

<b>General Studies</b> Full Length Test Test - 3 (GS - 3) Test Code - A21053503	Evaluator Code: Date of Assignment: CQ:
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MOBILE NO.: \_\_\_\_\_

**QUESTION PAPER SPECIFIC INSTRUCTIONS**

Please read each of the following instructions carefully before attempting questions:

There are **TWENTY** questions printed in **ENGLISH**. All the questions are compulsory. The number of marks carried by a question/ part is indicated against it. Word limit in questions, wherever 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.

Q No.	Marks	Q No.	Marks	Q No.	Marks
Q1	/10	Q8	/10	Q15	/15
Q2	/10	Q9	/10	Q16	/15
Q3	/10	Q10	/10	Q17	/15
Q4	/10	Q11	/15	Q18	/15
Q5	/10	Q12	/15	Q19	/15
Q6	/10	Q13	/15	Q20	/15
Q7	/10	Q14	/15	Total	/250

**Instructions:-**

- Legible Scanning:** Exercise due diligence in scanning your scripts for clear legibility
- Submissions** marred by poor scanning, notably those with illegible sections or blackened pages due to improper scanning, risk being excluded from the evaluation process.
- Non-Adherence Consequences:** Failure to comply with the aforementioned instructions may lead to the disqualification of your submission.

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For Student Only	
Start Time -	End Time -
Mode of Examination	Online                      Offline
Receiving date -	Dispatch date -

Parameters		Good	Average	Needs Improvement
Conceptual Understanding				
Understanding Demand of Question				
Structure	Introduction			
	Body			
	Conclusion			
Presentation-Illustrations, flowcharts, diagrams, etc.				
Language and Handwriting				
No. of Questions Attempted				
Adherence to Word Limit: Yes/No				

### Mentor's Feedback

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**Evaluator/Reviewer Suggestions**

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## Evaluator/Reviewer Suggestions



(Answer questions in NOT MORE than the word limit specified for each in the parenthesis. Content of the answer is more important than its length.)

1. Explain the concept of the "Missing Middle" in India's industrial ecosystem. How does it affect economic growth and employment generation?

(10 marks, 150 words)

Indian industrial ecosystem is dominated by 90% micro-scale and 10% very large scale industries, with near absence of medium scale industries. The phenomena is called 'missing middle'.

Affect on economic growth:

- ① Diversification of economic output is limited.
- ② Reduced export potential: MSME contributes to 40% of exports in India while in European nation 60%.
- ③ Informalization of economy:  
eg) micro-scale industries are 90% informal.
- ④ Impact on backward-forward linkage with industries as medium size industries are efficient at this.

## Impact on employment generation

(i) Low job creation - Micro industries employ less than 10 labour, while large industries go for mechanization

(ii) jobless growth: India's employment elasticity is 0.1% since 2000's

(iii) informalization of jobs → lack of social security

(eg) only 56% of permanent workers are covered of social security in India (ILO)

## Way forward

(i) Incentivising micro and dwarf to become bigger (UK Singha Committee)

(ii) Size based to age based Incentive for MSME.

(iii) Cluster based manufacturing zone. (Baba Kalyani Committee)

Thus, to achieve the target of developed India by 2047 there is need to address the bottlenecks to convert dwarf into champions.

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2. Household savings form a crucial pillar of domestic capital formation. In light of their recent decline elucidate the underlying causes and propose strategies to strengthen savings behavior in India. (10 marks, 150 words)

As per RBI household net financial saving has declined from 7.3% to 5.5% of GDP in 2024.

Causes of decline:

- (i) Higher inflation - leading to higher cost of living.  
(eg) FY 2024 - 4.6% inflation
- (ii) Stagnation in wage  
(eg) As per Economic survey real wage has increased by only 2.6% p.a.
- (iii) Investment by household in financial market  
(eg) Stock market and mutual fund grow significantly.
- (iv) Lower interest offered by banks on saving.  
(eg) RBI offers 4-5%, which is below inflation rate.

## Strategies to strengthen saving

(i) Controlling inflation in economy  
(eg) RBI monetary policy of 2-6%.

(ii) Special saving schemes with attractive interest rate

(eg) Mahila Samman certificate - 8% interest rate.

(iii) Boosting rural income to generate saving.

(iv) Promoting micro-saving schemes by SHGs in rural area.

(v) Increasing financial literacy and banking services.

Steps by govt → Sukanya Samvidhan Yojana  
→ National Pension Scheme  
→ MISAM Vikas Patra

Thus, these boosting domestic saving will create virtuous cycle of domestic saving and investment. It will lead to economic growth and job creation in economy.

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3. Despite its potential, the corporate bond market in India remains underdeveloped. Examine the structural and regulatory challenges impeding its growth.

(10 marks, 150 words)

India's corporate bond market is only about 17% of GDP, while in China 36% and USA 120%.

Structural challenges impeding growth

- (i) Dominated by high rated and large firms
  - (a) As per SEBI, more than 80% of corporate bonds are A+ rating in India.
- (ii) Restriction of participation of certain sectors
  - (a) Pension funds are not allowed to participate.
- (iii) Infomals industries can not list themselves on stock exchange.
- (iv) Dominated by private placement by corporate → 92% of total IPO
- (v) Limited retail participation due to low return.

## Regulatory challenges :-

- ① Problem of stock manipulation and higher price of stocks  
(eg) Heindenberg's allegations.
- ② High compliance burden on institutional investors like Mutual fund operators.
- ③ Frequent stock market fraud  
(eg) Harshad Mehta scam, Khetan Parekh scam, etc.
- ④ limited autonomy and political interference in functioning of SEBI.

## Way forward

- ① easing the compliance burden on institutional investors
- ② Taxation reforms like long-term capital gain tax can be removed

Thus, recently shifting to T+1 settlement and moving toward T+0 is a welcome step to promote corporate bond market by SEBI in India

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4. In light of recent Budget 2025 allocations and the push for green infrastructure, analyze how Viability Gap Funding can be leveraged to promote renewable energy projects. (10 marks, 150 words)

Viability Gap funding is provided by government upto 40% of project to private sector in areas where projects are necessary but financially unviable.

Push for green energy in Budget 2025 → Green credit scheme.  
→ Target to achieve 50% non fossil fuel by 2030.  
→ resource allocation for solar and wind energy.

Leveraging viability gap funding to promote renewable energy:-

(i) Reducing economic burden on private sector

eg) Badli solar park project supported by government

(ii) Promoting investment in new sources of energy.

eg) National green energy project providing economic support upto 75%.

(iii) Reducing regional disparities  
eg presently renewable energy 60% is concentrated in western state like Gujarat, Karnataka.

(iv) Reducing cost and enhancing affordability of renewable energy  
eg solar energy cost reduced from ₹7.5/unit to ₹2.5/unit (now)

(v) Crowding-in effort by providing viability funding to projects.

Challenges (i) limited financial resource of government

(ii) Import dependency for technology

WAY FORWARD → Promoting decentralised renewable energy like PM Surya Ghar Yojana

→ International collaboration in the Green energy partnership with Sweden

Thus, viability gap funding, if supported by investment in R&D has potential to achieve Panchsankshat target by 2040

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5. Why is self-sufficiency in pulse production crucial for India? Discuss the policy and technological interventions needed to achieve Aatma Nirbharata in pulses.  
(10 marks, 150 words)

Recently in Budget 2021-26 government gave target to achieve atmanirbharta in pulses by 2030.

Need for self sufficiency in pulses

- (i) Addressing issues of cob-web phenomena in price of pulses.
- (ii) Reducing food inflation  
eg pulses accounts to 20% of food index
- (iii) Forex saving by reducing import  
eg presently India imports 40% of its pulses need.
- (iv) Doubling farmers income  
eg As per Dalwari committee. A crore of diversification to pulse increase income by 70,000/year.
- (v) Promoting food processing and meeting domestic needs

## Policy intervention needed are

- (i) Rationalization of MSP regime  
→ highly skewed towards wheat and Rice.
- (ii) Providing input subsidies on seeds and fertilizers linked to pulses production.
- (iii) Creating better access to market for price realization.

## Technological intervention

- (i) R & D in pulses need to increase productivity and climate resilient crops.
- (ii) Development of pesticides and weedicides suitable for pulses.

Thus, pulses atmanirvartna will help to achieve the triple objective of doubling farming income and reducing dependence on import.

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6. Examine how space-based solutions are addressing developmental challenges in rural India. What steps can further enhance their outreach and effectiveness?

(10 marks, 150 words)

Indian space budget has increased 3 times from 2014 to ₹14,600 crore in 2024, highlighting importance of space sector.

Space-based solution for rural development

① Agriculture: satellite based weather forecasting  
↳ crop-monitoring

② Health sector: satellite based tele-medicine in rural areas.

③ Education: access to Television and radio  
eg) Swayam Prabha channel for education

④ Disaster management: early warning system for floods, cloud burst, etc.

⑤ Providing benefits of government schemes

Ex) PM-fasal Bima yojana uses satellite based image for claims

Steps to further enhance outreach and effectiveness

① Creating awareness about satellite based services;

(ii) Providing satellite based internet to area not connected with optical fibre.

(iii) Common service center for utilization of these services

(iv) establishing digital library in every panchayat.

Thus, space sector has potential to transform rural economy by providing access to information and other services

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7. Delineate the linkages between urbanization patterns and rising PM 2.5 levels in Tier-II and Tier-III cities of India. What are the various mitigation measures and the government's initiatives to mitigate air pollution in India?

(10 marks, 150 words)

India's urban population is expected to rise from 38% to 50% by 2030 as per ~~World~~ World Bank.

Linkage between urbanization and PM-2.5 levels

- ① vehicular emission from personal vehicle contributes 90% of PM 2.5.
- ② Biomass burning by households in tier II & III cities.
- ③ Polluting industries located near by like refineries, tanneries, etc.
- ④ Road dust is a major cause in smaller cities.
- ⑤ Agricultural and household waste-disposal  
(eg) open burning of landfills in smaller cities

## Various mitigation measures by govt

① National clean air program  
→ aims to reduce 50% of  $PM_{2.5}$  level in 300 non-attainment cities

② Graded ~~performance~~ action Plans  
to regulate pollution

③ Air pollution Act for industrial pollution regulation.

④ shift towards BS-IV vehicle  
(75% reduction in emissions)

⑤ Technological interventions like smog-tower in cities

## Way-forward

- ↳ promoting clean cooling fuel
- ↳ urban-mass transit system like Metro
- ↳ electric-mobility plans (FAME India)

Thus, addressing problem of  $PM_{2.5}$  pollution will lead to Swachh and Swasth India

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8. Explain the structural and operational limitations of the Disaster Management Act, 2005. How far does the 2025 Amendment address these deficiencies through a shift towards anticipatory and technology-driven disaster governance?

(10 marks, 150 words)

Disaster Management Act 2005 provides for institutional and financial mechanism to deal with disaster in India.

## Structural limitations

- ① lack of legal backing to National Crisis Management Committee.
- ② definitions were abi-ambiguous about mitigation, risk reduction, etc.
- ③ non-mandatory nature of SDRF.

## Operational limitations :-

- ① functional overlap between NCCMC and NDMA.
- (ii) lack of autonomy to National Disaster Management Agency (NDMA) under Home ministry.

(iii) Non-inclusion of some prominent disasters like heat wave.

(iv) limited role of local agency participations.

2015 Amendment to NDMA-2005

(i) creation of Urban disaster Management Agency for National and state capital areas.

(ii) clear definition of terms like mitigation, prevention, etc.

(iii) delimitation of role of National Disaster Management authorities and giving it legal status.

(iv) Mandatory for state to create SDRF.

Best challenges remaining :-

(1) lack of functioning details of CDMA

(2) financial issues remained unaddressed

(3) Issue of shortage of man-power in NDMA.

Thus, there is need to completely integrate Sendai framework into NDMA-2005.

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9. What do you understand about Artificial Neural Networks? List out its applications across various fields. (10 marks, 150 words)

Artificial neural networks are computer programmed to mimic the functioning of human brain and think like human in a given circumstance based on stimulation received.

(eg) Neuralink by Elon Musk.

Application in various field

① Human health → addressing  
- Neural disorder  
→ better prosthetic and artificial limbs.  
→ Ageing related issues like Paralysis diseases.

② Education addressing learning difficulty issues with adaptive learning.

(eg) child suffering from Dislexia.com learn on its own pace.

- ③ Robotics: humanoid can be developed for industrial works
  - ④ Industries supply chain management and smart manufacturing
  - ⑤ Disaster search and rescue operation using smart robots.
  - ⑥ Computers solving complex real world problems like resource management and planning.
  - ⑦ Weather forecasting and disaster early warning.
  - ⑧ Limitations → deception and privacy issue  
↳ job displacement in various sectors.
- There, is need to invest in Artificial Neural Network and upgrade human skills to make maximum benefits of the technology.

10. "Internal security challenges in India are increasingly shaped by external and transnational dynamics." Examine the statement with relevant examples

(10 marks, 150 words)

Internal security means securing national boundary and its citizens from all type of security risks.

Internal security shaped by external and transnational dynamic

(i) Over border terrorism

(a) Pahalgam attack by Pakistan based terrorist

(ii) Drugs trafficking from Golden triangle and Golden crescent region

(a) seizure of 2000 kg drugs on Mandira post (2013)

(iii) Illegal migrants and demographic changes

(a) Rohingia crisis from Myanmar in India

(iv) Airborne smuggling

(a) Pakistan supplying Guns in Punjab by UAV.

(v) Support to insurgent groups in India  
(eg) China supplying weapons to insurgent groups in North East India

(vi) Money laundering and hawala transaction

(eg) Panama Paper scandal

(vii) Use of NGO's and charitable institution to fuel protest

(eg) Greenpeace in case of Kudamkulam nuclear project

(viii) Promoting and supporting separatist movement

(eg) Khalistan issue by foreign based radical outfits

Thus, internal security is increasingly linked to external situations specially in neighbourhood in this globalized world.

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11. While tariff rationalization aims to enhance economic efficiency, it may also pose challenges to certain sectors. Critically assess the potential trade-offs involved in the Union Budget 2025-26's approach to tariff reforms.

(15 marks, 250 words)

Union Budget 2025-26 aims to rationalize India's tariff to attract foreign companies and boost export for faster economic growth.

Tariff rationalization to enhance economic efficiency:-

- ① Promoting Ease of Doing Business by - simplified tariff regime.  
→ clear duty structure
- ② Boost to manufacturing sectors which stagnant at 4% of GDP.  
→ reduction in import duty on critical component like semiconductors.  
→ support to emerging sectors like green hydrogen.
- ③ Attracting FDI by rationalization of taxation system.

- ④ Integration in global supply chain by attracting factories amid USA - China trade wars
- ⑤ Addressing issue of inverted duty structure
  - ↳ Textile industries
- ⑥ Boost employment creation and economic growth

## Trade-offs and challenges :-

- ① Revenue loss due to reduced tariff ↳ lower tariff on solar panel will reduce income for government
- ② Impact on domestic manufacturers specially MSME's
  - unfair competition from cheap imports
- ③ Increased dependency on imports specially in critical sectors like electronics & defence

(iv) Environmental concerns due to reduced tariff in imported goods like plastics.

(v) Delays reforms in economic sectors like labour reforms, informalization etc.

## Way forward

- (i) Sector-specific calibrated Tariff policy: like protecting MSMEs and agriculture sector
- (ii) Improving domestic capacity for export promotion.
- (iii) providing handholding support to home grown industries
- (iv) promoting formation of MSMEs through registration and EOB reforms

Thus, to achieve Prarambhar Bharat Goals, Make in India programme should be complemented with greater integration in global supply chain

12. A shift from fiscal deficit targeting to debt-to-GDP ratio as the fiscal anchor signals a more holistic approach to fiscal discipline. Do you agree? Give reasons in support of your arguments. (15 marks, 250 words)

Recently union budget proposed shift from fiscal deficit targeting as per FRBM act to debt-to-GDP ratio as global established practice to ensure fiscal discipline.

Advantages of shift :-

- ① Increases fiscal space for government to address developmental needs  
eg) increasing capex from 1% in 2014 to 3.4% of GDP in 2024.
- ② Shift from pro-cyclical to counter cyclic approach.  
eg) Addressing economic slow-down by increasing government expenditure
- ③ Crowding-in effect of government spending  
eg) spending in railways has 2.5x multiplier effect.

- ④ Aligning spending with growth rate of economy.  
Eg) positive interest-rate growth differential indicates better debt sustainability
- ⑤ Promotes performance based and outcome budgeting.  
Eg) regular review of quality of spending.
- ⑥ Promotes transparency and reduces off-budget borrowing
- ⑦ Flexibility to increase spending of social sectors in <sup>slow</sup> growth period. Eg) PM-Garib Kalyan Yojana during Covid-19.
- ⑧ Boosting employment by investing in labor intensive sector or self employment  
Eg) PM - Formalization of food processing enterprises

## Limitations of shift :-

- (i) Increased debt to GDP ratio 89% (economy survey) → reduces fiscal space
- (ii) May promote extra spending by government → crowding out of private investment
- (iii) Increased interest rate burden will lead to inter-generational debt cycle. (eg) USA (20%) debt to GDP ratio.

## Way forward

- (1) focus on quality and efficiency of spending (15th Finance Commission)
- (2) Reducing revenue deficit to zero. (FRBM)
- (3) Increasing Public-Private partnership.

Thus to achieve the target of developed India by 2047, deft management of fiscal discipline is imperative.

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13. India's food processing sector is moving towards greater formalization and efficiency. Critically assess how initiatives like the PLI scheme and Pradhan Mantri Formalisation of Micro Food Enterprises (PM-FME) contribute to this transformation.  
(15 marks, 250 words)

The contribution of formal sector in food processing sector output has increased to 60% of total in 2024 (Economic Survey 2024-25)

Contributions of government schemes

(A) PLI

- ① Promoting economies of scale  
eg) PLI provides benefits only to large scale formal food processing unit → promoting formalization.
- ② Incentive based subsidy ∴ entrepreneurs are encouraged to register with portal to receive benefits.
- ③ Promoting competitiveness of sector to integrate with global supply chain.
- ④ Employment generation by establishing Mega Food Parks

## (B) PM-FME

- ① Promoting access to credit by formal source  
(a) upto 75% of total project cost
- ② Promoting cluster based food processing sectors  
(a) one district on product scheme.
- ③ Promoting ease of doing business by giving handholding support.  
(a) single window clearance and taxation reforms.

## Criticism of PLI and PM-FME scheme

- ① PLI's benefits : limited to big corporate only.
- ② Limited value addition in final product: (a) only 16% food is processed.
- (iii) lack of diversification of food

processing sectors.

(eg) dominated by cereals and aquaculture.

(iv) Dominance of informal industries in Micro-food processing (eg) 90% of micro-food processing sector is informal.

(v) Slow adaptation of technology in sector like AI, Blockchain.

Way forward :-

(i) Promotion of millet as superfood in food processing (double benefit nutrition + climate resilient)

(ii) Providing training and skills to micro-industries operators.

(iii) Promoting FDI in food processing sector.

(iv) Market intelligence and awareness about export level and strict quality measures.

Thus, food processing sector as sunrise sector has potential for doubling farmers income and address nutritional challenge (SOG (FR 2))

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14. Do you agree that granting a legal guarantee to Minimum Support Price (MSP) may create a fiscally unsustainable and economically inefficient agricultural system? Suggest viable alternatives to ensure fair farmer remuneration without distorting the market. (15 marks, 250 words)

Agriculture sector contributes 16% to GDP and provides employment to 45% of population. Minimum Support Price assures farmer a remunerative price for their produce.

Benefits of granting legal guarantee to MSP :-

- ① Assurance of fair price to farmer against market fluctuations.
- ② Promotes crop diversification  
↳ MSP for 22 crops is given.
- ③ Ensuring food security  
(e) National food security act
- ④ Increasing investment in agriculture by farmers - like irrigation system
- ⑤ Reducing financial burden on farmer.

## MSP as fiscally unsustainable:

- (i) Increasing food subsidy  
(eg) ₹2.5 lakh crore in budget was-14
- (ii) fiscal share is limited for government  
(eg) As per estimate it will cost 50% of budget alone.

## MSP as economically inefficient

- (i) Artificial inflation in food sector  
(eg) MSP is 1.5x the cost of production
- (ii) Skewed procurement policy & tilted heavily towards wheat-rice  
→ promotes monocropping.
- (iii) Reduced investment by government in agriculture infrastructure.  
(eg) total capital formation is 13% in agriculture as compared to 30% of overall economy in India.
- (iv) Reduced income to farmers  
(eg) Average annual income of farmers in Punjab increased only by 2% p.a

Alternative to ensure fair farmer remuneration without distorting market

- ① Providing direct cash transfer to farmer (eg) PM-KISAN scheme
- ② Implementing Price deficiency payment schemes.
- ③ Diversifying procurement of all 22 crops from just wheat-rice.
- ④ Promoting Farmer Producer Org<sup>n</sup> for economies of scale.
- ⑤ Promoting secondary agriculture (Balwani Committee)
- ⑥ Corporate farming can be promoted with contract farming
- ⑦ Promoting food processing sector for better price realization.

Thus, instead of legal status to MSP, there is need to invest in agriculture infrastructure like irrigation, storage and market for doubling farmer income

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15. Digital Public Infrastructure (DPI) can empower developing countries to lead the global climate action narrative. Discuss with suitable examples.

(15 marks, 250 words)

Digital Public Infrastructure is a set of open, inclusive and interoperable digital systems such as digital identity, payment and data exchange layer.

(eg) India Stack.

DPI empowering developing countries to lead global climate action

- ① Data driven climate governance  
↳ real-time monitoring of deforestation, emission, etc.  
(eg) Indian Bhuvan Portal for geo-spatial mapping.
- ② targeted and transparent climate financing  
(eg) PM-KUSUM for solar power irrigation by DBT for farmers.
- ③ climate resilient Agriculture  
(eg) P~~RO~~ FASAL application for weather forecasting for farmers.

① Digital carbon market based on blockchain for ~~cross~~ climate trading  
Ex) Kenya - links with farmers adopting natural farming to carbon market

② Disaster preparedness and resilience

Ex) Digital flood forecasting system in Bangladesh, using DFD.

③ Promoting behavioural change & Nudge through technology

Ex) Swachhata app for data regulation on waste management

Advantage for Developing Countries

- youth and skilled labour force
- open source ecosystem  
Ex) Andhra State's open source
- community centric solution  
rather bottom up solution

Challenges faced by developing countries

① Digital divide and lower digital literacy → only 35% in Andhra

② Data sovereignty and privacy due to open sourced nature

③ Lack of funding support as developing nations are already under debt

④ Trust deficit as technology from developing countries are not accepted in developed world

Way forward :-

① foster North-South cooperation for collective action.

② Setting green GDP standards for sustainability

③ fostering public private partnership for funding support

④ Promoting technology support from developed economies

Thus, it will help us to realise the targets under Paris deal to mitigate the challenges of climate change

16. Analyse the reasons behind the increasing vulnerability of the Himalayan region to landslides. What steps can be taken for their management and control?

(15 marks, 250 words)

As per landslides vulnerability map released by PSKD, Himalayan region amounts for 70% of India's total landslide incidence.

Reasons for increasing vulnerability

(1) Geological reasons

(1.1) Active tectonic plate movement.

(1.2) Unconsolidated sedimentary rocks.

(1.3) Heavy rainfall due to monsoon.

(2) Anthropogenic reasons

(2.1) Climate change: leading to cloud burst like incidence

(2.2) Chamoli in 2022.

(2.2) Rising temperature → glacier melting → promoting events like Glacier lake outburst  
Ex) Sikkim landslide 2023

(2.3) Unsustainable urbanization and population settlement in sensitive zone

(2.4) Roads and infrastructure construction → disturbs the hill slope.

(2.5) Building hydro power projects and dams in this region  
Ex) Joshimath land subsidence 2023

Steps for management of landslides

① Creation of landslide vulnerability map and landslide zonation.

② Early warning system and information dissemination system.

- (3) Environmental studies and long terms assessment before approval of project.
- (4) Sustainable urbanization and ecotourism.
- (5) Complete ban on large hydro-power project → only smaller project shall be allowed.
- (6) Building retention wall and proper drainage system to prevent water logging.
- (7) Promotion of afforestation on hill slope.
- (8) Creating awareness and community partnership in disaster management.
- (9) Disaster resilient infrastructure should be promoted.

Thus, landslide prevention and mitigation will require active support of local people as well as institutional support from Govt.

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17. Forest fires are yet another symptom of climate change. Analyze the various causes for wildfire in forests. Give two examples of recent wildfires. Mention the policies and frameworks aimed at tackling wildfire in India. (15 marks, 250 words)

Incidence of forest fire has increased by 29% as compared to a decade ago worldwide as per NASA studies

Causes for wildfire :-

- ① Increasing temperature and global warming → exaggerate the forest fire
- ② Reduced rainfall due to climate change → it used damp the fire
- ③ Reduction in diversity of forest due to plantation forest
- ④ Intentional fire due to clearing forest land for agriculture.
- ⑤ Traditional agriculture practices like shifting cultivation.
- ⑥ Climatic events like El-Nino and heatwaves → frequency of wildfire has increased.

## Two examples of recent wildfires

① Amazon forest wildfire (2023)

→ caused burning of more than 10% of destruction of rainforest of this area.

② California wildfire (2024)

→ relentless fire in USA summer of 2024, caused extensive damage to forest; houses and huge economic loss.

## Policies and framework in India for tackling wildfire

① Forest fire prevention and management scheme for collective action to control forest fire.

② National Action Plan on forest fire by MoEFCC to reduce forest fire with community engagement.

(Don't write anything in this part)

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(Don't write anything in this part)

(3) forest fire alert: using MODIS satellite for realtime monitoring of ~~the~~ forest fire

(4) Forest fire training programme for NDRF personnel.

(5) Van Agi - Geo Portal under forest protection division to monitor forest fire.

Thus, government has taken various steps to reduce and mitigate forest fire. It will help in achieving target of Green India Mission to promote forestation in 33% of geographical area of country.

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18. One Health approach is key to preventing future pandemics and preserving ecosystems. Analyze how the Biodiversity and Health Global Action Plan adopted at COP 16 aligns with this vision. (15 marks, 250 words)

The One Health approach recognises the interdependence of human, animal, plant and ecosystems health.

The principle was adopted in 16th COP of Biodiversity and Health Global Action Plan.

Global Action Plan at COP alignment with one health vision

① Interconnected health framework

→ Plan links bio diversity with ecosystem degradation.

(eg) deforestation → increased human wildlife contact → zoonotic diseases

② Promotes multi-sectoral approach

→ integration of National Biodiversity Strategies and Health action plan

(eg) pollution and health related issues

③ Knowledge sharing and capacity building  
eg) science based · monitoring and cross sectional research.

④ financial mechanisms: adopted Call fund · for contribution from companies using nature's products.

⑤ Creating Early warning system for future pandemic prevention

## Challenges

① Action plans are voluntary in nature; nations may not implement

② Inadequate financing: only USA pledged \$120 ~~bn~~ <sup>mm</sup> against need of 500 bn/year

③ Lack of cooperation and consensus among members

⑨ Balancing developmental need with ecosystem conservation

⑩ Way forward

① Provision of global funds for one health under WHO.

② Research and development in zoonotic disease to prevent future pandemic.

③ International cooperation with institutional mechanism like UN and WHO

Thus, One Health approach is holistic concept of health. It will help to achieve the target of Health for all SDG-3.

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19. In light of evolving national security threats, how do the New Criminal Laws address modern threats like cybercrime and organized crime? Outline the challenges perceived in its effective implementation.

(15 marks, 250 words)

As per ITC, cybercrime cost 1.5% of India's GDP and organised crimes leads to huge taxation loss as well as law and order issues in India.

New Criminal laws addressing threats like cybercrime and organised crime

- (i) Provided clear definition of organised crime. "as any crime done to gain financially with organised pattern".
- (ii) Stringent provision for punishment (a) fine and imprisonment beyond 7 yrs.
- (iii) define the term cybercrime in BNS.
- (iv) establishment of cyber police station.

- (v) establishment of Crime Centralised Criminal Tracking Network (CCINS) for creation of national database
- (vi) Provision for capacity building of police in cyber security area.
- (vii) Improving inter-agency coordination to deal with organised crime.
- (viii) Providing power of seizure of properties of persons involved in crime to authorities

## Challenges in effective implementation

- (i) Transnational nature of these crime (eg) Money laundering involves overseas financing.
- (ii) lack of trained workforce in cyber security.
- (iii) Issue of inter-agency and inter-state

cooperation:

(v) Law and order falls under state government jurisdiction

(vi) Lack of manpower in policing.

(vii) India  $\rightarrow$  170/million, recommended 220/million (Prakash Singh Badal judgment)

(viii) Lack of infrastructure like internet connectivity, AI enabled programmes for better investigation.

Way forward :-

(i) Adopting whole of nation approach for inter-agency coordination.

(ii) Urgent hiring of required man-power in police force.

(iii) Skilling and upskilling of police in new technology.

Thus, to create a strong self-reliant India, cybercrime and organised must be eradicated. It will ensure a 'samridh Bharat' by 2047.

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Marks:

20. Discuss how integrated border infrastructure and management practices can balance security imperatives with the socio-economic development of frontier communities. (15 marks, 250 words)

India has 15000 km long landborder and 7500 km long coastal border. The border is characterised by difficult terrain and instability in neighbourhood.

## Benefits of integrated border management

- ① Ensuring safety and security of frontier community.  
eg) recent border clash between Pakistan and India killed 16 citizens in J&K.
- ② Addressing issues of infrastructure deficit.  
eg) vibrant village programme
- ③ Providing round the year connectivity.  
eg) Tunnels like gozilas, selles, etc for connectivity
- ④ creation of employment opportunity eg) developmental

- activities promotes employment
- ⑤ Promoting tourism in frontier village. due to improved security situation.
  - ⑥ Attracting investment due to better security status.  
eg) 36000 cr investment in Jammu and Kashmir after abrogation of ART 370.
  - ⑦ Addressing issues of illegal migrants → promotes better law and order.
  - ⑧ Flourishing local economy due to lack of disruption like curfews and cross-border firing.
  - ⑨ Reducing government security related expenditure → can be used for developmental causes like education and health.
  - ⑩ Facilitating cross-border trade.  
eg) India-Bangladesh Border haat.

## Challenges

- ① difficult terrain marked by rivers, mountains and dense forest
- ② lack of technological expertise to build infrastructure in these topography
- ③ Instability in neighbouring (by) Bangladesh and Myanmar.

## Steps taken by government

- ① Comprehensive Border infrastructure management plan.
- (i) use of technology like satellite surveillance and night vision cameras.
- (ii) developmental programmes like Aspirational district programs vibrant village programme.

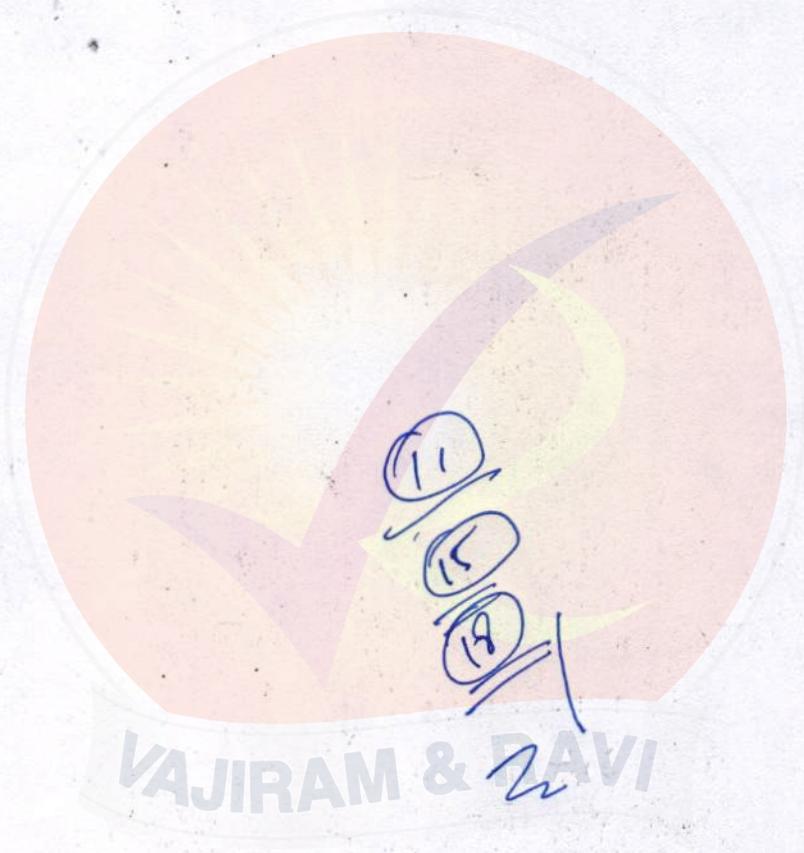
"4 border village are no longer last but ~~the~~ first village of nation and build a secure and strong India, development of border communities is first priority of government" - PM-Modi

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# Space for Rough Work



# Space for Rough Work



Handwritten calculations and numbers:

- 150
- 130-140
- 140
- 20
- 200
- 220
- 220-230
- 29