India's unemployment rate stands at 4%. (PLFS) and female labour force participation stands at 34%, highlighting tangent of jobless growth in Indian Economy

Jobless growth an inherent feature :-

- (A) Structural reasons { 7% growth rate, but poor jobs }
- (1) Lack of manufacturing contribution
(30% to GVA, growing at rate of 4% (industry))
 - (2) Disguised unemployed in agriculture -
44% people are employed in agriculture due to lack of avenues to move out
 - (3) Informalisation of economy - 90% workforce is under informal sector
 - (4) Dwarf industries - Economic survey highlighted how, to enhance perks received, industries choose to remain small
⇒ employ less people.
 - (5) Lack of skill set to enter service sector.

- ⑤ Cyclical reasons
- ① Business cycle goes down 
- ② International influence - Covid, War etc.

Reasons behind high unemployment

- ① Lack of industry-academia linkage : only 27% Indian workforce is trained as per industry need.
- ② less emphasis on labour intensive sectors like textile, footwear etc (2.2% GDP)
- ③ Lack of export led growth (India's contribution is 2.2% to global exports at 770bn USD)
- ④ Inability to utilize technology for enhancing jobs due to lack of technical trainings.

Remedial measures

- Industry
- apprenticeship
 - provide training
 - ensure linkage programs
 - fill in gaps

- gvt-India
- skill India
 - training up
 - enhance funds

Youth → get skilled
 → use SWAYAM to enhance knowledge
 ASEM portal, SANKALP, STRIVE

To fulfil our Paanch Prann of becoming a developed nation, growth with employment is must

3. यूरिया को NBS योजना के तहत लाया जाना भारत में उर्वरक सब्सिडी से संबंधित सभी मुद्दों के साथ-साथ कृषि की पर्यावरणीय समस्याओं के लिए रामबाण के रूप में देखा जा रहा है। यूरिया प्रबंधन से संबंधित मुद्दों पर प्रकाश डालते हुए भारत में टिकाऊ रूप से यूरिया के उपयोग में आवश्यक सुधारों हेतु सुझाव दीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Bringing urea under the NBS Scheme is seen as the panacea for all the issues related to fertiliser subsidies in India as well as for the environmental problems of agriculture. Highlighting the issues related to urea management, suggest reforms are required to improve the usage of urea in a sustainable manner in India.

(Answer in 150 words) 10 Marks.

Fertilizer subsidy accounts for 1.5% GDP with only 35% fertilizer reaching intended beneficiary, raising demands of including urea in NBS.

Urea under NBS
: benefits

- subsidy : reduce govt burden by targeting approach, - reduce diversion to industries
- Environmental → NPK ratio of 6:4 : 4.2 : 1 can be returned to 4:2:1
 - reduce eutrophication
 - preserve groundwater from contamination

Issues related to urea management

- ① Canalization - Only 2 agencies are allowed to import ⇒ during peak demand it becomes a challenge.
- ② Subsidizing inefficient industries - to ensure Urea is sold at fixed price, more

subsidy is paid to less efficient producers.

③ Blatant misuse - lack of awareness of farmers to use other fertilisers, they just add Urea (NPK ratio = 6.4 : 4.2 : 1)

④ Black marketing - subsidised urea is sold off to industries, leading to leakage.

⑤ Urea still not under NBS.

Reforms required

① De canalize urea industry

② Use Direct Benefit Transfer only to send subsidy to farmer using POS machines

③ Involve urea in Nutrient Based Subsidy scheme

④ Promote N neem based urea - slow absorption and ineffective for industries.

⑤ PM-Jivan and PM-PRAN can help in this direction further.

Thus, to lead our farmers into Ausht Kal, we need to prevent misuse of urea in soil by farmers to ensure sustainable agriculture.

4. भारत की खाद्य सुरक्षा को न केवल घरेलू कारकों बल्कि वैश्विक कारकों से भी चुनौतियों का सामना करना पड़ता है। टिप्पणी कीजिए। भारत की खाद्य सुरक्षा को सुदृढ़ बनाने वाले कुछ उपायों की चर्चा कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक
- India's food security faces challenges from not just domestic factors but also global factors. Comment. Discuss some ways to strengthen India's food security.
(Answer in 150 words) 10 Marks.

India ranked 107/121 in Global Hunger Index and hunger deaths are still not subsiding highlighting the food security challenges of India.

Domestic factors leading to food security

(A) Agricultural system

- ① focuses on wheat and rice production
- ② less emphasis on nutri-cereals like millets
- ③ Animal husbandary has still not taken off (only 35% of agri income contribution)
- ④ Diversion of food grains to Biofuel production

(B) Governance issues

- ① Poor storage of food grains leads to wastage of 30-40% buffer stock with FCI
- ② Only 2% of agri product is processed
- ③ Hoarding of commodities during

high rates. Ex- Tomato, Onion etc

- ④ PDS distribution is skewed to rice and wheat \Rightarrow hidden hunger challenges
- ⑤ Agriculture becoming non-remunerative (NCRB: 12000 farmers die each year)

Global factors

- ① Covid related lockdowns restricted supply chains.
- ② War between Ukraine and Russia led to inflationary pressure and disruption of global supply chains.
- ③ International markets imbalances
Ex- drop in sugar prices
- ④ crude oil price rise leads to higher input costs \Rightarrow food inflation
- ⑤ Vicious cycle created due to global factors

Ways to strengthen food security

- ① Revise MSP system (reaches 67 farmers)
 - ② Atmanirbhar required in food production
 - ③ Focus on millets (presently 600M production)
 - ④ Incorporate reforms of Ashtok Gulati committee
- Thus, food Atmanirbhar is the need of the hour to usher in a developed

5. हाल ही में भारत नासा के नेतृत्व वाले आर्टेमिस समझौते पर हस्ताक्षर करने वाला 27वाँ देश बन गया है। भारत में अंतरिक्ष अन्वेषण कार्यक्रमों के संदर्भ में इस समझौते के निहितार्थों का आलोचनात्मक विश्लेषण कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक
- Recently, India became the 27th signatory to the Artemis Accord led by NASA. Critically analyse its implications for the space exploration programmes in India. (Answer in 150 words) 10 Marks.

India becoming a signatory to Artemis accord is a step to heighten space Diplomacy while ensuring scientific gains in this direction.

Benefits of joining ARTEMIS Accord

- (1) Ensure peaceful use of global space i.e. Moon and other bodies
- (2) Glimpse into the origin theories of solar system.
- (3) Enhance space diplomacy by ensuring effective space cooperation between nations
- (4) Better understanding of space phenomenon like asteroid trajectory, DAART mission etc.
- (5) May lead to technology transfer from USA to India.

(6) Insight into the new technologies being promoted in world.

Issues

(1) Sovereignty challenges - USA having a upper hand over India.

(2) Neo-colonialism strategy

(3) Ethical issues involved - USA with greater resources can ^{India} am twist into prioritizing space program over its people.

(4) May not lead to Technology transfer

(5) Disagreements may lead to space wars in future

(6) May be a part of a bigger plan to put India into a debt trap.

Way Forward

have procedural checks in place

collaborate with other nations

no am twisting allowed

Thus, space exploration have deep interest in unravelling the mysteries of the world and ensuring better understanding of nature for man

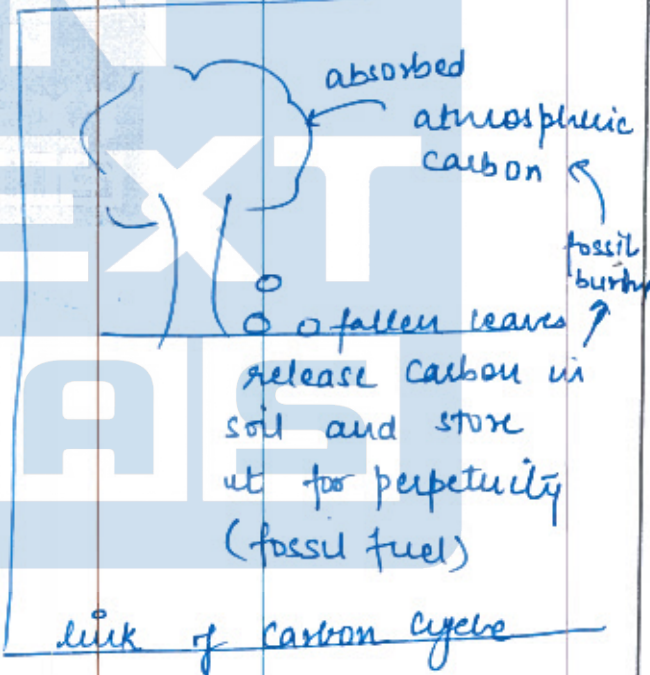
6. मिट्टी में कार्बनिक पदार्थ का अपघटन कार्बन चक्र में किस प्रकार योगदान देता है, और इस प्रक्रिया को प्रभावित करने वाले प्रमुख कारक क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

How does the decomposition of organic matter in the soil contribute to the carbon cycle, and what are the key factors that influence this process? (Answer in 150 words) 10 Marks.

Soil and Decomposition of its organic matter plays a major role in carbon cycle by recycling carbon via various forms.

Carbon Cycle - decomposition of organic matter link

When organic matter decomposes, it releases a part of carbon and also stores most part of it in perpetuity.



This over years of pressure and temperature compression leads to fossil fuel production - Coal, natural gas etc and when they are burnt they release all the stored organic carbon (SOC) into the air.

Key factors influencing this process -

- ① Type of foliage - some are quicker to decompose and leach underground.
- ② Soil Quality - Acidic soils will quickly dispose off the organic matter, partially releasing the carbon in it.
- ③ Moisture content - Humus formation fastens due to raised microbial activity due to larger moisture content.
- ④ Temperature and Pressure conditions also influence the decaying process.
- ⑤ Anthropogenic factors like ploughing and tilling may also influence it.

Thus, decomposition of soil organic content leads to natural storage of carbon for thousands of years unless it is burnt as fossil fuel in future.

7. जलवायु परिवर्तन पर शमन और अनुकूलन रणनीति न केवल भविष्य के उत्सर्जन को कम करने से संबंधित है, बल्कि इसमें वायुमंडल में पहले से उत्सर्जित कार्बन को सक्रिय रूप से हटाना भी शामिल है। इस संदर्भ में आप कार्बन संकलन, उपयोग और भण्डारण (CCUS) की अवधारणा से क्या समझते हैं? इससे संबंधित अंतर्राष्ट्रीय समुदाय की प्रगति पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Climate change mitigation and adaptation strategy is not only about reducing future emissions but also involves active removal of already released carbon into the atmosphere. In this context what do you understand by the concept of Carbon Capture, Utilisation and Storage (CCUS) and discuss the progress of the international community in this regard. (Answer in 150 words) 10 Marks.

The world has already seen a 0.7°C rise of temperature and 2cm sea level rise over pre-industrial level, requiring us to take all measures to ensure climate change mitigation and adaptation

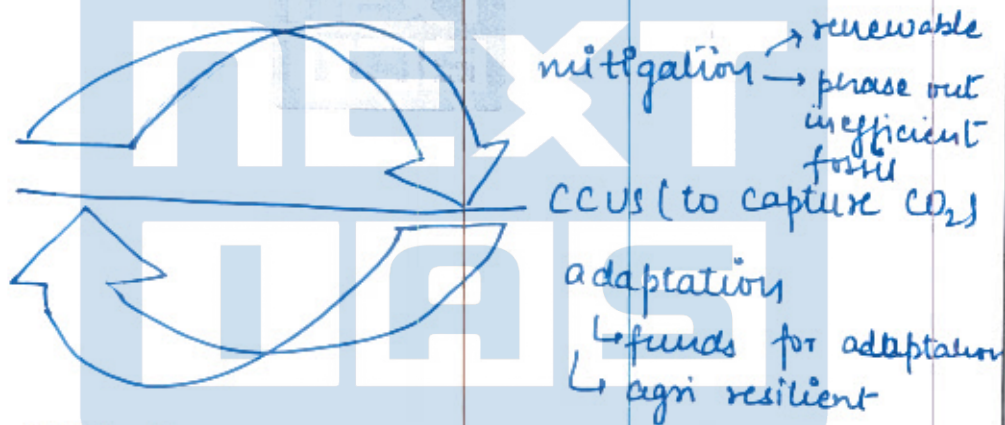


Fig - CCUS lies at confluence of mitigation and adaptation

Carbon capture, Utilisation and Storage

Ensures that atmospheric carbon is caught and then either utilized renewable or stored for perpetuity.

Ways of CCUS

- (1) Pumping carbon into empty landmines
- (2) Mining it with water and then stoning it under pressure in deep mines
- (3) Soil Organic Carbon is another way of storage.
- (4) It can also be stored under water where it is pumped under pressure.

Progress of Global community

- (1) Koronian Framework on Agriculture mentions use of CCUS in soil.
- (2) Paris climate deals mentions CCUS to reduce global warming
- (3) CDM employed for technology transfer
- (4) Use of Cyomesh and biocor to store CO₂ for coral reef regeneration.

Thus, to prevent Arctic ice melting and delay climate tipping points from failure, there is a need to have a holistic CCUS plan

8. इमारतों की घटिया डिजाइन, भवन संहिताओं और अग्नि सुरक्षा मानदंडों का घोर उल्लंघन तथा बढ़ती भीड़भाड़ शहरी क्षेत्रों में आग के उभरते खतरे के लिए जिम्मेदार है। विवेचना कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Poor building design, flagrant violations of building codes and fire safety norms and overcrowding of spaces are responsible for the rising risk of fires in urban areas. Discuss.

(Answer in 150 words) 10 Marks.

The cases of fire have been on the rise and the risk gets converted into disaster due to sheer human neglect

Fire case in Urban areas

(A) Poor building design

- (1) Lack of emergency exit
- (2) Lack of even windows to exit
- (3) Lack of entry to terrace
- (4) Lack of marking to the way to exit staircase
- (5) Electrical systems not insulated

(B) Flagrant violation of Building Code

- (1) Only lifts for entry
- (2) Earthing not provided
- (3) Fire Extinguishers not installed

- (4) Built up in areas which were supposed to remain open
- (5) Lack of water supply in case of fire.

OVERCROWDED SPACES

- (1) Fire vans can't reach them
- (2) Closely spaced residential areas lead to everything burning together
Ex- chandni chowk fire
- (3) Lack of fire alarms in place
- (4) Poor knowledge about exits

Way forward → proper enforcement of fire codes

→ punitive violations
→ ensure fire vans can reach

Thus, fire turns into disaster due to government neglect and sheer human misdeeds

9. भारत-म्यांमार तथा भारत-बांग्लादेश सीमाओं पर होने वाले सजातीय संघर्ष और सीमा-पार प्रवासन भारत की आंतरिक सुरक्षा को प्रभावित करते हैं। टिप्पणी कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक
- Ethnic conflicts and cross-border migration along India-Myanmar and India-Bangladesh borders impact India's internal security. Comment.
(Answer in 150 words) 10 Marks.

Ethnic conflicts are on the rise, significantly affecting India's internal security framework

Indo-Myanmar Border

(1) Infiltration of radical youth
Ex-operation success against them



- (2) Drug trafficking from golden triangle
- (3) Demand of separatist groups for secession. Ex - Nagalim
- (4) Illegal migration of Rohingyas create stress on local resources
- (5) Meiti-Naga ^{Kuki}-fight heightened by support from external actors.
- (6) Misuse of Free Movement Regime

Indo Bangladesh border

- ① Drug trafficking cartels
- ② human trafficking challenges
- ③ Rohingya entry leads to resources getting reduced
- ④ illegal migration

Way forward

- ↳ Madhukar Gupta committee's recommendation to build border infrastructure (CIBMS)
 - ↳ Madhav Godbole committee recommends border area management.
 - ↳ Ensure laser boundary wall, patrolling, prevent misuse of FMR
 - ↳ Intelligence agencies to prevent attacks
- Thus, upto border migration and conflicts should not act as a threat to internal security and this requires close collaborⁿ b/w govt & citizens

10. धन-शोधन के मामलों की जाँच करने और अभियोग चलाने में कानून प्रवर्तन एजेंसियों के सामने कौन-कौन सी प्रमुख चुनौतियाँ आती हैं तथा उन चुनौतियों को कैसे दूर किया जा सकता है? (150 शब्दों में उत्तर दीजिए) 10 अंक
- What are the main challenges faced by law enforcement agencies in investigating and prosecuting cases of money laundering, and how can they be overcome? (Answer in 150 words) 10 Marks.

Money laundering is the act of turning black money into white and often has its link with organized crimes

Money laundering involves

Placing → Layering → Integration

Main challenges faced

- 1) Difficult to trace origin of money
- 2) International challenges via Hawala etc.
- 3) Government support viz Cayman Islands, Panama etc.
- 4) leads to difficulty in tracing movement.
- 5) Reliance on cash based economy

- (6) Reluctance to file ITR
- (7) cross border nature
- (8) Overlapping jurisdiction under PMLA
act of ED etc

Way Forward

- ① Ensure effective coordination of state agencies with intelligence agencies
- ② Enhance fund, function and functionary
- ③ international collaboration with FATF etc
- ④ Ensure cross border compliance.

Thus, Money laundering needs to be resolved to ensure clarity of funds to organized crimes

11. निम्न कर उत्प्लावकता प्रायः उच्च घाटे और ऋण में तब्दील हो जाती है। क्या उच्च प्रत्यक्ष कर दर लागू करके भारत में समग्र कर-जीडीपी अनुपात में सुधार किया जा सकता है? भारत की समग्र कर संरचना में सुधार के लिए अन्य कौन-कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Low tax buoyancy often translates into higher deficits and debt. Can a higher direct tax rate improve the overall tax-to-GDP ratio in India? What other steps can be undertaken to revamp the overall tax structure in India? (Answer in 250 words) 15 Marks.

Tax buoyancy refers to the rate at which tax collection increases with one percent rise of GDP and remains grossly low in India.

low tax buoyancy translating into higher deficits

Growth rate 7% → Fiscal deficit 6.4%
 + low tax buoyancy → CAD = 2%
 (GST collected 1.5 lakh crore) ← External Debt to GDP = 20%
 GST

Tax to GDP ratio hovers around 15-17%
 i.e 1% GDP rise will only enhance tax by 15%. (way below china = 28%)

Higher direct tax rate - a solution?

YES

(1) Direct tax contributes 52% to tax and its rate increase, might result into higher tax collection

- (2) Easy to collect direct tax as it can be TDS or TCS (Tax deducted at Source, Tax collected at source)
- (3) Staggered approach - of enhancing direct tax rate for ultra rich and similar tax rate for the poor.

NO

- (1) Laffer curve →
- after A, tax collection will reduce.



- (2) Would act as brakes in economy by reducing purchasing power and thereby decreasing demand
- (3) A proportional tax rate increase would have a regressive effect on tax collection.
- (4) structural deficiencies of economy can't be solved with enhancing tax rates
- (5) 48% of tax collection comes from indirect taxes ⇒ they should be rationalized.

Other steps taken to revamp overall
tax structure

- (1) One Nation, One Tax Rate - GST is steadily moving in this direction-
 - (2) Simplifying tax structure to enhance compliance. Ex- New tax rates without external benefits, just one rate to pay
 - (3) Direct Tax Code - Committee by Akhilesh Raijan
 - (4) GST Council meetings ensure that tax on various commodities are simplified. Ex- Roti-Parantha conundrum
 - (5) Vivad se Vishwas scheme to resolve issues of tax collection
 - (6) e-ITR filling for faceless assessment and less bureaucratic hurdle.
 - (7) Taxes like Angel Tax reduced to enhance corporate economy. (30% → 22% Corporate Tax)
- Thus, to enhance tax buoyancy, use of IT in tax collection is a must (Akhilesh Raijan Task force)

12.

स्टार्टअप तेजी से बदलती आधुनिक अर्थव्यवस्था के प्रेरक इंजन हैं। भारतीय स्टार्टअप अपनी क्षमता का उपयोग करने में क्यों विफल रहे हैं? भारत में स्टार्टअप की लाभप्रदता और प्रदर्शन में सुधार हेतु कौन-कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Startups are the driving engines of the fast-changing modern economy. Why have Indian startups failed to realise their potential? What steps can be undertaken to improve the profitability and performance of startups in India? (Answer in 250 words) 15 Marks.

Startups ensure that our demographic dividend (65% of population) turn from job seekers to job givers.

Startups as driving Engines

- (1) Rise of unicorns like Physics Wallah etc. \Rightarrow set the wheels of economic moving
- (2) Soonicorns as a concept coming up "Soon-to-be-unicorn" \Rightarrow enhance aggregate demand in Economy.
- (3) Based on New Technology - Steers India into Industrial Revolution 4.0
Ex- on AI, ML, IoT
- (4) Employment generation enhances
- (5) Nearby economy gets a push as startup requires other facilities like Internet, access roads etc.
- (6) Entrepreneurial skills heightened to ensure Indian economy prosper.

Indian startups failed to realise potential

(A) Government side Issues

- (1) Taxes on Angel investment reduced financial workmanship of startups
- (2) Regulatory cholesterol
 - Chakravartul challenge: Issue to close down
 - No single window clearance
 - Tax rebates require lengthy procedure
- (3) Data insufficiency - of which products are demanded in market

(B) Startup led

- (1) Lack of management skills.
- (2) Inability to advertise their products better
- (3) Financial misappropriation
- (4) Corporate Governance absent

(C) Environmental

- (1) Lack of entrepreneurial environment
- (2) Low propensity to save (Savings of India = 30% of GDP)

(b) poor investment rates (32% of GDP)

Steps undertaken to improve
profit and performance of startups

(1) Tax holiday for first few years to
ensure better financial management.

(2) Reduction in Angel Tax

(3) Easy Exit through IBC

(4) Policies like Stand up India, Startup
India

(5) Linkage with international best
practices

(6) Mudra loans provided to household
small business ventures

(7) Portals like AISEM to help in
managing human resource.

Thus, Indian startup ecosystem is
diversified by both economy and

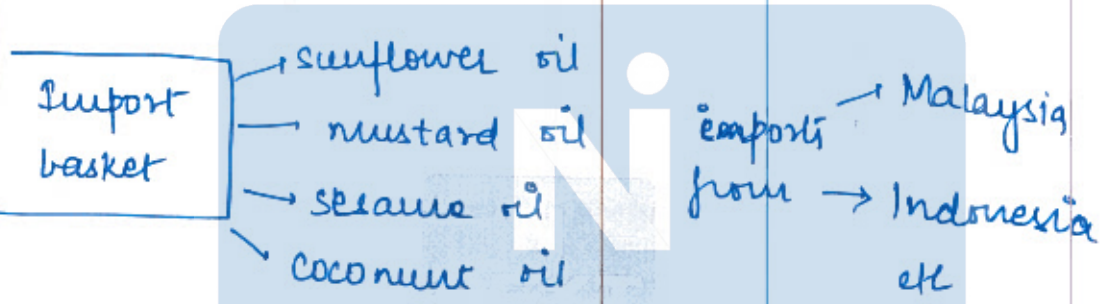
Distributive Justice (standup India) to
ensure single window clearance to
them.

13. भारत के आयात बिल में खाद्य तेलों का आयात एक बड़ा हिस्सा है। इस संदर्भ में हाल ही में शुरू किए गए खाद्य तेल एवं तेल पाम पर राष्ट्रीय मिशन (NMEO-OP) के महत्व का मूल्यांकन कीजिए। भारत में बढ़ते पाम तेल उत्पादन से संबंधित पर्यावरणीय चिंताएँ क्या हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Import of edible oils forms a major part of India's import bill. In this context, evaluate the importance of the recently launched National Mission on Edible Oils and Oil Palm (NMEO-OP). What are the environmental concerns related to increasing palm oil production in India?

(Answer in 250 words) 15 Marks.

India imports 80% of its oil needs, forming a major chunk of its total import basket (890 bn USD).



Importance of NMEO-OP

- (1) Reduce deficit - Currently India's total export = 770 bn USD and import = 890 bn USD. oil import reduction will reduce this deficit.
- (2) Ensure Atmanirbharta in cooking oil to ensure food security
- (3) Make Indian Edible oil, immune from global risks. Ex- Malacca dilemma of Indonesia.

- (4) Shift from wheat-Rice system to diversified basket of agricultural products.
- (5) India can become a exporter of Edible oils by this mission
- (6) High priced oils like Olive oil, sesame oil can be used to diversify India's export-basket (Presently, Indian exports are 2.2% of global exports).
- (7) Reduce External Debt of India (20% of GDP) by making us self-reliant.

Environmental concerns

- (1) International Examples - Indonesia became a green desert due to monocropping of oil palms.
- (2) challenge food security - With a rank of 107/121 in Global hunger index, we should prioritize food grains
- (3) Loss to soil - as Indian soils are not adept to oil farming -

- (4) Skewed production - from wheat etc to edible oil skewed production -
- (5) Demands of GM Mustard to enhance productivity and sales, will have to be looked into.
- (6) climate change threats can be a threat to oil production
- (7) Poor soil quality.

Thus, recommendations of Nirvi Shah committed to ensure water's effective management needs to be ensured.

14. एक सुदृढ़ पशुधन अर्थव्यवस्था कृषकों की आय के एक समानांतर स्रोत के रूप में कार्य कर सकती है। भारत के कृषि क्षेत्र में पशुधन अर्थव्यवस्था की भूमिका पर प्रकाश डालते हुए इसके समर्थ आने वाली चुनौतियों पर चर्चा कीजिए। ऐसे उपाय सुझाइए जो किसानों के समग्र कल्याण में योगदान देने के लिए पशुधन क्षेत्र को सशक्त कर सकें।
(250 शब्दों में उत्तर दीजिए) 15 अंक

A robust livestock economy can act as a parallel source of farmers' income. Highlighting the role of the livestock economy in the agriculture sector in India discuss the challenges faced by the livestock sector in India. Suggest interventions that can strengthen the livestock sector to contribute to the overall well-being of the farmers.
(Answer in 250 words) 15 Marks.

Livestock economy contributes 35% of agricultural GDP and India lies in top 5 positions of possession of goats, buffaloes and cows

Role of livestock economy -

- 1) Parallel source of income
- 2) Insurance against crop failure. Ex - in Marathwada etc.
- 3) High yielding Ex - Jersey Cow
- 4) Diverse options → beekeeping, fisheries dairy etc.
- 5) Use of cooperatives. Ex - Bivalve farming by Kerala people → growing systems
- 6) Hybrid agriculture. Ex - fish cultivation with paddy in Kerala
- 7) can keep risks of climate change at bay (1°C rise in temp reduces agri income by 15%)

challenges faced by livestock sector

- 1) Disease and lack of hygiene - Food and Mouth Disease, use of collistin in food remains a challenge.
- 2) lack of cold storage systems and reefers leads to wastage (only 4% cold storage facility).
- 3) Differential productivity - surplus and lean seasons of milk production requires need of food processing.
- 4) Dismal forward and backward linkages - Ex - where to deposit honey etc..
- 5) Deficiencies in farm to fork system
Ex - brick mortar stores of fish lack mobility.
- 6) Lack of government support to turn farmers into agri producers.

Interventions to strengthen

1) Disease free livestock - eliminate FMD, lumpy skin etc by giving vaccines.

2) Develop forward and backward linkages to ensure food processing under PM SAMPADA scheme

3) Utilise funds like Agrī Infra Develp Fund (AIDF) and Fisheries Development

Fund

4) Models like AMUL should be extended to the whole nation

5) Employ Swaminathan committee report

6) Employ livestock products into PDS system.

7) Farm to fork supply chain required

8) Promote urban beekeeping
Thus, to mitigate climate change and its threat there is a need to

promote livestock (Ashok Dalwai committee)

15. परमाणु संलयन को भविष्य का ऊर्जा स्रोत माना गया है, जिसमें स्वच्छ, सुरक्षित और वस्तुतः असीमित ऊर्जा प्रदान करने की क्षमता है। परमाणु संलयन के पीछे के वैज्ञानिक सिद्धांतों और व्यावहारिक अनुप्रयोगों के लिए इस तकनीक के उपयोग में आने वाली चुनौतियों और अवसरों पर चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Nuclear fusion has been hailed as the energy source of the future, with the potential to provide clean, safe, and virtually limitless energy. Discuss the scientific principles behind nuclear fusion and the challenges and opportunities in harnessing this technology for practical applications.

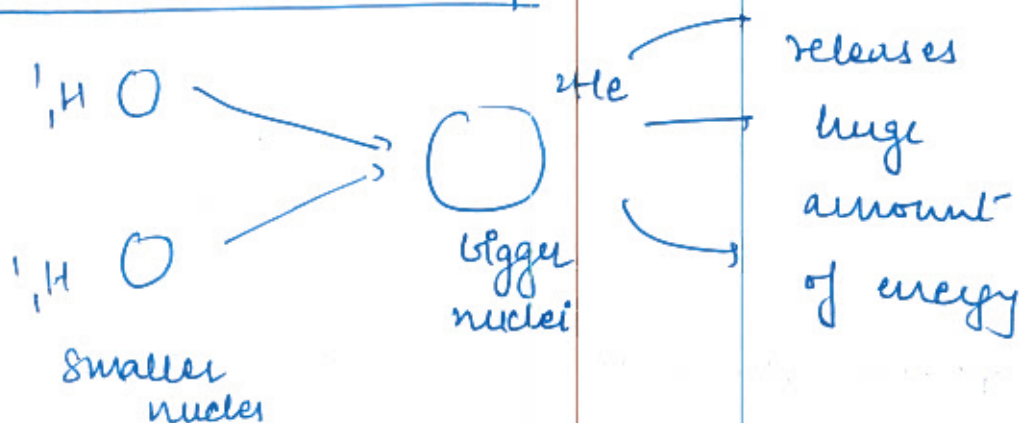
(Answer in 250 words) 15 Marks.

Nuclear fusion is the technology of fusing smaller nuclei into a bigger one to release huge amount of energy

Nuclear fusion - energy source of future

- (1) Pollution free
- (2) Potential to generate huge energy
- (3) Ensures energy needs are met of the whole population
- (4) Along with safety concerns, it can be the fuel of this century

Scientific Principles



challenges with Nuclear fusion

- (1) safety threat in case of any leakage.
- (2) Past horrors of nuclear plants destroying cities Ex- chernobyl
- (3) Problem in disposing of nuclear waste
- (4) NIMBY challenge - Not in my backyard - Nuclear plants garner huge public protest. Ex- Kudankulam
- (5) Requires Technology transfer
- (6) Threat to sovereignty. Ex- Russia's help in Tarapore plant
- (7) Cyber Security threats - Ransom demanded to not destroy the plant.
- (8) Financial requirements are huge.

Opportunities

- 1) Technological upgradation have led to better results -
 - 2) Nuclear waste disposal guidelines can manage waste.
 - 3) An alternative to the polluting fossil fuels
 - 4) help avert climate change problems
 - 5) Employ large number of people
 - 6) Propel India's developmental agenda - Panch Pray
- Thus, Nuclear fusion is the technology which can propel India in becoming the Jagan Gaurav.

16. भारत में आईपीआर के प्रशासन में कौन-कौन सी कठिनाइयाँ रही हैं? भारत में नवाचार आधारित अर्थव्यवस्था को प्रोत्साहित करने के लिए आईपीआर के प्रशासन में सुधारात्मक उपाय सुझाइए। (250 शब्दों में उत्तर दीजिए) 15 अंक

What have been the difficulties in the administration of IPRs in India? Suggest measures to improve the administration of IPRs in order to encourage an innovation-led economy in India.

(Answer in 250 words) 15 Marks.

IPR administration is poor in India as highlighted by India's poor ranking in Global IP Index (40/56).

Intellectual
Property Rights
include

- Copyright
- Trademarks
- Patent

India's IPR ecosystem is poorly built with lack of awareness in people and complex IP system from government side making IP dismal.

Difficulties in administration of IPR's in India

1) Complex Regulatory System - deters people from filing IPR's.

- (2) Evergreening of Patent is deterred leading to stagnation of whole system.
- (3) Bureaucratic hurdles in grant of IPR's
- (4) Lack of single window clearance to grant IPR
- (5) Lack of awareness in people to get their IP rights
- (6) Less spending on R&D (0.9%), reduces places to enforce IP rights
- (7) Traditional knowledge often leaked to rich nations.

Measures for improvement

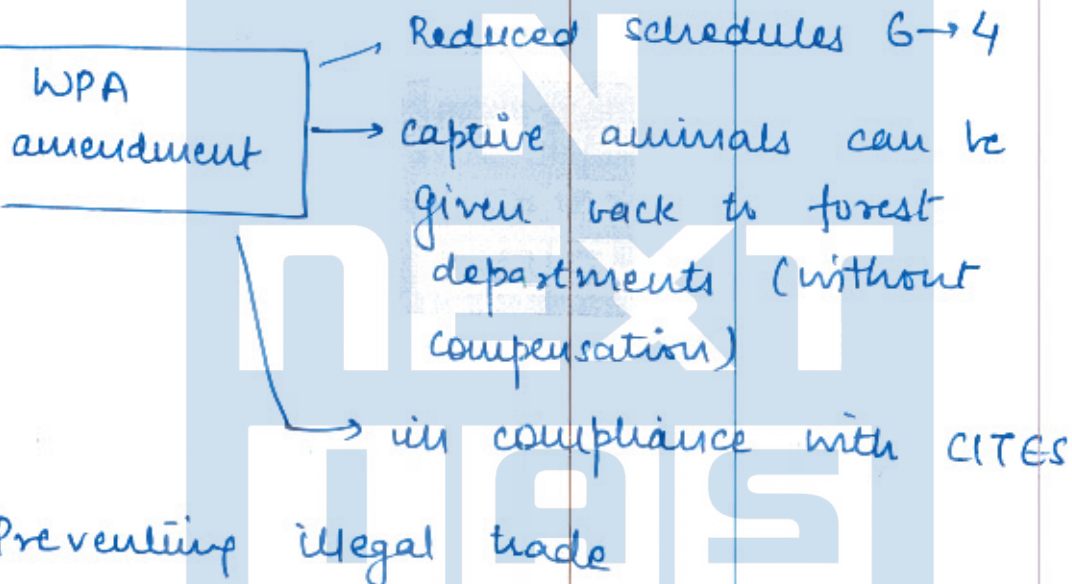
- (1) awareness generation.
Ex - IP Navin.
- (2) Don't deter genuine patents under garb of evergreening

- (3) Stick to international provisions like Vienna Convention.
- (4) Provide single window clearance
- (5) Enhance research through schemes like Atal Innovation Mission, Ramamujam scholarship.
- (6) Gender inclusion in STEM - through GATI, KIRAN etc
- (7) Educational course on IPR filing
- Thus, ensuring effective IP Rights to innovators can be the only way of enhancing virtuous cycle of better scientific research.

17. वन्यजीव संरक्षण अधिनियम में हालिया संशोधन जंगली जानवरों और पौधों के अवैध व्यापार को रोकने के लिए एक रूपरेखा प्रदान करते हैं ताकि यह सुनिश्चित किया जा सके कि उनके अस्तित्व को खतरा न हो। इस संबंध में भारत में अवैध वन्यजीव व्यापार के निहितार्थों का उल्लेख कीजिए तथा इस मुद्दे को हल करने के लिए हाल के संशोधनों की प्रभावशीलता का विश्लेषण कीजिए।
(250 शब्दों में उत्तर दीजिए) 15 अंक

The recent amendments in the Wildlife Protection Act provide a framework to prevent illegal trade in wild animals and plants to ensure that their survival is not threatened. In this regard, mention the implications of illegal wildlife trade in India and analyse the effectiveness of the recent amendments to address the issue.
(Answer in 250 words) 15 Marks.

Recently WPA was amended to rationalize schedules under it and prevent illegal trade in wild animals and plants.



- (1) Close monitoring to prevent illegal trading
- (2) Committee to ensure such things don't happen
- (3) one exception - elephants

Implication of illegal wildlife trade

- (1) linked with organized crimes like money laundering etc
- (2) creates a parallel economy due to black money involvement.
- (3) Threat to natural species - often misused. Ex- Pangolin scales ~~used~~ to ~~make~~ medicine.
- (4) killing of forest guards by illegal mafias.
- (5) can form the basis of other extremist activities like terrorism etc
- (6) Reduces India's image in international sphere.
- (7) Pushes certain animals into extinction.
- (8) Affects the food web.

Effectiveness of recent amendment-

- (1) help nab illegal hunters
- (2) ensure parallel trade is stopped
- (3) gives chance to genuine captivators to release them
- (4) in line with international commitments of WWF and TRAFFIC
- (5) coherent with CITES convention

Thus, the recent WPA amendment has the potential to significantly reduce illegal wildlife trade in India.

18. उन कारकों का विश्लेषण कीजिए जो शहरी क्षेत्रों में बाढ़ की घटनाओं एवं विनाशकारिता को बढ़ाने में योगदान देते हैं तथा उन उपायों का भी विश्लेषण कीजिए जो जोखिम को कम करने और आबादी की सहनशीलता बढ़ाने के लिए अपनाए जा सकते हैं। (250 शब्दों में उत्तर दीजिए) 15 अंक

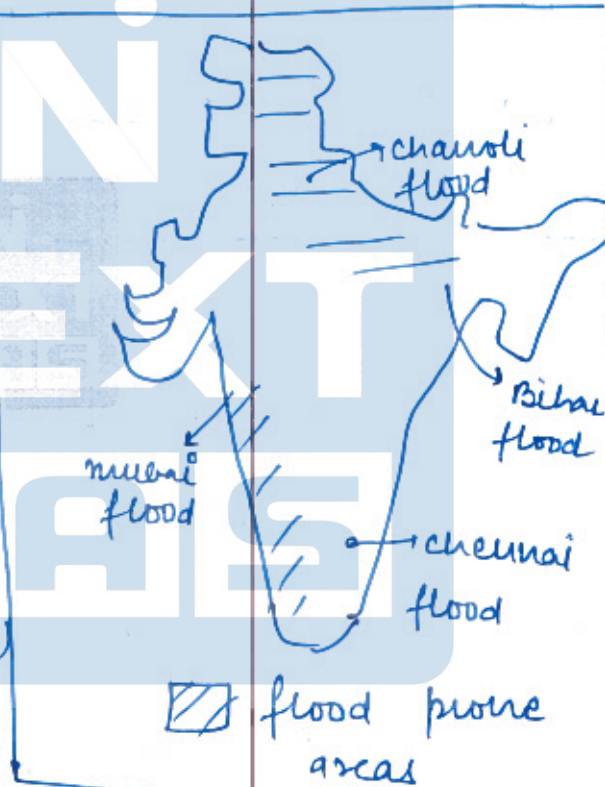
Analyse the factors that contribute to the increased incidence and severity of floods in urban areas and the measures that can be taken to reduce the risk and enhance the resilience of the population.

(Answer in 250 words) 15 Marks.

Urban floods have become a stark reality in India and lead to significant loss of men and material

Factors contributing to increased incidence and severity

- 1) Inappropriate storm water system
- 2) Unsustainable Tourism (Ex - himachal)
- 3) Climate change



- (Increase of cloudbursts and flash floods)
- 4) Concretization of urban areas - water unable to seep in.
- 5) Blocking of river mouth Ex - Meethi river in Mumbai
- 6) Wetland loss (60% in India) - acted as natural sponge

(7) lack of powers with municipal bodies to solve the problem

(8) Unplanned urbanization often blocks the sewage system.

Measures taken to reduce the risk

① Urban sewerage system improved under AMRUT mission, Smart city mission.

Global case study - Japan's underground storage

② Wetlands restoration through Amrit Sarovar Scheme

③ Integrated approach viz Atal Bujal Yojana, Srijan scheme.

④ Urban forests developed via Miyawaki method to enhance absorption

⑤ More finance to municipal bodies

⑥ PM Awas Yojana and in-situ Slum

rehab project to take them away from river mouth.

⑦ sustainable tourism promoted
through HRIDAY mission

Measures to enhance resilience of
population

- ① Disaster management Plans
- ② high grounds for displacements
- ③ Early warning system (PANI App)
- ④ Community development

Thus, to reduce urban flooding
we need to shift our concrete
deserts into sponge cities to

become in line with SDG 13, 14, 15.

19.

क्या आपको लगता है कि भारत में आसूचना विभाग तथा विधि प्रवर्तन एजेंसियों के पास संगठित अपराध और आतंकवाद के गठजोड़ से प्रभावी ढंग से निपटने के लिए आवश्यक संसाधन और क्षमताएँ हैं?

(250 शब्दों में उत्तर दीजिए) 15 अंक

Do you think that intelligence and law enforcement agencies in India have the necessary resources and capabilities to effectively tackle the link between organised crime and terrorism?

(Answer in 250 words) 15 Marks.

Rising cases of drug trafficking, human trafficking and cyber terrorism highlight significant lapses on intelligence agencies sides, raising questions on their capabilities.

Intelligence and law enforcement agencies

- ↳ RAW (Research and Analysis wing)
- ↳ CBI (Central Bureau of Intelligence)
- ↳ ED (Enforcement Directorate)
- ↳ Police

Laws present

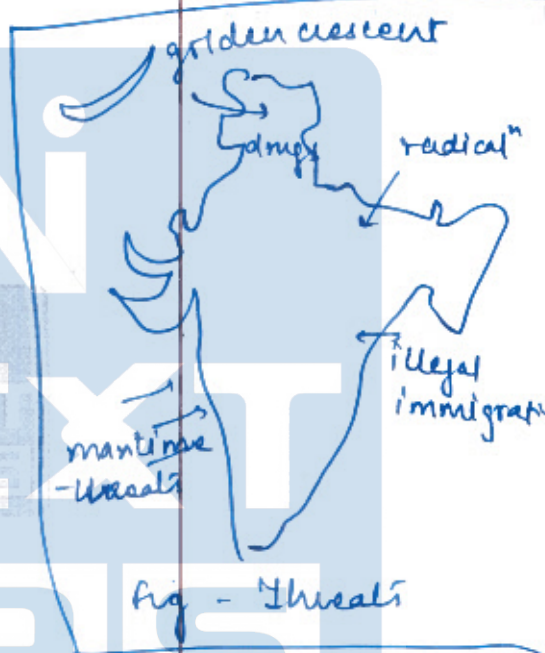
- ↳ COFEPOSA
- ↳ Prevention of Money Laundering Act
- ↳ TADA, POA
- ↳ FERA
- ↳ Illegal Activities Act etc.

Lack of resources / and capabilities
manifested by

(1) Drug trafficking rise in Punjab and J&K

(2) Cases of bombings on CRPF personnel and not acting as requisite intelligence

(3) Incompatibility between Police and Central forces
Ex- recently maritime brawl.



(4) Lack of modernization of agencies - forensics etc lacking

(5) Poor infrastructure and lack of defence indigenisation -

(6) Recce by terrorists done easily as KYC not done at places

(7) Bureaucratic hurdles

Solutions for these

- (1) Modernization of forces
- (2) Integrated theatre command
- (3) large chunk of funds to intelligence agencies
- (4) Ensure separate cadre for the same.
- (5) Single window clearance of funds required by them
- (6) Remove exceptions on which these agencies can't work

Thus, as highlighted by NSA Ajit Doval, these agencies are ears and eyes of the nation and must be effectively treated.

20. भारत को उभरती आंतरिक एवं बाह्य संचार से संबंधित सुरक्षा चुनौतियों से निपटने और साइबर पारिस्थितिकी तंत्र को अधिक सुरक्षित और संरक्षित बनाने के लिए सूचना प्रौद्योगिकी अधिनियम, 2000 को अद्यतन करने की आवश्यकता है। विवेचना कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

India needs to update its Information Technology Act, of 2000 to deal with emerging internal and external communication security and to make the cyber ecosystem more safe and secure. Discuss.

(Answer in 250 words) 15 Marks.

India ranks 13th in Global terrorism index in 2023 and terrorism has now crept into cyber systems requiring update of IT Act

Emerging internal and external communication security threats

- ① New forms of violence. Extremists using urban OG masked mobster via internet
- ② DoS attacks - deny service and extort money.
- ③ Phishing, identity theft have become the new norm.
- ④ Ransomware as a service becoming new modus operandi.
Ex- NPS system of America hacked.

⑤ Coming up of UPI apps have furthered risks of financial frauds

⑥ lack of awareness - OTP generated through mobile calls is new form of threat.

Updating IT Act to make cyber system safe and secure

(1) Fixing responsibility - on CERT-In to come into picture in case of fraud

(2) cyber security grievance redressal in case of a fraud

(3) Intelligence gathering in cyber attacks

(4) Ensuring safety of critical infrastructure is the need of the hour

(5) Put cyber security in concourse list to enhance cooperation

(6) Ensure latest software update on systems in India.

(7) Put fact check systems in place

(8) Good practices like Cyber Dome scheme to be emulated.

(9) Ensure cyber experts are roped in

(10) Ethical cyber hacking to view problems.

Thus, for India to secure its cyber security, there is need to look FORWARD - fast track cyber security, operationalize systems, win trust, award good practices, reduce disparity and Duping should be avoided. (Meena Hemachandra

Committee)

Space for Rough Work

