| TEST CODE | 8 | 1 | 2 | 5 | 5 | 2 | | MGP 2025 |

Time Allowed : Three Hours
समय : तीन घंटे

ForumIAS

Maximum Marks : 250
अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	DIVYA		
Roll No./अनुक्रमांक	4200442	Medium/माध्यम	English ✓ हिंदी ☐
Center Code/परीक्षा केंद्र	online	Date/दिनांक	8 August 2025

*Center Code : For Online - 1900 / Delhi : Karol bagh - 1901, ORN - 1902, Mukharji Nagar - 1903/ Patna : Boring Rd. - 2001 / Hyderabad : Jawahar Nagar - 2101

INDEX TABLE / अनुक्रमणिका

Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Total/कुल अंक	250	

Examiner's Discretion/मूल्यांकन कर्त्ता का विवेक :

Total Marks/कुल अंक :

*Examiner's Discretion is the marks awarded at the discretion of the examiner 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.
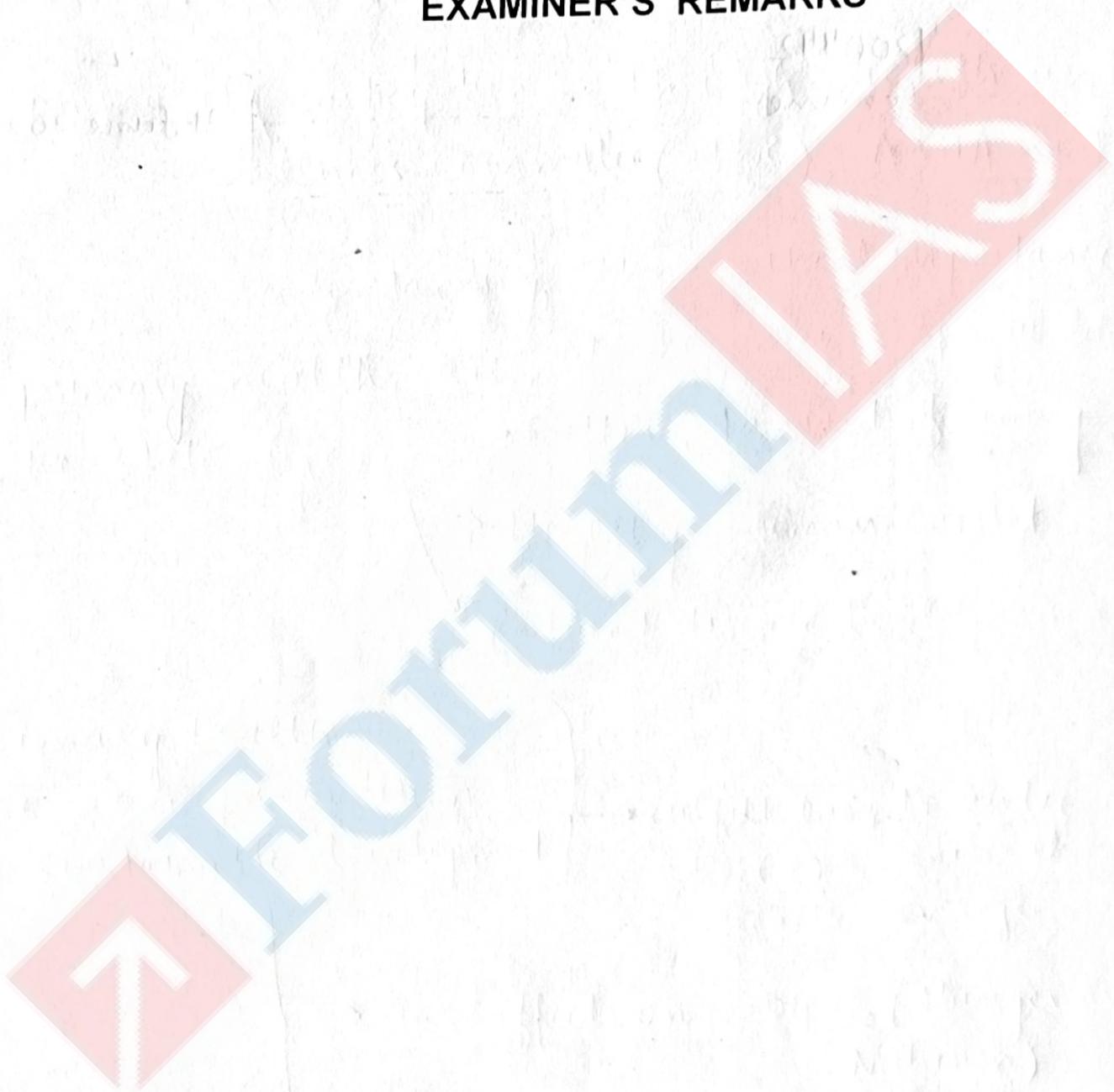
मूल्यांकन कर्त्ता का विवेक अंक आपकी लिखावट प्रस्तुति, आरेखो के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ो या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्त्ता को आपकी कॉपी में पसद आयी के आधार पर (लेकिन इन्ही तक सीमित नही) पर दिए गए अक है।

INSTRUCTION / अनुदेश

1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet.
कृपया उत्तर–पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर भरें।

2. There are **TWENTY** questions printed in ENGLISH & HINDI, all questions are compulsory.
उत्तर पुस्तिका में अंग्रेजी / हिंदी में बीस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।

3. The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न / भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।

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.
उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।

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.
प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न–सह–उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।

For Student Only / केवल परीक्षार्थी प्रयोग हेतु

Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :
4:50 am	7:50 am

Mode Of Examination/ परीक्षा की विधि : online	Online/ऑनलाइन ✓
	Offline/ऑफलाइन ☐

For Office Use Only / केवल कार्यालय प्रयोग हेतु

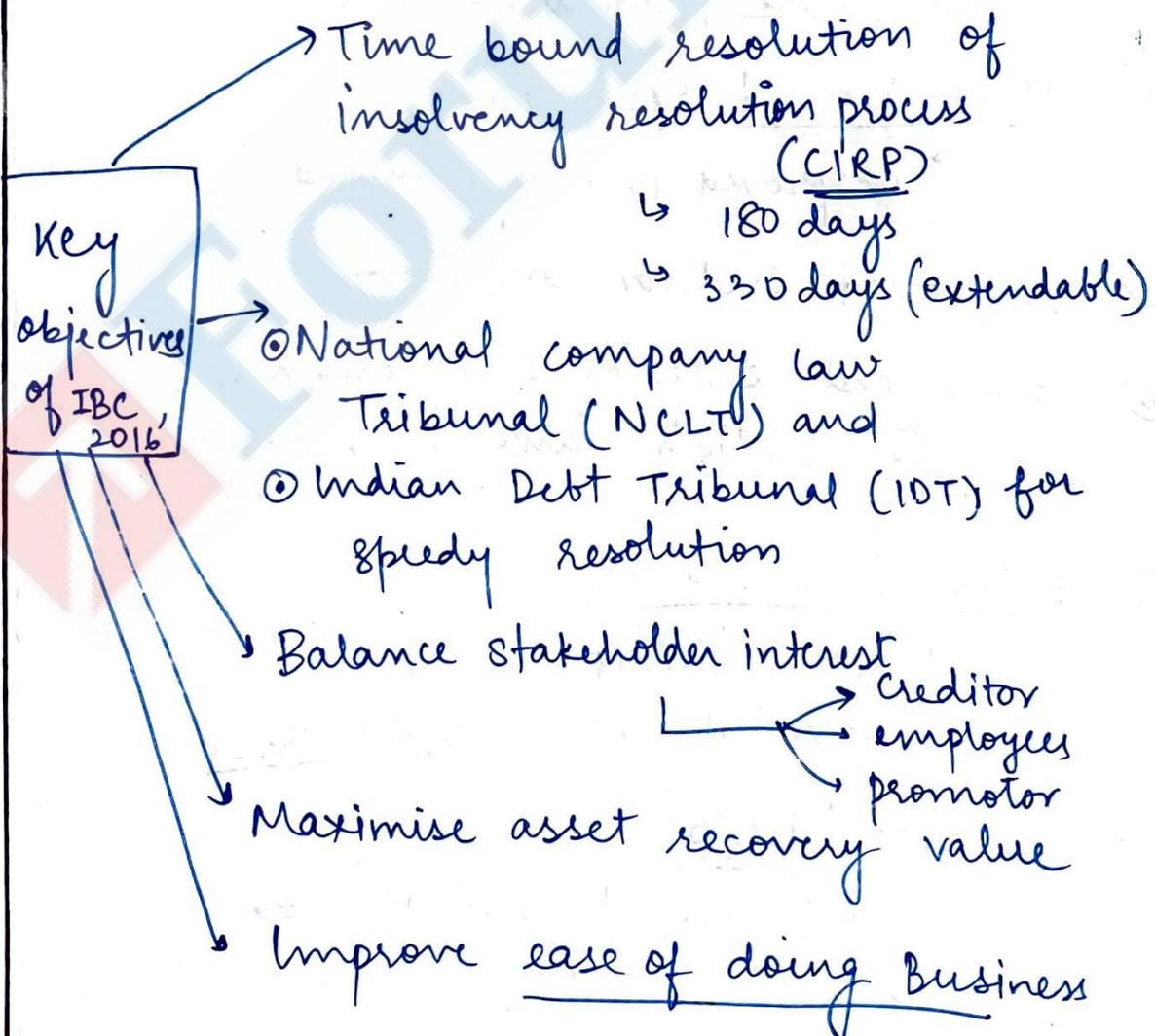| ECN CODE/ ईसीएन कोड :	EG/ईजी : ① ② ③ ④ ⑤	Evaluation Date/ मूल्यांकन तिथि :

Note: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussi̇ȯṅ the tests are also available online in your portal to aid in your preparation. Further, students are requested to ̇ṡ copies of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways aṅ improve your answers, or if you have any issues with this test / copy. Ask specific questions, to get specific ansẇė

EXAMINER'S REMARKS

CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

̇ẹstion or not. Addressing the core demạ

U.P.S.C.

(11)

Insolvency and Bankruptcy Code, 2016 (_IBC, 2016_) replaced the SARFAESI Act to streamline the insolvency laws and strengthen credit culture.

Key objectives of IBC 2016'

→ Time bound resolution of insolvency resolution process (CIRP)
  ↳ 180 days
  ↳ 330 days (extendable)

⊙ National company law Tribunal (NCLT) and
⊙ Indian Debt Tribunal (IDT) for speedy resolution

↳ Balance stakeholder interest
  → Creditor
  → employees
  → promotor

↳ Maximise asset recovery value

↳ Improve ease of doing Business

U.P.S.C.

Achievement of IBC, 2016

① Consolidated insolvency laws

→ replaced fragmented laws — SARFAESI Act

Company Act provisions

② Improved recovery rate
eg (by 31%)

③ Recovery across different sectors

eg Steel, micro and small companies

④ Time bound resolution

→ improved to a large extend.

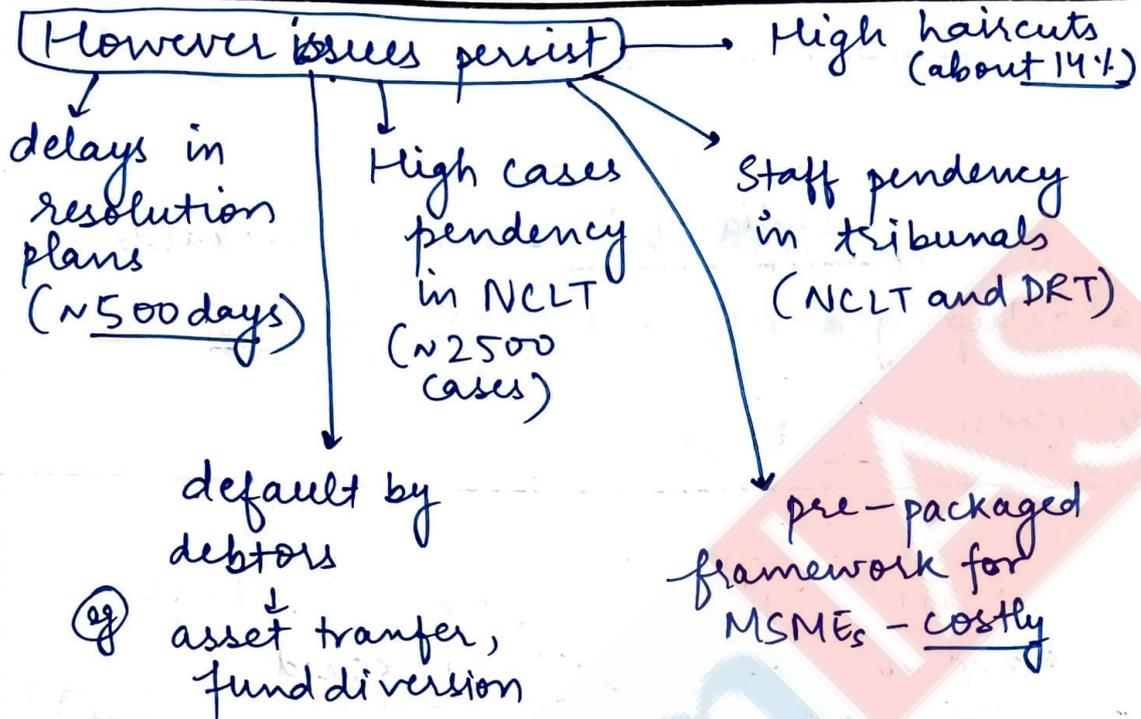⑤ Improved creditor confidence

⑥ Enhanced ease of doing business

eg India's ranking in B-index (improved)

⑦ Behavioural change

→ better credit culture
→ lowered bank-credit spread

⑧ Changed 'debtor' behaviour

→ improved resolution. ∞

U.P.S.C.

(However issues persist) → High haircuts (about 14%)

delays in
resolution
plans
(~500 days)

High cases
pendency
in NCLT
(~2500
cases)

Staff pendency
in tribunals
(NCLT and DRT)

default by
debtors
⇊
eg asset tranfer,
fund diversion
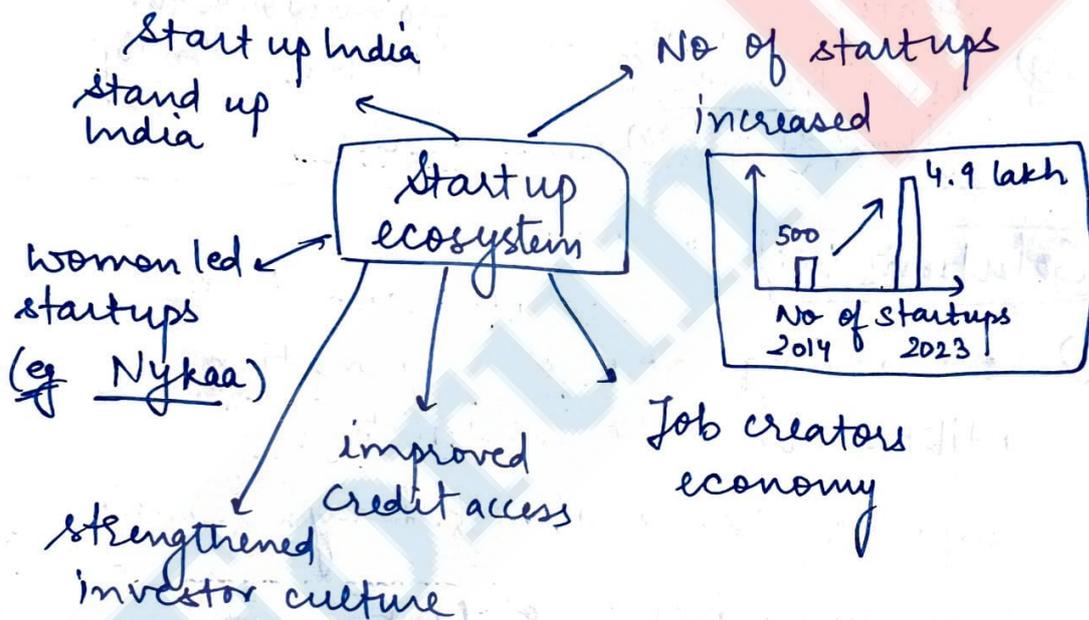
pre-packaged
framework for
MSMEs - costly

Solutions :-

① enhancing role of information
utilities in debt verification

② improve tribunal efficiency

③ Capacity building of NCLT

④ Better case admission process

⑤ Robust pre-packaged insolvency
for MSME.

IBC, 2016 did improve
credit responsibilities lowering NPAs but
refined frameworks will further its
capacity towards [credit hygine].

(12)

India witnessed remarkable startup growth with almost 100 unicorns (≥ 1 billion USD)

Startup ecosystem

- Start up India stand up India
- women led startups (eg Nykaa)
- strengthened investor culture
- improved credit access
- Job creators economy
- No of startups increased

No of startups 2014 → 2023 (500 → 4.9 lakh)

Startup ecosystem — lagging across sectors

① The startup was largely witnessed in technology sector with ≥ 50% focused on Artificial Intelligence

U.P.S.C.

② <u>Manufacturing startups</u>
   ↳ less growth.

③ <u>Service sector job creation</u>
   ↳ swallowed by IT boom

④ <u>laggard diversity</u>
   ↳ semiconductors   − yet to
      electrolysers   flourish

┌─────────────────────────────┐
│ <u>Reasons for inadequate focus</u> │
└─────────────────────────────┘

① <u>Input cost</u> → high
   ⓔⓧ deep - tech start ups like
   semiconductor → investment
                     intensive
                   → import dependency
                   (from China, Taiwan)

② <u>Skilled labour</u>
   ↳ require manpower training
   for newer emerging fields

③ <u>Research and development</u> - lagging
   ↳ India = only 0.69% of GDP invested
   (china ~3% of GDP)

U.P.S.C.

④ <u>Global competition</u>
→ from ⟨ china
Taiwan
USA

⑤ <u>Market value chains</u> — uncertain
→ due to ⟨ Trade tarrifs
protectionism

(<u>Strategies to bridge the gap</u>)

① <u>Legal and institutional support</u>
→ National semiconductor Mission
→ Small- Modulator reactors push
→ Green Hydrogen Mission

② <u>B HASKAR platform</u>
↳ streamline start up process

③ <u>Credit Guarantee scheme</u>
→ to promote deep tech.

④ <u>Skilling labour force</u>
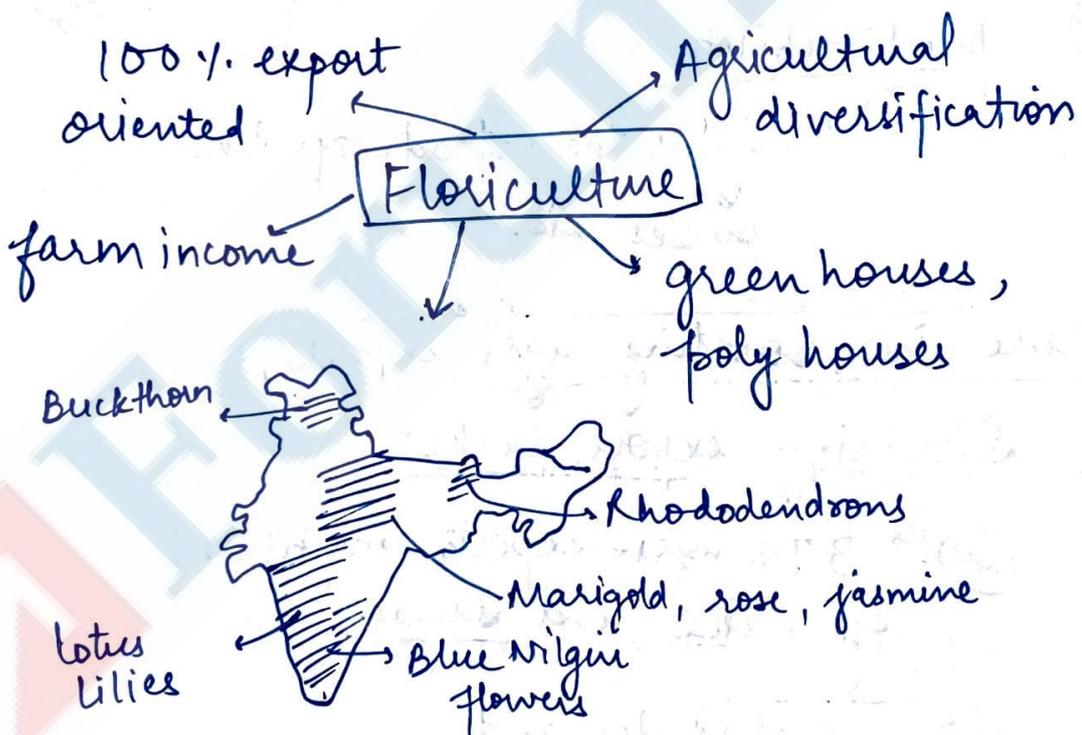⟨ industry - academia tie ups
Intership programs

⑤ <u>Startup Mahakumbh</u>
↳ bridge stakeholders

The aim of $7 trillion
economy by 2030 goes through a
deep tech, diverse startup base.

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

(13)

Floriculture refers to cultivation and production of [flowers]. It is a [sunrise industry] with huge export potential.

100% export oriented

farm income

Agricultural diversification

[Floriculture]

green houses, poly houses

Buckthorn,

Rhododendrons

Marigold, rose, jasmine

Lotus
Lilies

Blue Nilgiri flowers

[Floriculture - enhancing farm income]

① High yields per unit area

↳ benefits small - marginal farmers (~89%)

Question No.
प्रश्न संख्या

U.P.S.C.

② <u>Export growth</u>
↳ agriculture only <u>11-18%</u> of India's <u>total good exports</u>

↓ help increase

③ <u>Multiple options for revenue</u>
↳ → cut flowers
→ pot plants
→ dried flowers
→ in food industry (ex→rose essence)
• Gulkand <u>etc.</u>

④ <u>profitability</u>
↳ higher than food crops like pulses etc.

⌈<u>Role in boosting agri exports</u>⌉

① <u>Diversify export basket</u>
㊞ ↳ <u>37%</u> agri-exports constituted by <u>rice</u> and <u>sugar</u>

② <u>High global demand</u>
↳ in <u>UK</u>, <u>Netherland</u>, <u>UAE</u>, <u>Japan</u>, <u>Germany</u>

③ <u>High returns per unit area</u>

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

However floriculture faced <u>some issues</u> :-

① Fragmented landholdings
　　↳ less scope for diversification

② pressure from <u>pest/diseases</u>
　　　ex locust Attack.

③ <u>Heatwaves</u> - damage flowers

④ High <u>perishability</u>
　　ex (Quality drops after <u>48-72hrs</u>)

⑤ <u>Cold chain infrastructure</u>
　　↳ Not robust

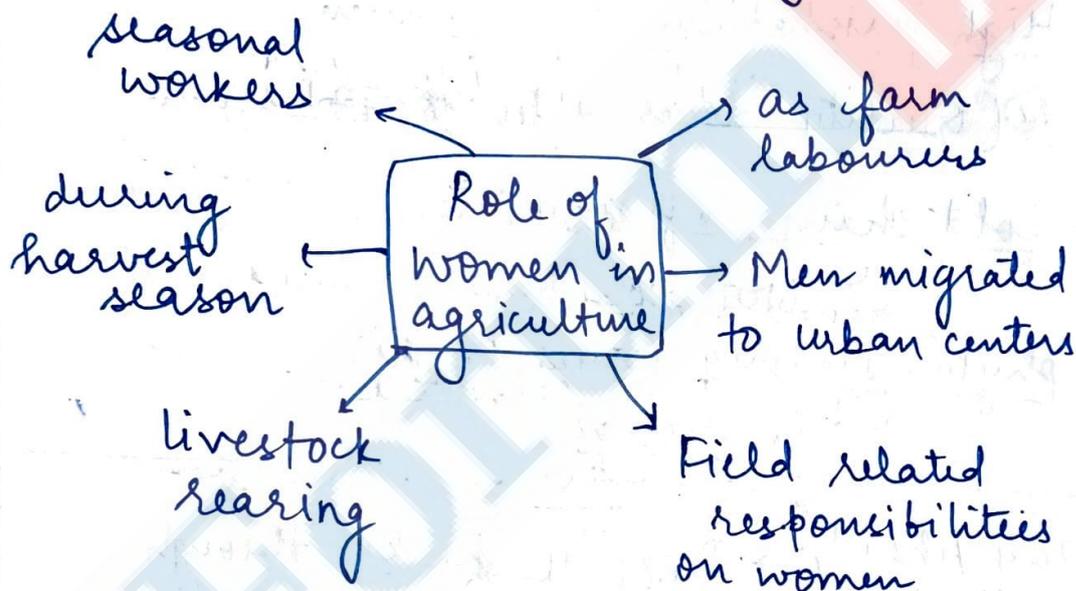⑥ <u>phyto</u> - sanitary issues (WTO)
　　↳ in <u>europe</u>

Way Ahead → Quality checks through
　　　　　　　Clean plant program
　　　　　　↳ Flori - tech parks
　　　　　extend aeroponics & hydroponics
　　　　　Cluster specific GI tags
　　　　　(ex Nilgiri Rose)
Cold chain infrastructure investments

The Agricultural Diversification

Fund should be explored to boost farm income.

U.P.S.C.

(14)

About 47% of agricultural workforce is women. This number is significant since out migration of men and "Feminisation of agriculture."

seasonal workers

during harvest season

livestock rearing

Role of women in agriculture

→ as farm labourers

→ Men migrated to urban centers

Field related responsibilities on women

Systemic exclusion of women

① land ownership —
↳ women own only 13% of agricultural land
↳ legal rights under mined under patriarchial norms

↳ often listed as "_helpers_" rather
than farmers

② <u>Access to credit</u>

↳ Institutional credit opportunities
lagging

↙ because banks
require <u>land</u>
as collateral

→ prejudices against
women
(financial
dependency)

↳ insurance benefits, subsidy
benefits opportunities — missed

↳ exclusion from <u>credit</u> leads
to → <u>informal credit growth</u>
↘ <u>debt traps</u>
↘ <u>agri-distress</u>

③ <u>Agri-extension services</u>

↳ only 15% women farmers exposed
to agri-extension services

↳ Male dominations

↳ Training schedules & times
restrict women
(Double burden ⎰ domestic
duties
⎱ on field

U.P.S.C.

Initiatives in this regard

1. Equal inheritance rights under Hindu Succession Act.

2. ~~Ex~~ Mahila Kisan Sashaktikaran program — women collectives

3. Access to credit for women
   - PM- Jan Dhan Yojana
   - SHG- Bank linkage — micro-credit access.
   - Kisan Credit Cards
   - benefits from PM-KISAN

4. Women in Agri-extension
   - promoted through Kisan Vigyan Kendras (KVK)
   - ICAR's women agri-preneurs
   - linking SHGs with research institutions.

5. Start up India initiative
   - promote women led start-ups

Changing nature of agriculture with increased role of women must be
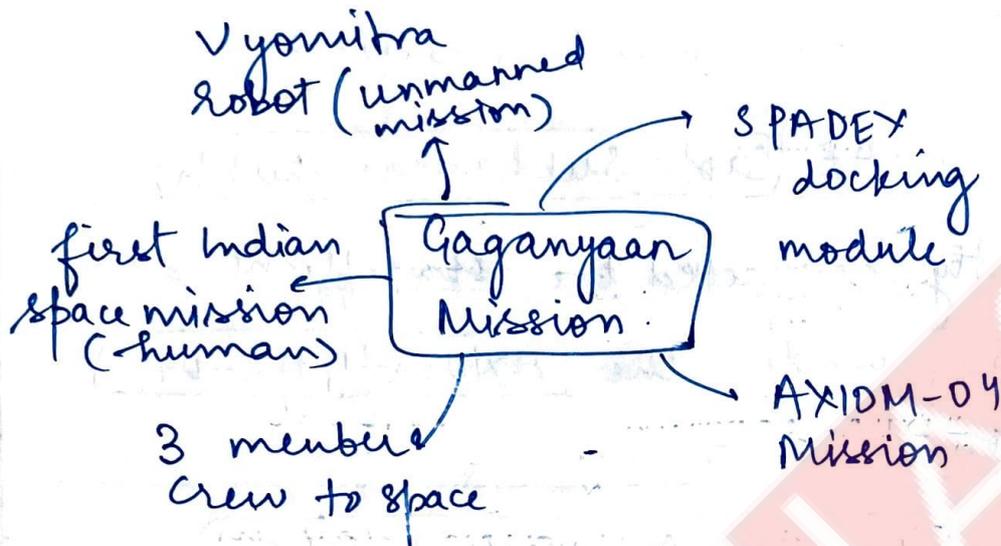
U.P.S.C.

⑮

IAF (Capt. Subhankar Shukla)

recently completed the spaceflight
in |ISS| under the |Axiom-4 (Ax-04)|
mission.

|Key features of Axiom-4 Mission|

① ISRO - NASA - ESA collaboration
mission

② to test space flight capabilities
of ISRO

③ Use of SPADeX crew dragon
spacecraft.

④ Strength global space collaborations

⑤ one of the important component
under Gaganyaan Mission
(manned mission to
space)

U.P.S.C.

Vyomitra
Robot (unmanned mission)

first Indian space mission (human)

Gaganyaan Mission

SPADEX docking module

AXIOM-04 Mission

3 members crew to space

(AXIOM-4 role in Gaganyaan Mission —

① Real spaceflight experience beyo before Gaganyaan

② Conduct scientific research

③ Technological experiments in ISS

④ Demonstrate skill and operational readyness

⑤ Strengthen Indian global prestige

⑥ promote indigeneous technology in global space diplomay

U.P.S.C.

Significance in India's long term space ambition

→ "Micro gravity" researches

→ Space economy multiplier

→ Strengthened Indian role in "space diplomacy"

→ Inspires STEM talent

→ Promotes Indian image as 'space exporter'

→ engage in space outreach programs

Indian space sector is text book example of Indian capabilities and exemplies its image as Vishva - guru.

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.
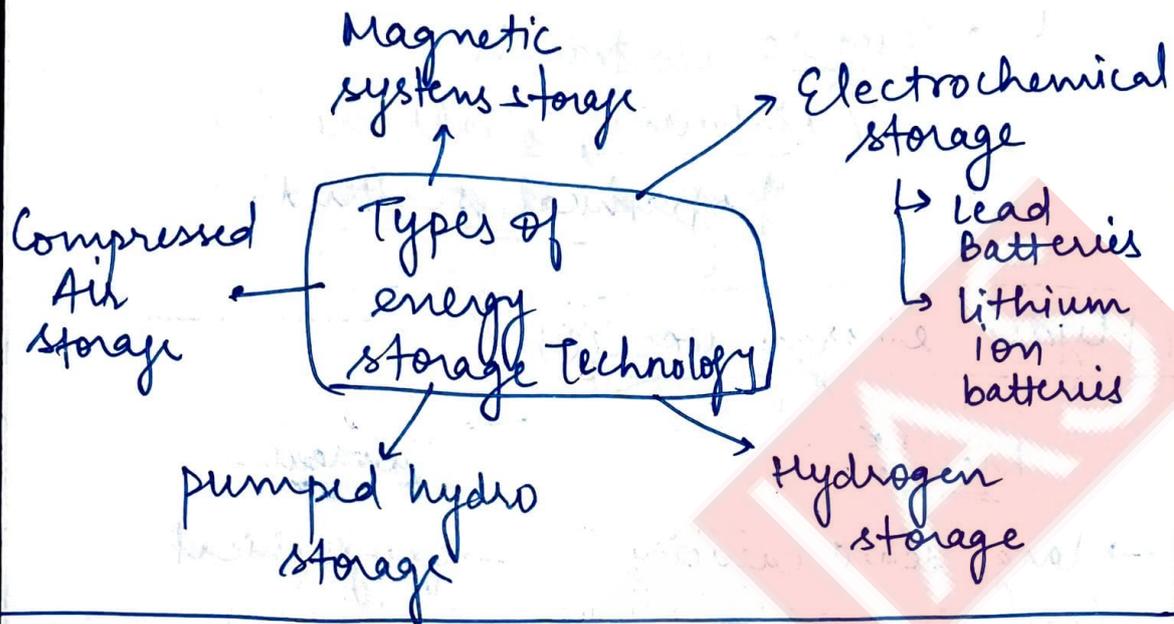
for practice
use only
सिर्फ अभ्यास
के लिए

(16)

IPCC projects that nearly 42% reduction in GHG emission can help contain the 1.5°C target under (paris agreement).

[Importance of energy storage technology]

① Helps in supply chain efficiency in renewables.

② Improves grid continuity

③ Energy storage relevance increased in decarbonisation efforts
   eg (Net zero by 2070)

④ Integration of renewable energy to grid — requires storage systems

   eg [solar energy → not continuous
        → huge production in peak hours
        → thus needs storage

U.P.S.C.

Magnetic systems storage → Electrochemical storage
↳ Lead Batteries
↳ Lithium ion batteries

Compressed Air storage ← **Types of energy storage Technology**

pumped hydro storage

Hydrogen storage

Lithium ion Batteries

Merits
↳ high energy density
(Stores large amount in small volume)
↳ high efficiency — 80-90% as compared to lead battery
↳ fast response towards grid connection.

Demerits
↳ High induction cost
↳ Degrades over time
(e-waste generation)

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

↳ <u>Resource Contraints</u>
(Lithium, Cobalt mining
geographical scattered)

(Hydro energy storage)

<u>Merits</u>   <u>Demerits</u>

→ large scale capacity   → geographical
(can store more gigwatts)   limitations
→ long lifespan   (requires elevation)
→ less operational   → high input cost
     costs
→ ubiquitous availability   → ecological effect on
               marine ecosystem

(Green hydrogen storage)

<u>Merits</u>   <u>Demerts</u>

→ long duration   → high costs in
   storage   infrastructu
→ Non polluting   → import dependency
→ Versatile-used in   for electrolysers
generation, transport   (China)
& storage

The (Green hydrogen Mission)
of India takes India closer to its
(Panchamrita) target of (net-zero by 2070)

U.P.S.C.

(17)

The COVID-19 pandemic and Outburst of [SARS COV] virus from [bat] from Wuhan destabilised the global health architecture.

[Global pandemic Agreement (2025)]

[Key features]

→ initiated by WHO

→ countries like India, France, Mexico, Germany onboard.

→ focus on global health collectiveness

→ sets targets for institutional improvement in health architecture.

→ diversified funding mechanism

→ focus on non-communicable diseases (eg Diabetes, Cancer)

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

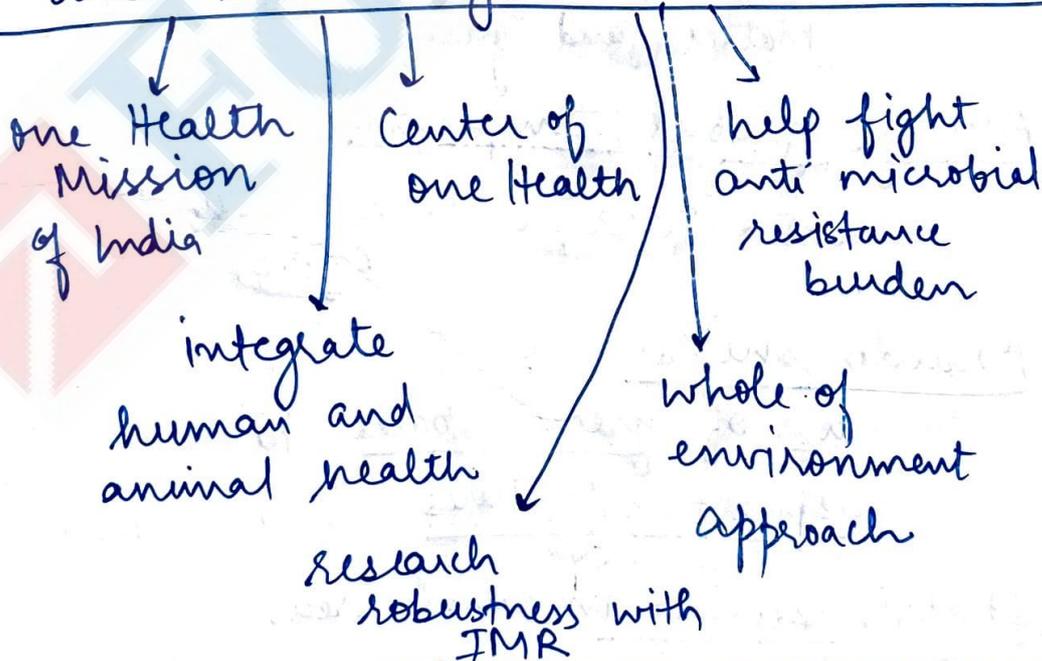**U.P.S.C.**

for practice
use only
सिर्फ अभ्यास
के लिए

→ consensus on expanding the "One health Approach"

→ Take measures for preventive healthcare

→ rationalise efforts towards disease preparedness and collective global response.

One Health Approach :-

① Streamlining human and animal health.

② Helps prevent zoonotic disease
  eg Bat → COVID virus
  Rats → plague
  Avian → influenza

③ One Health approach — helps research on animals in responsible manner for :-
  ↳ studying disease interconnecteness
  ↳ prepares for any COVID like outburst

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

④ Helps study <u>viruses</u> better for robust recovery.

⑤ Creates <u>effective and speedy vaccine</u> production
   ⊗ COVID shield, COVAXIN produced with 12-15 months of epidemic

⑥ Link animal and human health <u>research</u> infrastructure

⑦ Streamline <u>response</u> towards any possible future outbreak.

<u>Steps</u> to integrate in India's environmet and health governance :-

one Health Mission of India
integrate human and animal health
research robustness with IMR

Center of one Health

help fight anti microbial resistance burden
whole of environment approach

In order to fulfill │SDG-3│

│One health approach│ is step in right direction.

U.P.S.C.

The recent heatwave witnessed in Delhi NCR in July 2025 rings an alarm bell toward the intensity of Urban Heat Islands.

| Reasons of Heat waves in urban centers |

① Rising GHG emissions
  ↳ vehicular emissions
     (NO_x, bad ozone, SO_2, CO_2)
  ↳ industrial release of particulate matter and gases

② Average global temperature rise
  ↳ 0.5-1°C rise since 1750s
              (IPCC)

③ Albedo shifts
  ↳ loss of green spaces to asphalt structures

④ Stubble burning in rural areas

⑤ Cooling systems
  ↳ release of hydro...

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

⑥ Urban geography

of Bowl effect in Delhi

Effects of Heatwaves

① On human health
→ dehydration
→ heat stroke
→ Death

② peri-urban spaces impacted
↳ agriculture yield declines

③ on animals
↳ stray dogs, cows sunburned, dehydrated.

④ loss of efficiency and cognitive power
↳ due to excessive heat.

⑤ further use of cooling systems
↓
more release of hydrocarbons
↓
more heat   (positive feedback loop generated.
↓
further heat island developed.

U.P.S.C.

[Policies and framework adopted]

① Colour coded IMD forecasts
   ② Orange for caution
      Red for High alert.

② Heat Action plan.

③ Real time temperature modelling
      ↳ using AI, IoT

④ Robust health infrastructure
      → Hospitals on alert
         (ORS, IV drips)

⑤ Heat Resistant Infrastructure
      ② Green Building code

⑥ Land use planning
      ↳ include → green spaces
         ↘ Verticle gardens
            Road side tree plantations

⑦ G Sheds, water - spaces for
   stray animals

2023 was fore casted hottest
year on record and consistent heat
waves since have created havoc. long
term focus on [NDC targets] and [Panchamrita]

398954_813415_1910188064_(2025_08-12_06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

(19)

The June 2025 in_famous_ incident in [Pahalgam] triggered national and international mediation against terrorism.

organised Crime

Money laundering

Terrorism

Insensitive plunder of human life

Radical ideology

extorsion
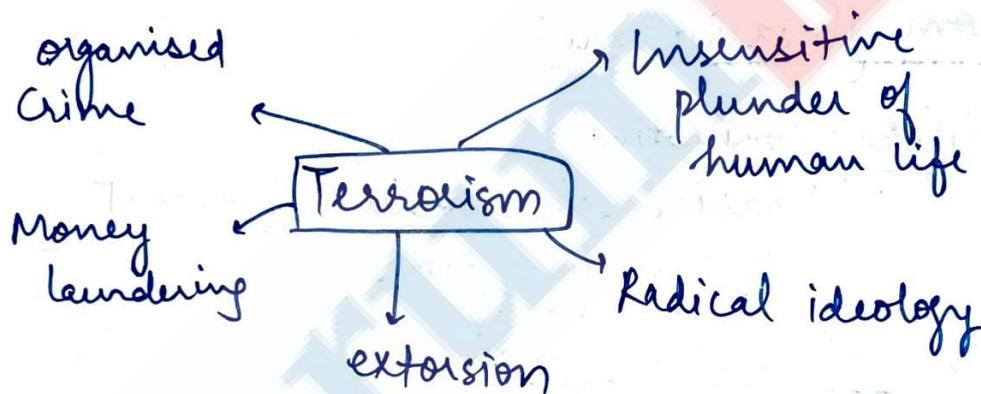
[Terror financing]
[From emerging technolgies]

① Use of cryto currencies
  ⓐ Monero used by ISIS

② Hawala transactions
  ↳ white and Black hawala networks used.

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

for practice
use only
सिर्फ अभ्यास
के लिए

U.P.S.C.

③ Use of <u>deep web marketplaces</u>

  ⓔⓧ → for arms deal

④ Online <u>cross border payments</u>

  ⓔⓧ <u>use of blockchains</u> by <u>LeT</u>

⑤ <u>Digital wallets</u>, <u>prepaid cards</u> used

  for <u>unscrutinised</u> transactions.

From globalisations

① <u>Global connectivity</u>

  ↳ easier cross border movement
     of money & arms

② Use of <u>social media</u>

  ⓔⓧ Telegram used by ISIS

③ <u>Illicit trade routes</u>

  ⓔⓧ Taliban uses opium trade
      for funding terror.

④ <u>Propaganda spreading</u> – globally

  ↳ helps in global crowdfunding

  ⓔⓧ using <u>Zakat</u> donations through
      crypto by ISIS.

⑤ Illegal <u>money laundering</u> through
   <u>NGOs</u>, shell <u>companies</u>.

U.P.S.C.

Measures to tackle terror funding

National → International

National

① Stringent KYC norms

② UAPA act to criminalise terror funding

③ Financial intelligence Unit – India to monitor suspicious transaction

④ Breakdown the drug – terror nexus (eg Death Triangle) Crackdown

⑤ NGOs donation regulation (FCRA, 1986)

⑥ Technological surveillance (AI, IoT used)

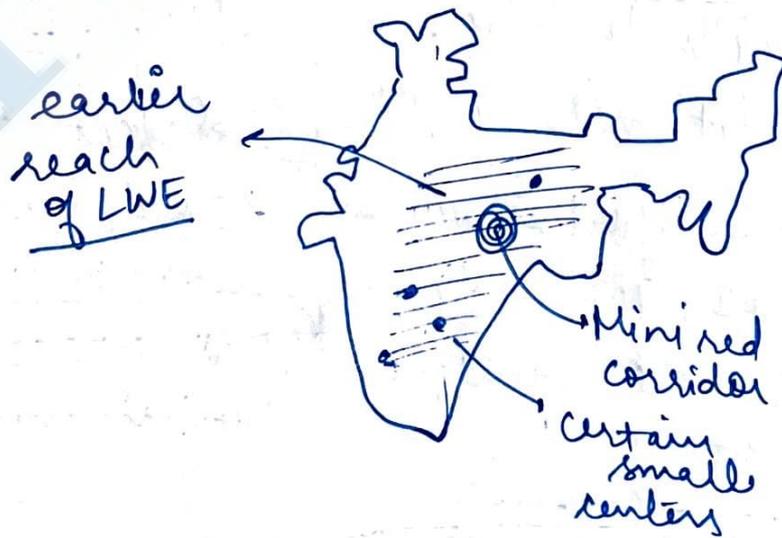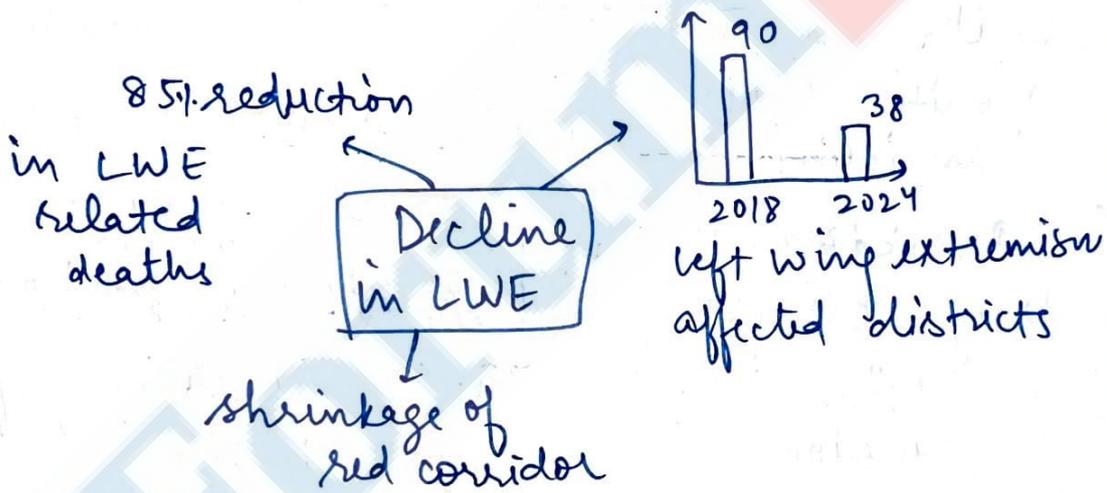⑦ Handle counter-feiting (eg in Kashmir)

International

① Financial Action Task force efforts (Black listing)

② UN council resolution(ex 1267 resolution)

③ Interpol's role in tracing sources of transactions

④ Global sharing of intelligence (eg SCO-RATS)

⑤ Detect trade based money laundering

⑥ Scrutinise tax heaven countries (lax laws)

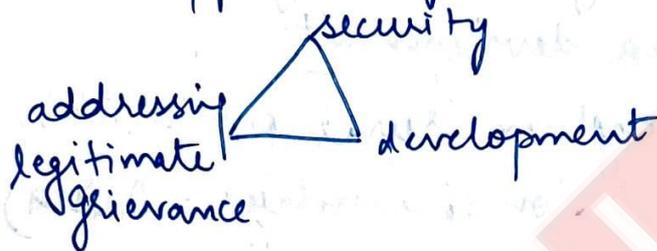Terror is a threat to global peace and thus requires global collective action as emphasised by Kofi Annan

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न सख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

(20)

There was __81%__ reduction in __left wing extremism__ related __violence__ hinting towards celebratory __success__ of National __policy__ and __Action plan, 2015__
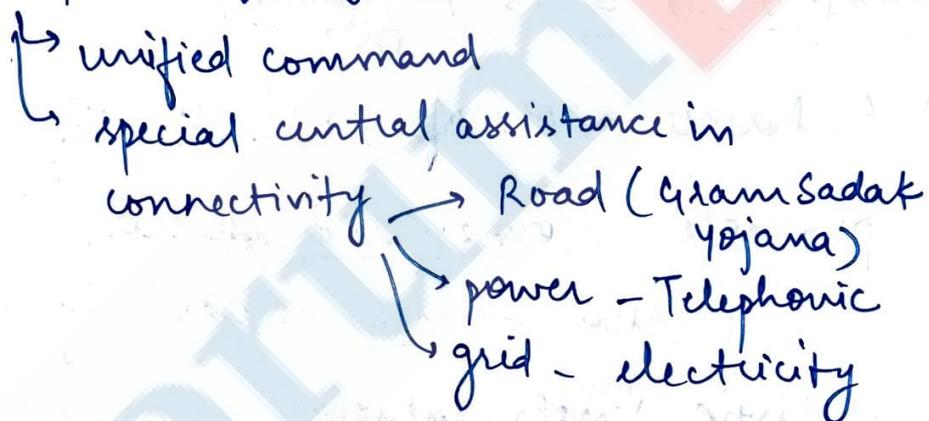
8 5% reduction in LWE related deaths

Decline in LWE

90 → 38
2018   2024
left wing extremism affected districts

shrinkage of red corridor

earlier reach of LWE

Mini red corridor
Certain small centers

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

Key components of National policy
and Action plan, 2015 :-

① Broader approach of ensuring security

addressing legitimate grievance — development

② Development of physical infrastructure

↳ unified command
↳ special central assistance in connectivity → Road (Gram Sadak Yojana)
→ power - Telephonic
→ grid - electricity

③ Special forces used
    (ex) Operation Anaconda (Jharkhand)

④ SAMADHAN Approach
    ↳ comprising of — Smart leadership
                        Motivation
                        Dashboard based KPIs
                        Intelligence (etc)

⑤ use of social measures
    ↳ PVTG development Mission
    ↳ Eklavya Model School
    ↳ Tribal Youth exchanges
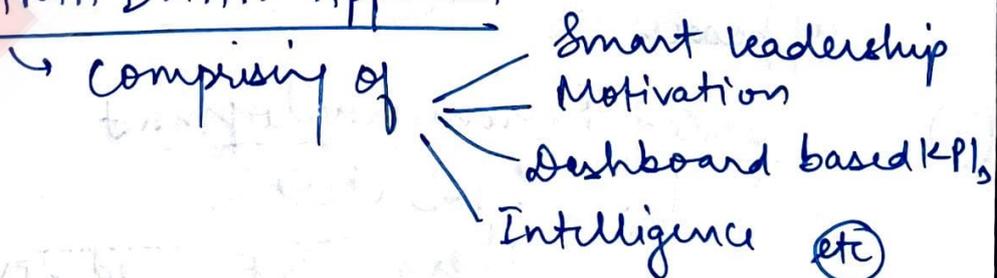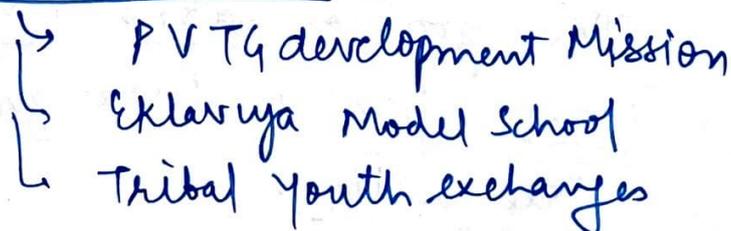
U.P.S.C.

⑥ Rehabilitation of militants
   (4 Surrender cum Rehabilitation
        policy in Chhatisgarh)

⑦ Gram sabha development
   ↳ strengthen rural participation
   (ex Mission Gramodaya - Odissa)

(Additional Steps Suggested)-

① Enhance role of civil society

② promote women led security
   (tribal women in advisory council)

③ Holistic implementation of forest
   right Act (2006) and PESA.

④ Strengthen win hearts and Minds
   approach.

⑤ Balanced Regional development
   ↳ ⟨ job creation
       infrastructure led growth

The goal of (Sabka Sath)
(Sabka Vikas) passes through a
(moist free India).

Question No.
प्रश्न सख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

⑩

Only <u>4%</u> of India's critical architecture is "<u>future-ready</u>" against cyber attack.

[Cyber space as distinct domain of warfare]

① Rise of <u>new forms</u> of <u>war tactics</u>
(beyond physical armed war)

② Technology boom
↳ uncivilized use. ㉔ use by ISIS

③ integration of cyber warfare in conventional war <u>fighting</u>.
㉔ claims of Russia intruding USA cyber spaces

④ [Threatens national security]
↳ increased frequency of attacks
(<u>ex</u> DDoS attacks on Mumbai (2025)

↳ target <u>critical infrastructure</u>
<u>ex</u> • 2022 — AIIMS attack
• Cyber threats on Kudankulam

U.P.S.C.

→ face less, border less kind of warfare

→ high returns on input cost
(∴ exposes critical vulnerability)

[Counter-measures]

① Legal Measures
→ National Cyber Security policy, 2013
→ IT Act, 2000
National Cyber Security ~~policy~~ Strategy, 2020

② Institutional mechanism
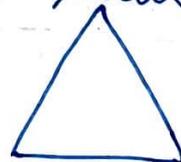→ National Cyber Security Coordination
→ Cert-In
→ Cyber Swachhta Kendra
(m-kavach)

③ Kerala cyber Security Center

④ Cyber dome project

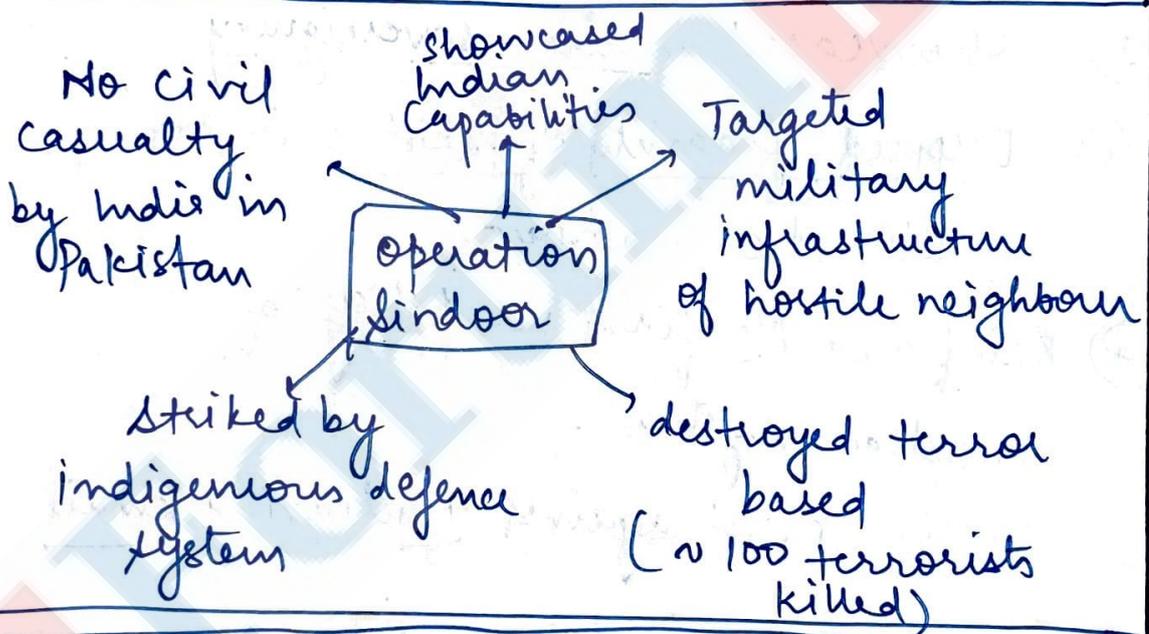⑤ Cyber Warrior police force.

Cyber security must be tackled by 3 S approach of secure

Question No.
प्रश्न संख्या

(9)

The Pahalgam attack and its indecent nature was retaliated by utmost decency by India in form of [Operation Sindoor].

No civil casualty by India in Pakistan

showcased Indian Capabilities

Targeted military infrastructure of hostile neighbour

[Operation Sindoor]

Striked by indigenious defence system

destroyed terror based (~ 100 terrorists killed)

[Operation Sindoor signalling evolution]

① Strategic restraint to response.
   ↳ India followed aggressive diplomacy.

② Acted as a vocal, loud response against state sponsored terrorism

Question No.
प्रश्न संख्या

U.P.S.C.

③ The Indus Water Treaty — temporarily suspended

(first time since 1960)

④ India raised a strong global voice
↳ got international support
(from EU, USA, Russia, Australia)

⑤ Showcased Indian sovereignity

⑥ Exposed fragility of Pakistan in a systematic manner.

⑦ Reinforced No first use policy of nuclear systems.

⑧ India voiced against Nuclear Blackmail

⑨ India asserted future retailation in case of future daring of Pakistan

operation Sindoor was much more than defense and attack. It was a strong India voice telling the rogue state that " blood and water will not flow together".

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

⑧

In rising cases of disasters and extreme weather events required newer approach for disaster management

Key provisions for Disaster Management Act 2025 :-

① planning by state and national disaster response force (NDRF
SDRF)

② Bottom up approach of planning, execution and response of disaster

③ Creation of Urban Disaster Management fund (UDMF)
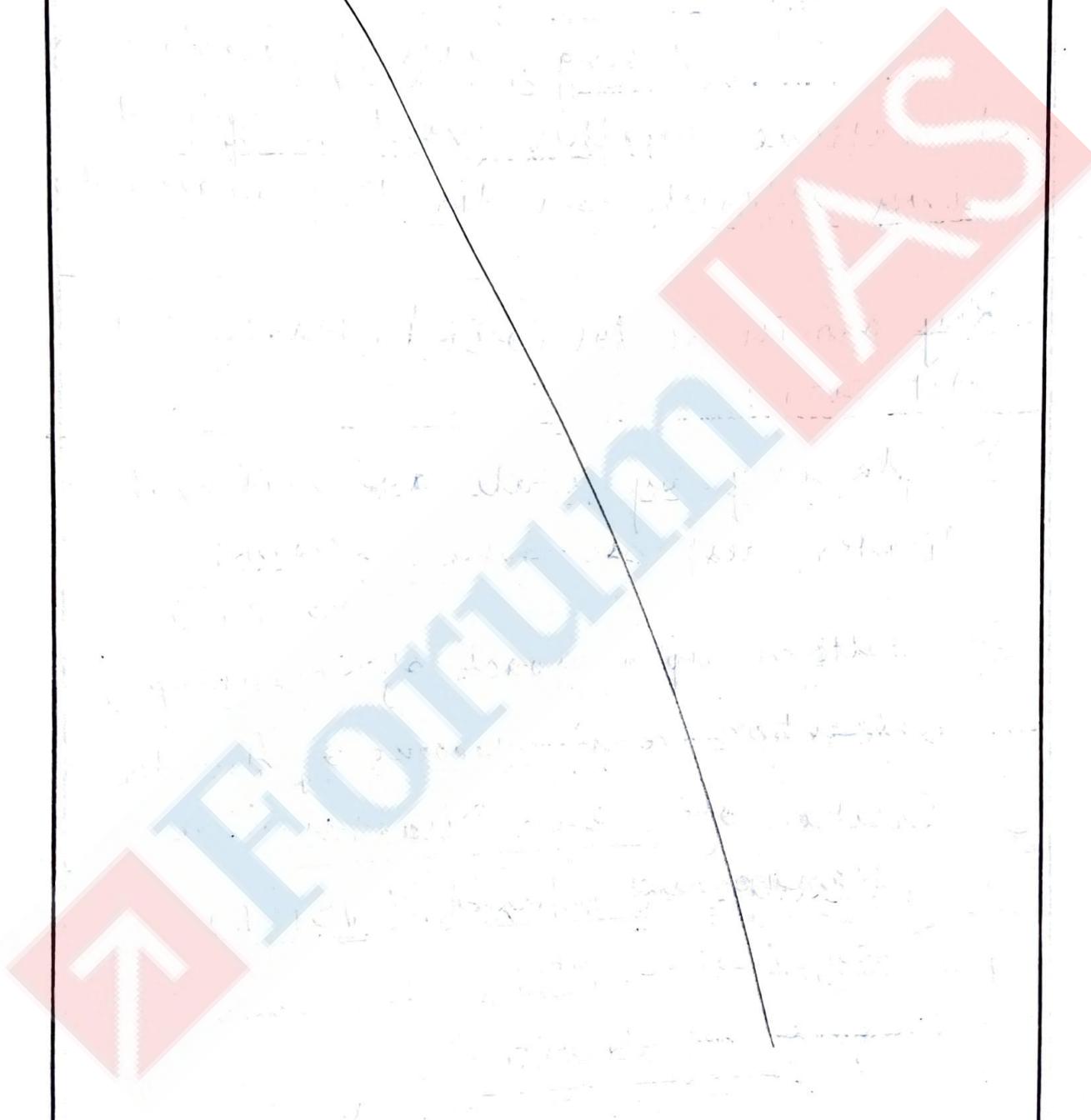
④ Focus on urban and newer forms of disasters.

Question No.
प्रश्न संख्या

①

The periodic labour force survey (PLFS) was changed in accordance to adjustment to **labour market changes**.
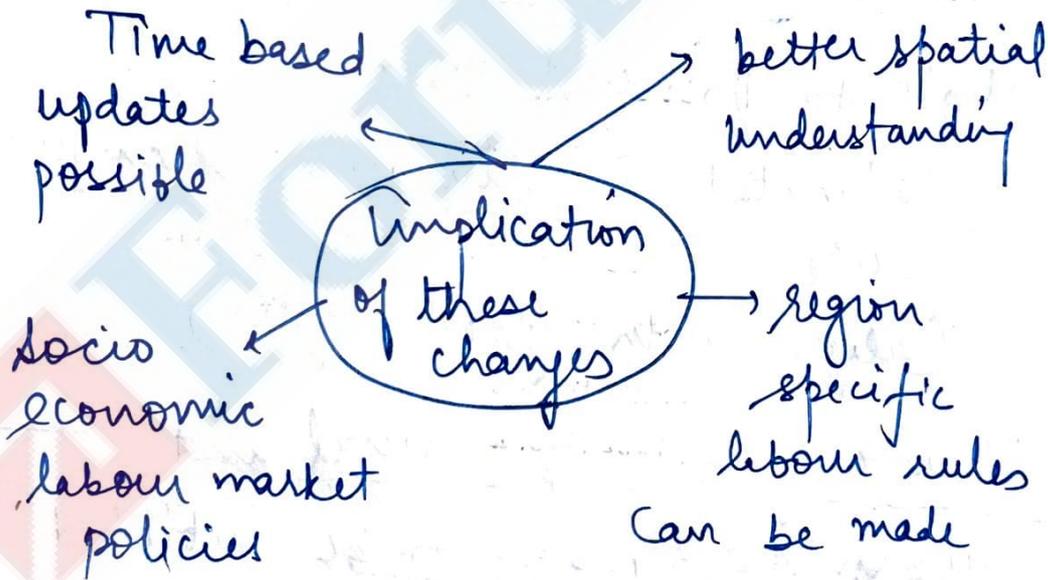
Changes made to PLFS

① Adjustment in **calender year**
   ↳ Data to be represented & estimated in **January to December** cycle
   (align with global system)

② Quaterly data for **rural and urban areas** both to be published

③ Availability of monthly estimates of key labour markets.

④ Enhanced **sample size** (2·6 times increase) for big Picture.

U.P.S.C.

⑤ Improved geographical representation
   ↳ now "district" as unit

⑥ Improvement in social indicators data availability.
   → education
   → land Records   covered
   → Household income

⑦ Timely updates on labour market

Time based updates possible

Socio economic labour market policies

(Implication of these changes)

→ better spatial understanding

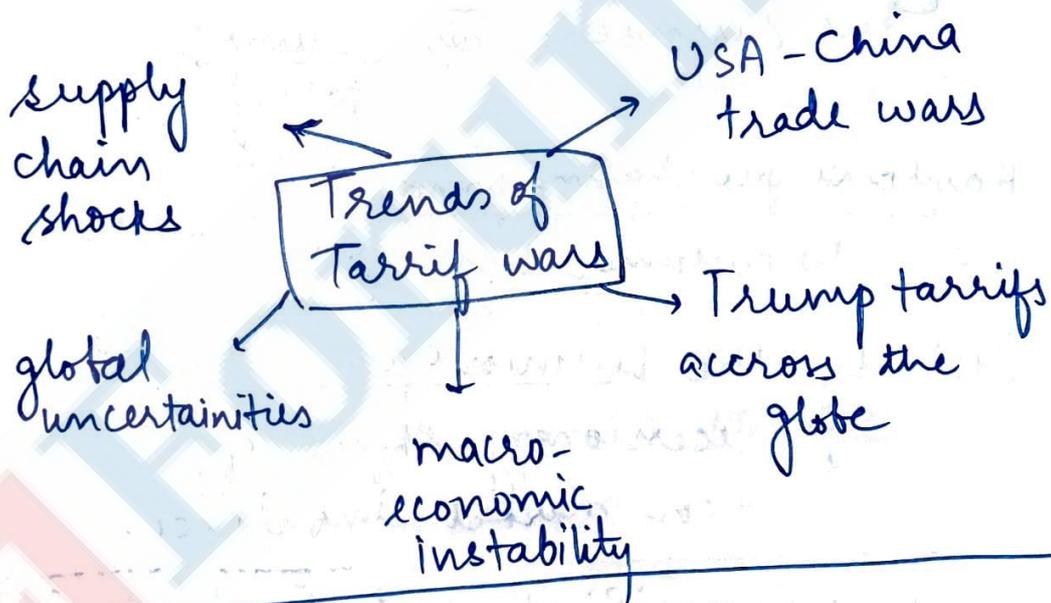→ region specific labour rules Can be made

---

with changing times,
such labour markets updates helps
in making india driver of global growth

U.P.S.C.

②

The rising trade wars and recent tarrif slapping of 50%. by the Trump administration hints towards global uncertanities.

supply chain shocks

USA-China trade wars

Trends of Tarrif wars

global uncertainities

Trump tarrifs accross the globe

macro-economic instability

Implications of Trade wars

① Hampers exports
  ↳ export markets hits with higher custom duties

② India's agricultural, textile, gemstones etc — sectors at receiving end.

Question No.
प्रश्न संख्या

U.P.S.C.

③ Balance of payment crisis
↳ because of decreasing exports
↳ and rising import costs

④ Inflationary effects
↳ unsustainable tarrifs of upto 50%.
lead to inflation.

⑤ Reciprocal tarrif regimes
↳ in response to ⓐ Trump tarrif.

⑥ Hampers purchasing power.
↳ customer loss

⑦ Disturbs the business cycle
↳ recessionary effects of such market imbalance.

Way Ahead
→ Diversification of supply chain
→ Tap newer markets (eg Africa)
→ FTA with mini lateral organisation (eg BIMSTEC)

The world is slowly drifting towards [de globalisation] thus signifying importance of [Atmanirbharta].

Question No.
प्रश्न संख्या

(2)

India grasped with __hidden__
__hunger__ and diminishing agri-productivity
is exploring genome __edited crops__-

| Genome-edited crops for food
| security |

① Use of __CRISPR-Cas 9__, Talens
   methods for __seed__ production
   (iv) climate resilient __seeds__

② Help increase __crop productivity__
   → yield increase by __20-50%__.
      ex __HYV__
      __seeds__

③ __Disease resistance__
   └ (iv) __Bt Cotton__ - against bollworms

④ Application against __stubble burning__
   └ to develop short duration crop
   ∴ └ help improve soil health
      ↓
      increase __yield__

Question No.
प्रश्न संख्या

U.P.S.C.

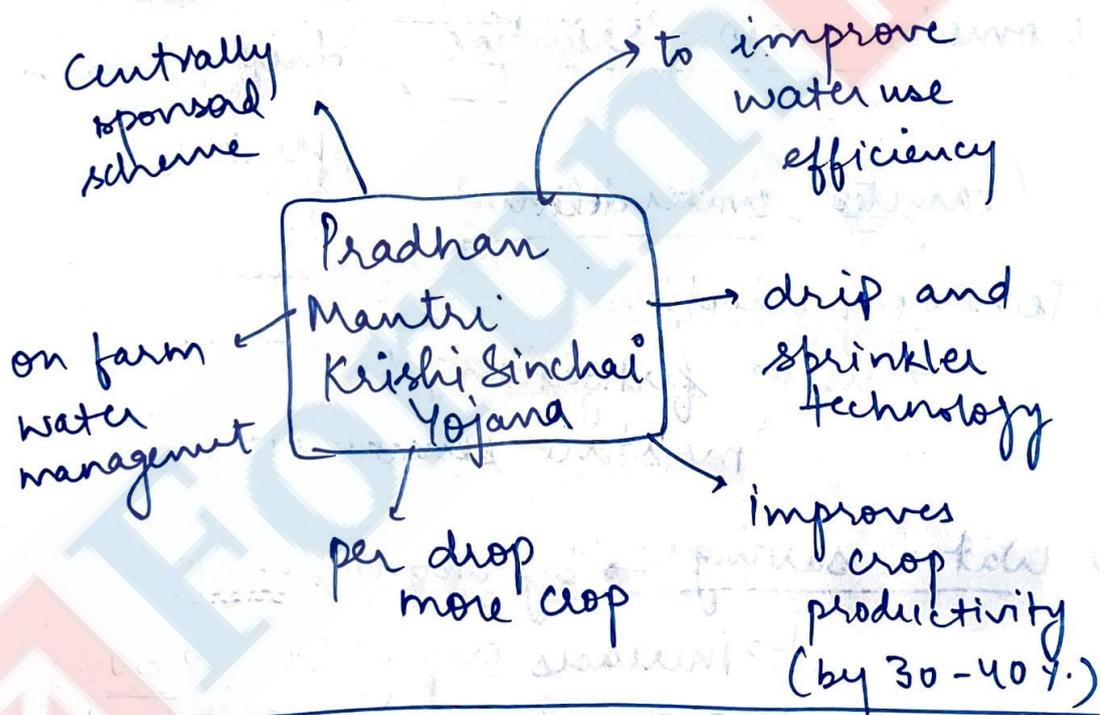## Potential in nutritional security

① through <u>seed fortification</u>

   <u>ex</u> VitA infused <u>rice</u>

② <u>pest resistance</u> → <u>no</u> use of pesticides or fertiliser.

   human health improve

③ Bio fortification of <u>crops</u>

   <u>ex</u> → Golden Rice

   → Iron, Zinc rich millets

   → improved amino acid profile.

④ Reduce risks of undesirable traits in crops.

   <u>ex</u> reduces <u>anti-nutrients</u>

⑤ Can be used to lower allergic compounds in <u>crops</u>

with clear <u>science based</u> <u>regulations</u> and <u>public</u> awareness, the genome edited crops can act as a responsible [agricultural innovation].

④

The micro-irrigation practice has a potential to improve farm income by 50% (Dalwai panel)

Pradhan Mantri Krishi Sinchai Yojana
- Centrally sponsored scheme
- to improve water use efficiency
- on farm water management
- drip and sprinkler technology
- per drop more crop
- improves crop productivity (by 30-40%)

Role of PMKSY in expanding irrigation coverage

① Area development Approach
↳ expand irrigation coverage by completing stalled projects

② Promoting new irrigation sources

↳ Check dams, tube wells etc.

③ Command Area Development

↳ ensure water reaches farm gates

④ 23 lakh hectare coveraged under micro-irrigation.

Role in improving water use efficiency

① promote micro-irrigation → drip
                               Sprinkler

(targeted water delivery)

② Technology adoption
   ↳ using fertigation, moisture sensors

③ Water saving → by about 20-40%.
   ↳ increases crop yield (~ 30%)

Challenges	Way Ahead
→ high input cost	→ Custom Hiring Centers used
→ farm adoption less	→ farm awareness
→ Silos based coordination	→ Micro Irrigation fund

Micro irrigation must be adopted in all forms of agriculture as recommended by Dalwai Committee.
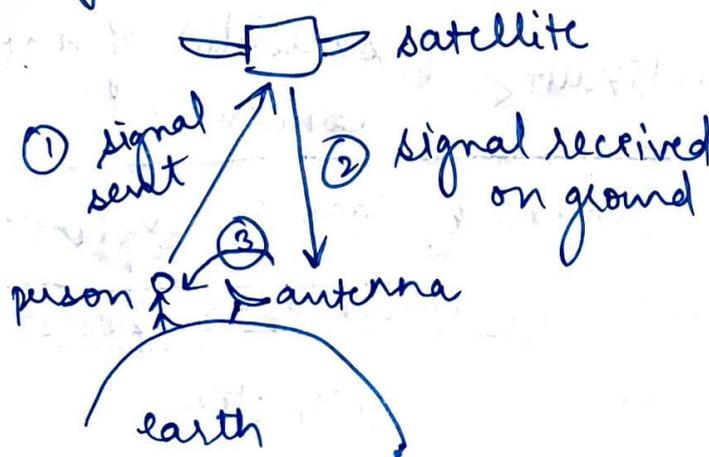
U.P.S.C.

⑤

Recently Elon Musk's Starlink project has expanded its wings into Indian markets.

Satellite Internet
→ access to internet services through satellite based communications. It is different from conventional internet, which is received from land based optic cables.

Working of satellite internet

satellite
① signal sent
② signal received on ground
③
person & ← antenna
earth

398954_813415_1910188064_(2025-08-12 06:43:46)

Question No.
प्रश्न संख्या

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

→ The person sends message from ground.

→ The signal is sent to satellite in space.

→ The satellite sends signal back to on ground antenna

→ The person's router receives it.

Starlink — satellite internet

Advantages	Disadvantages
→ internet services without regional disparities	→ high input & operational cost
→ one time investment	→ latency issue
→ can be used in geographically remote locations	→ unsuitable for emergency services or video calls
→ internet continuity	→ privacy and security of data concerns

Starlink can be explored in India but personal data protection mechanisms must be respected.

⑥

Geographical Indication (G I) is the sign used on product that has a specific geographic origin, qualities and characteristics.

(ex:) ① Dalle chilli (Sikkim

② Rasgulla (West Bengal)

③ Nagpur orange)

G I tag

granted for 10 years (renewal possible)

legal framework

↳ Geographical Indications of Goods Act 1990

↓

administered by G I registry (Chennai)

↳ TRIPS agreement (WTO)
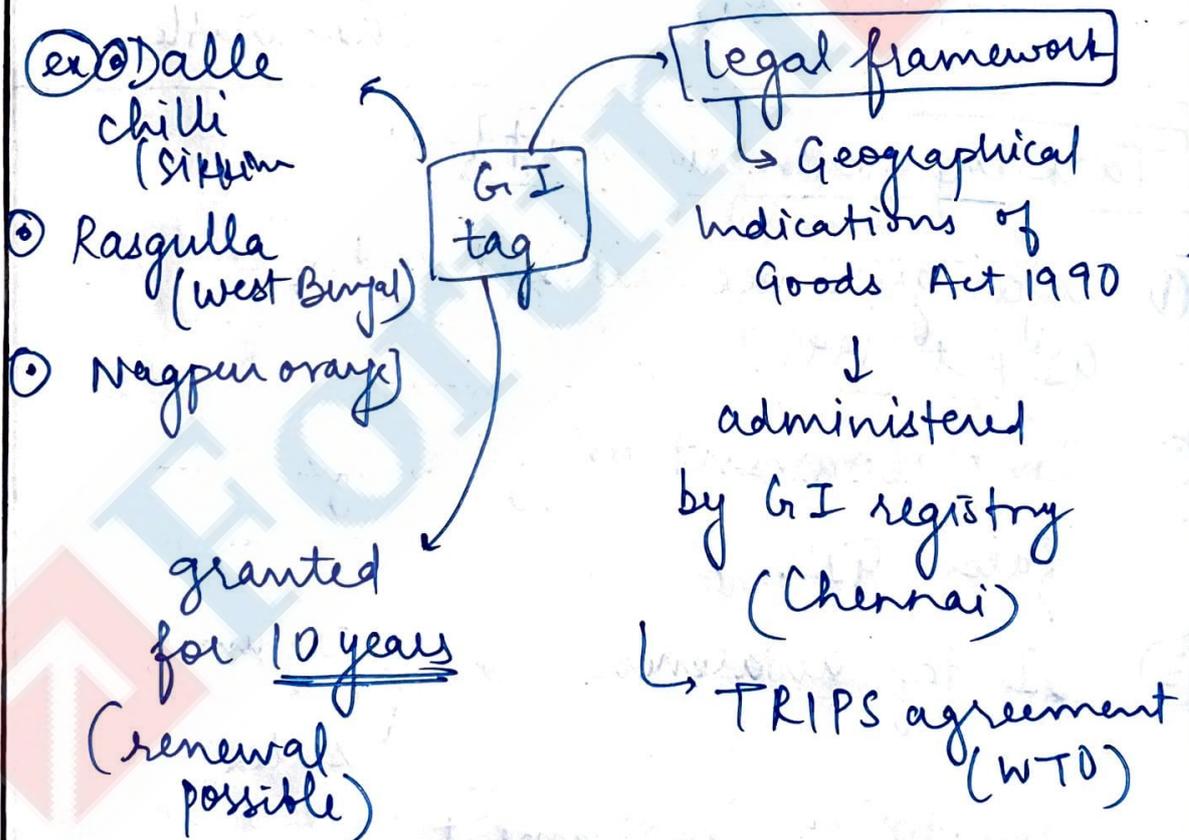
Trademark

↳ Identifies good/services as originating from particular company or individual.

Question No.
प्रश्न संख्या

398954_813415_1910188064_(2025-08-12_06:43:46)

for practice
use only
सिर्फ अभ्यास
के लिए

U.P.S.C.

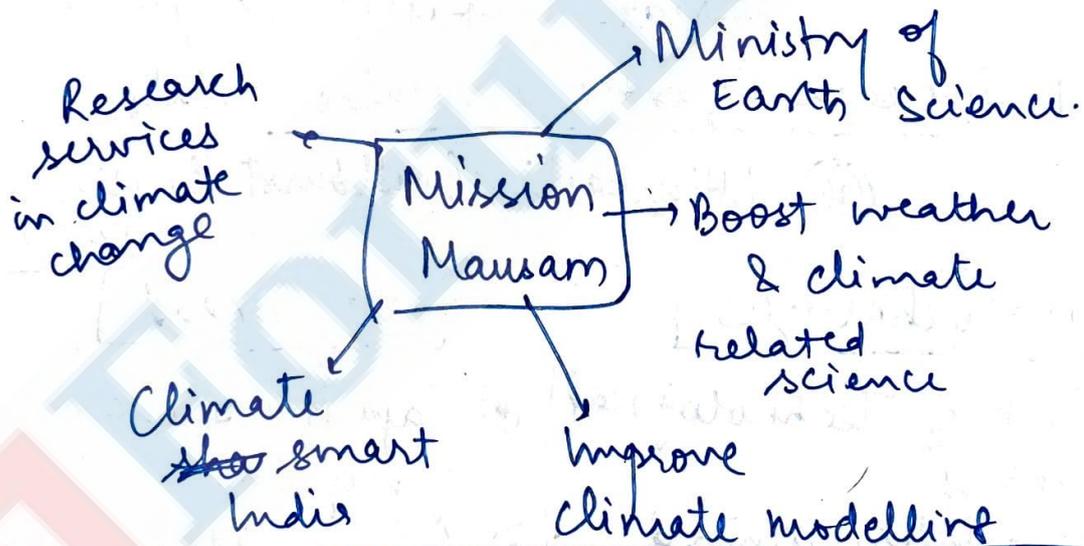| GI	Trademark
→ Goods only	→ Goods or services
→ Geographical / location linkage	→ company / individual origin
→ Cannot be transferred	→ can be traded or sold
→ 10 years (Renewable)	→ also 10 years (Renewable)

Tackling GI infringment

① legal grievance redressal under GI Act, 1999

② Imprisonment or fines for false GI.

③ GI tag awareness for ⟨ Consumer ⟨ seller

④ Monitoring infringments

GI tags protects cultural, rural heritage thus legal vigilance along with consumer awareness

U.P.S.C.

⑦

The IPCC warned the world towards a transition to (Global boiling) from global warming. The project Mausam finds relevance in this context.

Research services in climate change → Mission Mausam

- → Ministry of Earth Science.
- → Boost weather & climate related science
- ↗ Climate smart India
- ↘ Improve climate modelling

Need of Mission Mausam

① Global warming — rising
  ↳ 1.5°C containment of Paris agreement seems unachievable with current pace (—IPCC)

Question No.
प्रश्न संख्या

398954_813415_1910188064_(2025-08-12 06:43:46)

U.P.S.C.

for practice
use only
सिर्फ अभ्यास
के लिए

② Need of adaptation
↳ Climate ready citizens

③ <u>Agriculture</u> at <u>receiving end</u>
↳ affect on <u>productivity</u>

④ <u>Land Use land Cover – changes</u>
↳ soil moisture loss
↳ land degradation

⑤ <u>Sea level rise</u>
↳ Threatens coastal ecosystem.

⑥ <u>Rising cases of extreme weather events</u>
     ⓔ Uttarkashi cloudburst (2023, 2025)

Likely challenges	Way Ahead
⊙ lack of Technological access	⊙ Capacity building of people
⊙ Capability limited	⊙ Green, Blue bonds
⊙ funding constraints	⊙ Global technological cooperation
⊙ Adaptation issues	

The fifth Panchpran
for Green growth and fulfilling
Panchamrita required Mission Mausam.