



ENLITE IAS

Enlightening minds. Lightening journeys

MAINS TEST SERIES

GS III

Question Paper Specific Instructions

1. There are **TWENTY** questions printed in **ENGLISH**.
2. All the questions are **compulsory**.
3. The number of marks carried by each question (or part) is indicated against it.
4. Word limit in questions wherever specified should be adhered to.
5. Any page or portion of the page left blank in the Answer booklet must be clearly struck off.

Qn No.	Marks Obtained	Qn No.	Marks Obtained	Qn No.	
1	3	8	4 1/2	15	7 1/2
2	4	9	4	16	6 1/2
3	5	10	3 1/2	17	6 1/2
4	4 1/2	11	6 1/2	18	7 1/2
5	—	12	6 1/2	19	7
6	4 1/2	13	—	20	6
7	—	14	8		
TOTAL					

Name

GOPIKA B

Subject

GS III

Questions Attempted

Roll no

Date



1. What is meant by water trading? In the context of NITI Aayog's proposal of trading treated wastewater, discuss the challenges and solutions while implementing this mechanism. (10 Marks)

Water trading is the buying and selling of water through exchanges similar to a stock market.

Challenges of the proposal

- ① Existing treatment methods in India are poor — high contamination persists.
- ② Additional infrastructure investment is required.
- ③ Water as a tradable commodity — can increase its price and lead to privatisation of an essential resource.
- ④ Low acceptance of treated wastewater by consumers.

Do not write anything on the margin



Solutions

- ① Effective treatment plants to ensure proper sewage
- ② ensuring the primary step of availability of drinking water in all households through Jal Jeevan mission.
- ③ Intervention of state is necessary to avoid privatisation of an essential resource.

Water trading is a futuristic step India first needs to ensure proper groundwork to implement this.

Read the key is not to write!

Do not write anything on the margin



2. Despite our best efforts, various mysteries of the Sun continue to baffle scientists and researchers. Discuss how ISRO's planned Aditya mission can help improve our understanding of various solar phenomena and space weather. (10 Marks)

The Sun is at the centre of our solar system and is 1.5 million km away.

Mysteries of the Sun

The outer atmosphere of the Sun - corona is several times hotter than the surface of the sun.

Presence of sun spots - relatively colder regions on the sun's surface.

Aditya mission

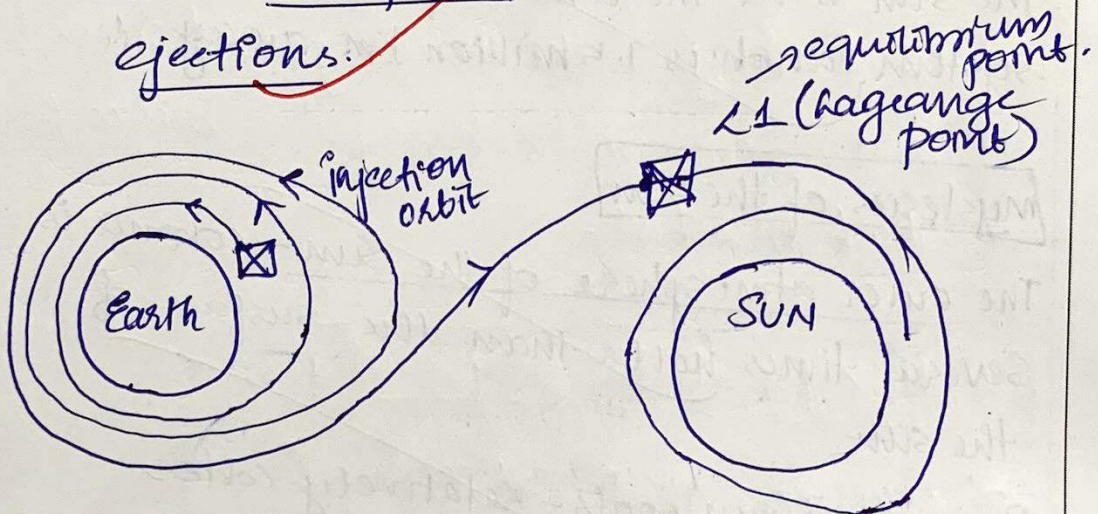
- Initially to be placed in the lower earth orbit, which will follow an elliptical path and then finally reach Lagrange point L1.
- The objectives of the mission
 - Study the atmosphere of the sun
 - Study the difference in temperature of corona & photosphere.

Do not write anything on the margin

PAPA
pay load



- Study solar winds
- study various events from the sun like solar flares, coronal mass ejections.



These objectives can help us better understand

- sun and its atmosphere - ~~there~~
- space weather - solar flares
 - coronal mass ejections
 - background radiation of the space
- Studying radiation in space can also help to develop interstellar travel in the future.

Thus the Aditya-L1 holds a lot of prospects.

Do not write anything on the margin



3. For India, it is high time to recognize that farm production and marketing would have to march together to benefit farmers and consumers. In this context discuss the need for reforms in agricultural marketing along with suggestions for the way forward. (10 Marks)

The Agri value chain begins at the farm and at the market. India has many weak links in its value chain particularly in the marketing side.

Need for reforms

- ① poor market knowledge of farmers :- production without understanding demand.
- ② To avoid cobweb phenomenon :- excessive production of a certain crop causing price crash.
- ③ To connect farmers with food processing industries :- for higher price realisation & raising income.
- ④ To enhance export opportunities for farmers' product.
- ⑤ To diversify the agricultural market &

Do not write anything on the margin



enhance choice for customers.

- ⑥ Skewed diet basket - rice & wheat to be shifted ~~from~~ to pulses, millets - to enhance nutrition.

Suggestions for way forward

- ① Strengthening agri-extension services

eg: Krishi Vinjan Kendras

- advice on right crop to cultivate
- connect to processing & export
- help in procuring good quality inputs

- ② Strengthening warehousing, cold chain infrastructure

- for long term storage
- reduce wastage.

- ③ Ensuring traceability of farm products

- ④ formation of FPOs and contract farming for better market connectivity

- ⑤ Promotion of e-NAM and e-choupal to avoid middlemen & ensure direct marketing.



4. Rewilding is a progressive approach to conservation which needs to be carried out with extreme caution. Analyse. (10 Marks)

Rewilding is the process of introducing extinct species back into the ~~ecosystem~~ environment and provide enhanced conservation.

Project cheetah follows the rewilding of cheetahs ~~to~~ and ensuring its conservation.

Advantages of Rewilding

① Introduction of a keystone species back into the environment.
eg: reintroduction of wolves in Yellowstone national park.

② Maintaining ecosystem stability through proper food chain management

③ To control the population of another species which might be out of control.
eg: excess herbivores.

④ ~~It~~ It will result in a holistic conservation

Do not write anything on the margin

Climate change
Carbon storage
critically endangered
Conservation



of forest ecosystem.

Disadvantages of rewilding

① poor adjustment to new climatic conditions

eg: cheetahs developing rashes due to humid climate in India.

② clash with other existing species

eg: presence of other predators

③ rewilding initially carried out through a fenced approach - limited enclosures

- this limits the ability of animals to move around, explore & establish territories

④ More chances of contracting diseases and dying of species in the initial stage

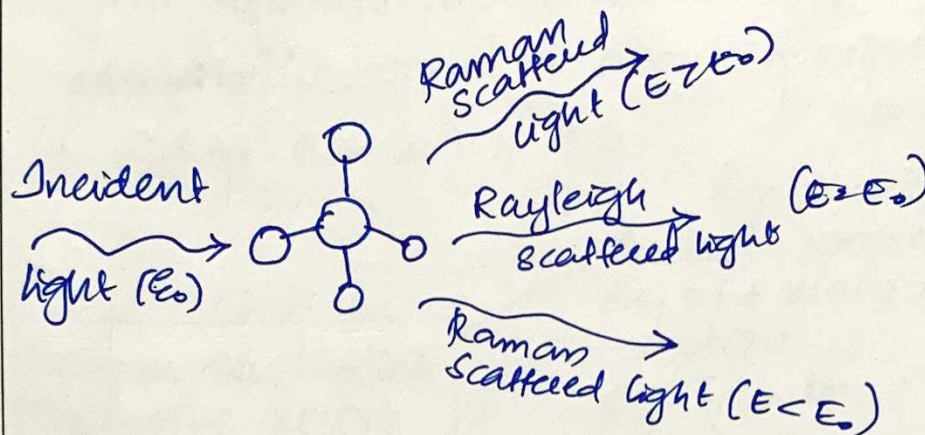
Rewilding is an ambitious conservation effort but it must be carried out only after proper scientific study & research.

- Monoculture
- habitat
- displacement

Do not write anything on the margin



5. The Raman effect, discovered by C.V. Raman has had significant implications in the field of spectroscopy and quantum mechanics. In this context, explain the Raman effect and its significance in advancing our understanding of molecular and atomic interactions with light. (10 Marks)



light hits molecule
undergoes change in wavelength & frequency

Spectroscopic fingerprints

Quantum mechanical insights

National Broadband mission

Agristack

Digi stack

Digital India mission

Universal Service obligation fund.

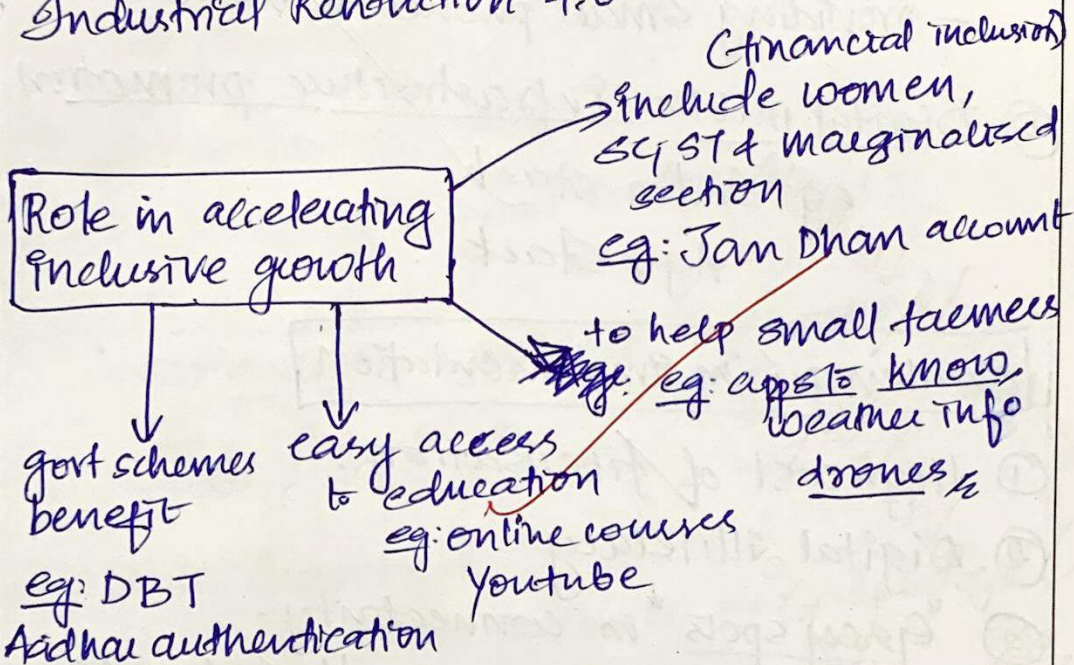
PM WAN

Do not
write
anything
on the
margin



6. Digital infrastructure plays a crucial role in accelerating inclusive growth within the country. Elaborate the various initiatives taken by the government to enhance its reach as well as the challenges faced in its implementation. (10 Marks)

Digital infrastructure is the need of the hour, as the world is about to experience Industrial Revolution 4.0.



Do not write anything on the margin

Initiatives by the government

① National Broadband Mission - to ensure internet connectivity in rural areas

② Digital India mission :- 3 pillars

- Universal access to phones
- e-Kranti - electronic service delivery



③ Fibreisation of towers to ensure uninterrupted + strong internet coverage.
39.5 lakh km fibreised.

④ Schemes of state govt like Rajasthan — providing smart phones to women.

⑤ Digital public Infrastructure promotion
eg. India stack
Agi stack.

Challenges in implementation

① High cost of fibreisation.

② Digital illiteracy.

③ "Grey spots" in connectivity.

④ poor cybersecurity norms — threatening data breach + data privacy.

Digital Infrastructure is essential for ensuring an inclusive economic growth which will help India become a 5 trillion dollar economy.

Do not write anything on the margin



7. What are the existing mechanisms and treaties governing the global patent regime? With a special emphasis on Indian patent regime, elaborate the measures taken by India to improve it.

(10 Marks)

WTO - patent regime TRIPS (Trade ^{related} Intellectual Property rights)
- SRA protection -

India - Patents Act

- Geographical Indication Act

Patents Act of India

- compulsory licensing is allowed

by Patents Act - WTO compliant

→ Patents granted for 20 yrs
→ evigreening of patents not allowed

Do not
write
anything
on the
margin

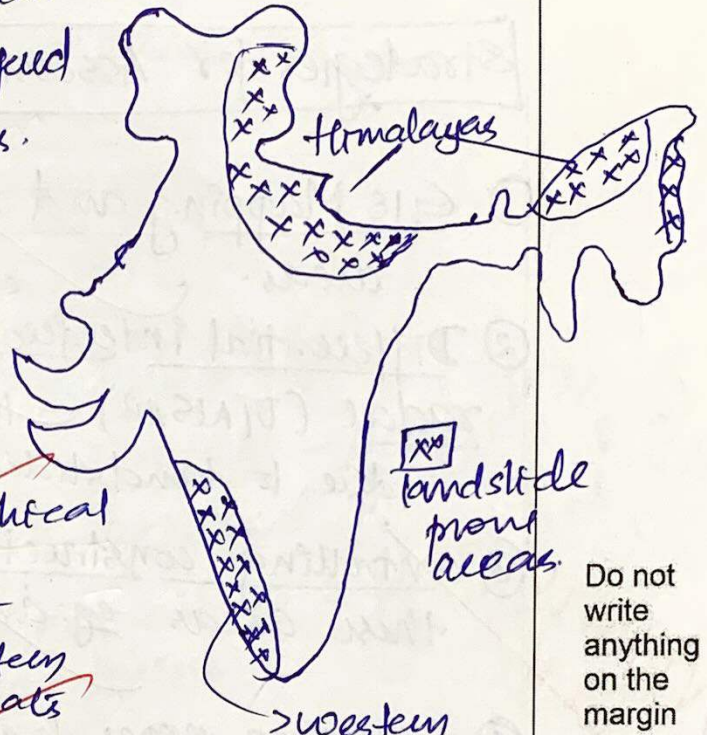


8. Discuss the factors that play a major role in increasing landslide susceptibility in India and what strategies can be employed for their effective assessment and mitigation? (10 Marks)

Recently, States ^{like} of Himachal Pradesh, Uttarakhand etc suffered due to many landslides.

Factors that increase landslide susceptibility

- ① hilly areas - geographical nature of the place
eg: Himalayas, western Ghats
- ② torrential rainfall - due to climate change rainfall is highly erratic - leading to heavy rain in short period of time
- ③ Glacial lake outburst flood - causes landslides.
- ④ seismic activity - earthquakes triggered
- ⑤ Anthropogenic causes - heavy construction





on seismically active zones, accumulation of debris & waste, poor drainage.

Strategies for Assessment & Mitigation

- ① GIS Mapping and zonation - of vulnerable areas.
- ② Differential Interferometric Synthetic aperture radar (DINSAR) - to detect land subsidence due to landslides.
- ③ controlling construction activities in these areas eg: avoiding hydroelectric power projects.
- ④ Ensuring proper drainage and removal of accumulated debris.
- ⑤ Shelters and emergency preparedness to be ensured.
- ⑥ spreading community awareness
- ⑦ Installing detectors eg: Avalanche detector in Sikkim.

Thus, effective preparation can mitigate the adverse effects of landslides.

Do not write anything on the margin



9. Enumerate the challenges faced by the Indian railways. How can the PPP model contribute to turning around the railways for the Indian economy?

(10 Marks)

The Indian railways are one of the largest rail networks in the world.

Challenges faced by railways

- ① ^(high) poor operating ratio -
- ② poor adoption of technology
- ③ poor enhancement of routes - 60% of routes are 100% utilised
- ④ ~~poor~~ current tracks not able to safely maintain high speed trains
- ⑤ poor safety mechanisms
eg: Balasore train accident

low revenue generation
Lack of i/v.
decline of freight
Do not write anything on the margin

PPP model to improve railways

- ① Inclusion of private can help improve operating ratio - as private entities have more profit oriented strategies
- ② Inclusion of private can lead to higher share of railways in freight



transportation system (currently only 30%)

③ faster adoption of technology -
introduction of ^{high} speed trains.

④ Maintenance, repair & overhaul operations
to be streamlined

⑤ safety mechanisms to be adopted
like - Kavach - on all trains.

⑥ more track addition - timely delivery
of projects by private - thus avoiding
burden on select routes.

⑦ Goal of net zero by 2030 of Railways
can be easily achieved.

The Railways should play an increasing
role in freight transport & improve its
operating ratio through PPP to
contribute effectively to economic
growth.



10. Geoengineering techniques have gained attention as potential solutions for addressing climate change. In this context, what are the key geoengineering methods, and how far will they help in mitigating the ongoing climate change crisis? (10 Marks)

Geoengineering is an innovative method to address climate change. It focuses on finding solutions at the root of the problem.

Key geoengineering method

① Mirrors in space - to reflect back sunlight rays.

① Reducing GHG effect

② reducing warming of planet

③ controlling sea level rise and albedo reduction.

② artificial seeding of clouds - to enhance rainfall in drought-prone areas

③ carbon capture from atmosphere and storage or utilisation.

Do not write anything on the margin



Effectiveness in mitigating climate change

- ① Increased rainfall - reduce scarcity of water.
- ② reduction of insolation - multiplies effect - reduces greenhouse gas effect
 - reduces glacier melting
 - reduces sea level rise.
- ③ these methods ensure continued development in the world.

challenges

- ① feasibility is very low. *Sustainability*
- ② High cost
- ③ continued degradation will occur due to deforestation, land degradation etc.
- ④ does not effectively address the problem
 - short term solution.

More innovations are required in geoeengineering to make it truly efficient & feasible.

Do not write anything on the margin



11. What are the current challenges in our irrigation system? Explain the significance of technology in improving existing irrigation systems and producing futuristic solutions. (15 Marks)

In India, 50% of agricultural land is under irrigation and 50% is rainfed.

Current challenges in irrigation system

① flood irrigation :- followed by most farmers.

- water wastage
- electricity wastage
- degradation of soil - washing away of minerals.
- chemicals & pesticides washed to rivers - eutrophication.

② poor water-use efficiency - ~~lowering~~ of ground water table in green revolution areas eg. Punjab, Haryana

③ poor adoption of technology

④ affected by climate change - poor storage of water through rainwater harvesting.

Do not write anything on the margin



- ⑤ marginal landholdings - poor feasibility for irrigation technology

Significance of technology

- ① Improving water use efficiency - drip irrigation - PMKSY
- ② Enhancing agricultural productivity
- ③ reduction in methane emissions from overflooded farms
- ④ Techniques like fertigation in precision agriculture - efficient input usage - better profits for farmers.
- ⑤ PM-KUSUM - scheme of govt
 - solar pumps to be installed
 - increase in renewable energy capacity addition.
 - reduction in grid ~~losses~~ ^{wastage}Through solar pumps establishment,

Do not write anything on the margin



farmers can sell electricity back to the grid - enhancing income.

- ⑥ State govt initiatives like Mission Kakatiya - to enhance water conservation for irrigation.
- ⑦ Promotion of sub-surface irrigation techniques.

Thus, improvement of irrigation system can help the growth of agriculture sector which is currently stagnated at 4%.

Do not
write
anything
on the
margin



12. India's willingness to expand existing trade blocs and enter into new trade agreements can be a game-changer for exports as well as investments. However, India should carefully navigate this path, learning from past experiences. Analyse.

FTAs with UAE, Mercosur, Australia (15 Marks)
negotiating with UK, EU, Canada & Israel

Trade blocs as game changer

- ① Diversification of market
- ② Diversification of products and exports
- ③ Increase forex
- ④ Ensure supply chain resilience through nearshoring friend-shoring.
- ⑤ IPET → ensures ~~free~~ clean & (Indo-Pacific fair economic framework)
- ⑥ India-Australia free trade agreement — to enhance collaboration and investment.
- ⑦ Reducing dependence on China.
- ⑧ Empower incapacitated WTO, therefore other avenues required for trade.

Do not write anything on the margin



Challenges to trade blocs

- ① misuse of trade agreements - dumping of exports affecting domestic players.
- ② India did not sign the trade pillar of SPTEF - due to US hegemony in trade.
- ③ opposition from domestic players
eg: REEP opposed by regional dairy farmers.
- ④ Rules of origin rules are not clearly mentioned in India's free trade agreements.

Way forward

- ① Rules of origin to be specified.
- ② facilitation of trade should be ensured without affecting domestic players.
- ③ enhance capital account convertibility to ensure smooth trade

Do not write anything on the margin

Good



④ strict measures against dumping
of products & levying of
products to avoid duty.

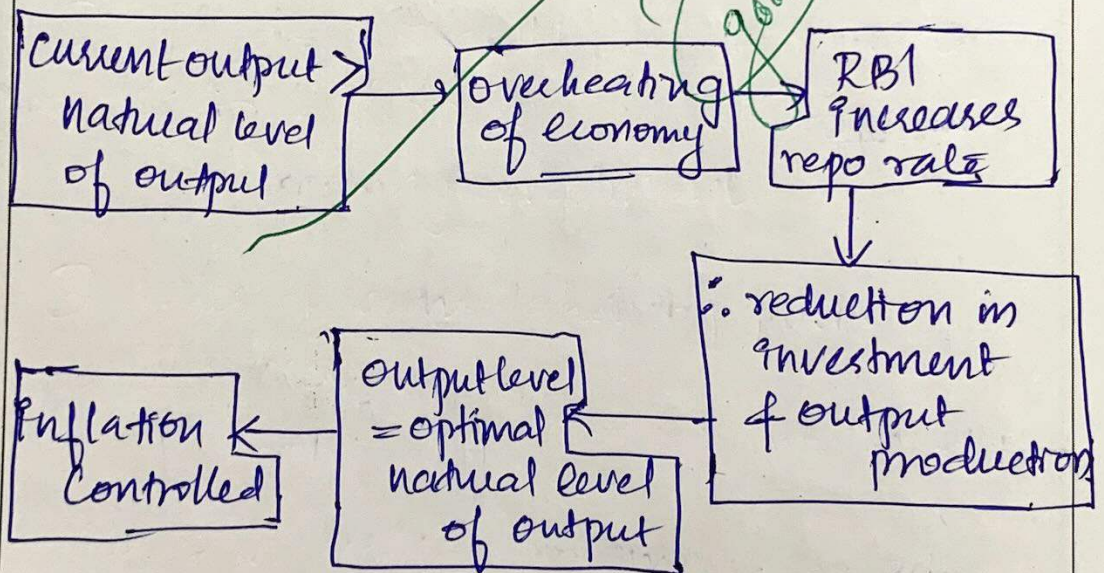
6



14. Critically analyse the utility of monetary policy measures by RBI in taming inflation in the Indian economy. Also discuss the externalities associated with these rate hikes in our economy. (15 Marks)

The RBI uses monetary policy measures to control inflation in Indian economy.

The increase in repo rate is based on the premise that inflation is due to overheating of economy or ~~of~~ ^{output} of economy is above the natural level.



Advantages of this inflation control

① Increase in interest rates - leads to



less borrowing in the economy thus controlling money supply.

② will reduce the mismatch between demand & supply.

③ this method followed by other advanced economies like US - fed rate hikes.

④ flexible foot - as it can be increased or decreased as needed.

~~Disadv~~ Poor utility of this inflation control

① This control method is based on the premise that inflation is caused by increase in price of agricultural goods - disregards non-agricultural goods.

② It does not deal with supply chain issues - i.e demand outpacing the supply - due to low supply.

③ It cannot create an immediate effect in the economy and is time consuming.

④ continuous rate hikes can affect the

Do not write anything on the margin



Investment climate of the nation.

Externalities associated with rate hikes

- ① usually rate hikes can attract FDI - but fed rate hikes by US at the same time - ~~it~~ resulted in outflow of ~~the~~ FDI.
- ② affects the ability of the private sector to borrow - which ^{leads} ~~affects~~ to decreasing investment.
- ③ rates of loans taken by public also increases.
eg: farmers can fall into debt trap.

Thus, govt should also emphasise on diversification of trade, supply chain resilience to control inflation.



15. Examine the factors responsible for formation of ground-level ozone and discuss its impacts on human health and the environment? What measures can be implemented to alleviate the adverse effects of ground-level ozone pollution? (15 Marks)

Ground level ozone is a secondary pollutant extremely harmful to all kinds of life on earth.

Factors for formation of ground level ozone

- ① presence of sunlight
 - ② presence of pollutants like NO and volatile organic compounds (VOC)
- $$\text{NO} + \text{VOC} \xrightarrow[\text{sunlight}]{\text{(UV rays)}} \text{O}_3 \text{ (Ozone)}$$

Do not write anything on the margin

Impact on human health & environment

- ① Ground-level ozone causes photochemical smog formation
- ② reddish brown haze in the atmosphere - affecting visibility



- ③ It creates breathing problems - asthma, whooping, cough.
- ④ Inhaling these toxic fumes over a period of time can cause cancer.
- ⑤ It affects photosynthesis capability of plants - dying of plants
- ⑥ higher pollution in the environment ~~causes~~ shortens the lifespan of people.
eg: A recent study shows that at least 5 years were reduced for people ~~in~~ living in Delhi - due to constant exposure to pollution.

Measures to alleviate adverse effects

- ① ~~Notate~~ Volatile organic compounds and NO are released due to incomplete combustion - ensure complete combustion.



② using smoke filters and electrostatic precipitators to reduce toxic pollutants from industries.

③ Transition to electric vehicles - FAME scheme

④ Promotion of Green Hydrogen - Nation Green Hydrogen Mission

⑤ Increasing renewable energy capacity addition.

Thus, controlling ground level ozone will play an important role to achieve SDG 13 - climate action.

Do not
write
anything
on the
margin

Do not
write
anything
on the
margin



16. Analyse how India's internal security woes are closely related with failure of state machinery in the neighbouring nations. What are the methodologies adopted by India to deal with this issue? (15 Marks)

India has many internal security challenges which are aggravated by failure of state machinery in neighbouring nations.

failure of state machinery in neighbouring nations

① Military coup in Myanmar:- Refugees from the country - Rohingyas - in north-eastern states.

These ^{settlement of} refugees are opposed by citizens there - leads to conflicts

② operating as safe havens for militants and insurgents.

eg: Bodo militants in Bhutan.

③ refugees from Bangladesh during 1971 war.



④ poor border management with Bangladesh
- porous border
- drug trafficking, human trafficking etc.

⑤ state sponsored terrorism of Pakistan
- insurgency in Kashmir

⑥ economic crisis in Sri Lanka - migrants coming to Tamil Nadu.

Afghan Taliban

⑦ geographical proximity to golden crescent and golden triangle which are operating in nearby nations freely.

Do not write anything on the margin

Methodologies adopted by India

① cooperation with militaries of other countries to capture insurgents
eg: Operation All out.

② Border Management - Integrated Check posts, infrastructure development
- floodlights, thermal imaging, night vision cameras etc.



- ③ Bau-sang agreement to deal with migrants.
- ④ Border area development programme and Vibrant Villages programme
- ⑤ Enhancing jurisdiction of BSF - Border security forces - better training + specialised forces/units
- ⑥ better intelligence sharing
 - NATGRID
 - CETNS.

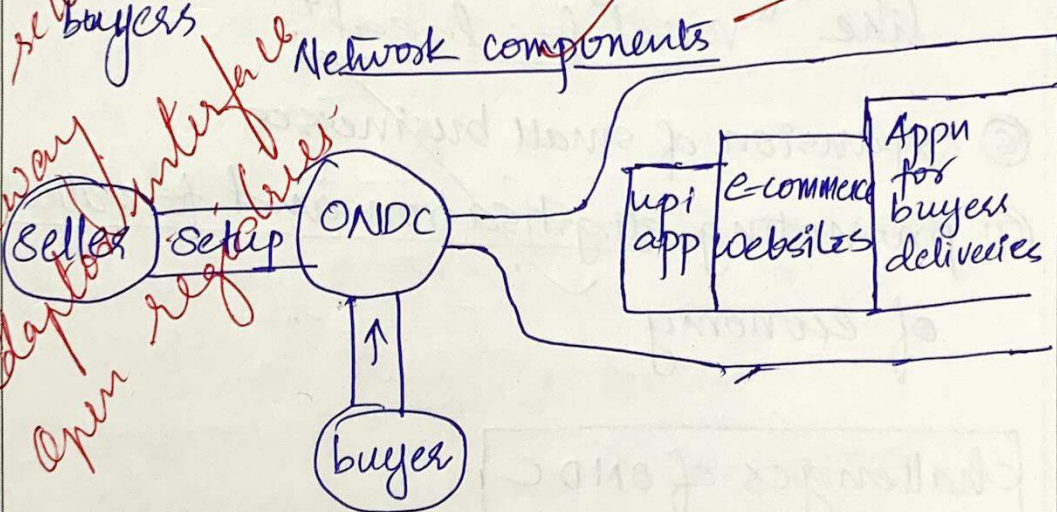
Therefore, fostering good relations with neighbourhood countries can enhance India's internal security.



17. Examine the various network components as well as the significance of Open Network for Digital Commerce (ONDC) for the country. What are the challenges that may be encountered in its successful implementation?

(15 Marks)

ONDC is an interconnected network of several e-commerce applications, sellers, buyers, and delivery partners. *Revision*



- ① various sellers
- ② other e-commerce websites can participate
- ③ delivery applications
- ④ several payment mechanisms

Significance

- ① level playing field for small ~~business~~ *consumers, business, economy* and ~~businessmen~~ *sellers*
- ② Increased choice for consumers.



- ③ reduction in price of goods.
- ④ Avoiding hegemony of few players in the market
- ⑤ Strengthening of other schemes like "vocal for local".
- ⑥ expansion of small businesses
- ⑦ promoting digitisation and formalisation of economy.

Challenges of ONDC

- ① Existing giant players already control significant market share
- ② reluctance of consumers to move to ONDC.
- ③ It is not an aggregator platform
- relevance redressal mechanism are absent.

6 1/2

④ sustainability of progress is desirable
- proper timing of credit investment &
coupled with growth for foreign,
high-tech etc

⑤ Digital divide and digital literacy
are major imperatives

Key pointers

① ensuring proper economic governance
national.

② Improving digital literacy

③ Increasing external penetration



18. Is poverty a necessary link in the spread of organised crimes in India? Discuss. (15 Marks)

*Mention the
organised crimes*

Poverty or deprivation is considered as one of the driving factors behind organised crime.

Poverty leading to crime

- ① unemployment of youth — can lead them to crime for sustenance
- ② poorly developed areas — these areas are susceptible to ~~left~~ left wing extremism
- ③ failure of state machinery — to provide basic services — food, health, water etc. People join criminal networks for income.
- ④ relative deprivation compared to nearby areas — crimes against state.



Poverty not a necessary link

- ① proximity to golden crescent and golden triangle - leading to crime India
- ② failure of state machinery - poor training of police, poor intelligence collection
- ③ State sponsored terrorism by Pakistan.
- ④ Criminalisation of politics
- ⑤ Increasing internet penetration
 - radicalisation of youth.
 - recruitment through the internet.
- ⑥ Increasing cybercrime

Steps taken by Govt

- ① Development in LWE areas - introducing schools, hospitals, PDS.
- ② Vibrant villages programme
- ③ Intelligence collection & sharing through NTEGRID

Do not
write
anything
on the
margin



④ NETRA Network traffic analysis

- to identify threats through cyber domain

⑤ ensuring skill development of youth for employment - PM Kaushal Vikas Yojana.

⑥ "SAMADHAN" strategy used by security forces to deal with internal security events.

Though poverty plays an important role in spreading of organised crime, it is not the sole reason. A holistic approach is needed.



19. It is argued that as India progresses, there is a need for fuller capital account convertibility. Critically examine. Do you think that India is currently ready for such a reform? Give reasons. (15 Marks)

India has full current account convertibility and ~~partial~~ capital account convertibility.

Need for capital account convertibility

- ① To enhance trade with other countries - ^{aim - 2 trillion in exports by 2030}
- ② To enhance foreign direct investment.
- ③ To make rupee a global currency.
- ④ For effective borrowing of private players like MNCs - thus reducing currency risk
- ⑤ reduce dependence on dollar.

Challenges of capital account convertibility

- ① Higher subjection to market forces in the international market.

Do not write anything on the margin

Do not write anything on the margin



- ① India can be affected by global meltdown events like recession.
- ② Ability to control money supply by RBI reduces.
- ④ can increase crimes like money laundering, counterfeiting etc

→ price stability
→ CAD
→ fiscal consolidation
→ NPA

India - not ready for this reform

Rupee - not currently a strong currency
full convertibility can lead to further depreciation.

- ② Indian economy is currently shielded from some adverse effects of world economy - due to partial convertibility
- ③ Ability of the govt & RBI ~~needs~~ to control money supply need to be enhanced.



way forward

- ① diversification of trade in products traded
- ② diversification of markets
- ③ supply chain resilience.

These steps need to be ensured before full capital account convertibility can be ensured.

Do not
write
anything
on the
margin



20. What do you understand by "mob violence"? Discuss how "mob violence" acts as a unique kind of security challenge before the state machinery in India.

(15 Marks)

Mob violence is the violence propagated by a group of people on certain groups of people or against state. ~~not~~ individual

eg: Communal violence is a form of mob violence.

Mob violence as a security challenge

- ① Breakdown of law & order
- ② Disturbance of peace & harmony
eg: Nuh violence in Haryana.
- ③ clashes between different religious groups - leading to deaths
- ④ Attack on minorities, threatening their existence
eg: cow lynching,
a mob killing dalit man in MP.
Gujarat mob 2002

Why peculiar?

Loss of trust in law enforcement



- ⑤ other crimes spread during law & order breakdown caused by mob violence
eg: stealing, kidnapping, trafficking.
- ⑥ affects economic interests of the region
eg: MNCs will not be interested in investing in such regions.
- ⑦ can lead to further radicalisation of people.
- ⑧ leads to repression tactics by state
 - internet shutdown
 - bulldozing houses, shops etc

Mitigation of mob violence

- ① Strict punishments for ~~such~~ events like cow vigilantism, mob lynching etc.

Do not write anything on the margin



- ① fight against radicalisation.
- ② training of police - to better deal with such situations
- ③ better intelligence collection and sharing - to avoid such events.
- ④ Addressing root problems of poverty and unemployment.

Mob violence is an emerging threat in India. It needs to be dealt with for safeguarding internal security and economic interest of the nation.