

Test Code: 21100

FIAS – 2019 – GS 3H/7G/11E/13D

ForumIAS

ACADEMY

GENERAL STUDIES

Name Of Candidate	PRATYUSH PANDEY			
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Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE			INSTRUCTION	
Q. No.	Max. Marks	Marks Obtained		
1			<p>1. Do furnish the appropriate details in the answer sheet (viz. Name, Email, Roll No, Mobile).</p> <p>2. There are TWENTY questions printed in ENGLISH.</p> <p>3. All questions are compulsory.</p> <p>4. The number of marks carried by a question/part is indicated against it.</p> <p>5. 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.</p> <p>6. Word limit in questions, if specified, should be adhered to.</p> <p>7. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off.</p>	
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Total Marks:				
Remarks:			Start Time 2:30pm	End Time 5:30pm
			Mode Of Examination :	Online <input checked="" type="checkbox"/> Offline <input type="checkbox"/>
			ECN CODE:	Evaluation Date:

Parameters	Excellent	Very Good	Good	Average	Poor	Very Poor
Language						
Structure						
Presentation						
Handwriting						
Content						
Attempt						

ADDITIONAL COMMENTS



Q.1) "No major country has managed to reduce poverty or sustain economic growth without a robust manufacturing sector." In this context, discuss the need for a new industrial policy in India.

(10 Marks, 150 Words)

The Economic Survey highlighted need to raise share of manufacturing for economic growth

Current situation

- ① Only 16% GDP share of manufacturing
→ compared to 45% in China
- ② High unemployment - 6.1% (NSSO)
- ③ Concentration of workforce in agriculture
- 47% workers only produce 14% GDP
- ④ Low productivity, import dependence in manufacturing
→ electronics, defence. imports

Existing policy

- ① Manufacturing share target of 25% GDP
- By 2022
- ② Development of National Investment and Manufacturing Zones



New Industrial Policy

① Reduction of Poverty

1. → Focus on sunrise sectors which are labor intensive eg textile
2. Integrated clusters of MSMEs.

② Sustained economic growth

1. Easier access to credit via Payment bank, micro finance institutions for MSME
2. Raise competitiveness for exports
3. Leverage AI, IoT, SG for 4th Industrial Revolution

Thus - India can achieve goal of \$ 5 trillion economy via robust manufacturing base

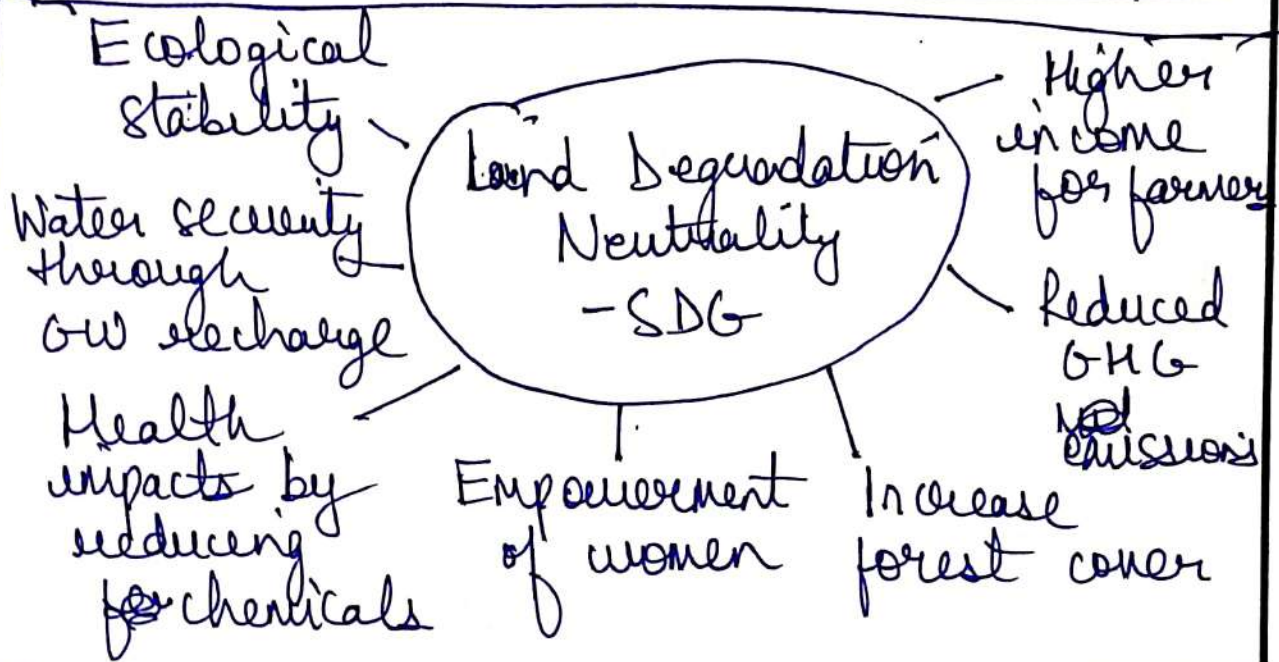
Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.2) What is Land Degradation Neutrality? In what ways it can act as a centrepiece in achieving the goals of Sustainable Development Goal by India. Discuss.

(10 Marks, 150 Words)

UNCCD defines Land Degradation Neutrality as condition when the quantity and quality of land ecosystem does not decrease with time or space



Situation in India

1. ISRO Land Degradation Atlas : 30% India's land undergoing degradation
2. WWF Soil Biodiversity Atlas : India's soil faces highest risk in world

LBN for SDGs in India

1. Raise ~~food~~ food yield, & nutrition for meeting Health for All

2. Doubling farmer incomes to reduce income inequality
3. Raising of carbon sink to mitigate Global Warming, meet INDCs
4. Restoration of ecosystem to preserve biodiversity
5. Empowerment of women, who are most affected by degradation

Way Forward

India has committed to Bonn Challenge for afforestation, and is implementing Sustainable Land and Ecosystem Management (SLEM) with UNEP to meet LDN goal by 2030

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.3) "Quality of India's human capital is the major impediment in reaping the benefits of demographic dividend." Examine. (10 Marks, 150 Words)

According to Human Capital Index, India's score is only 0.44, meaning it has 44% productivity compared to developed nations.

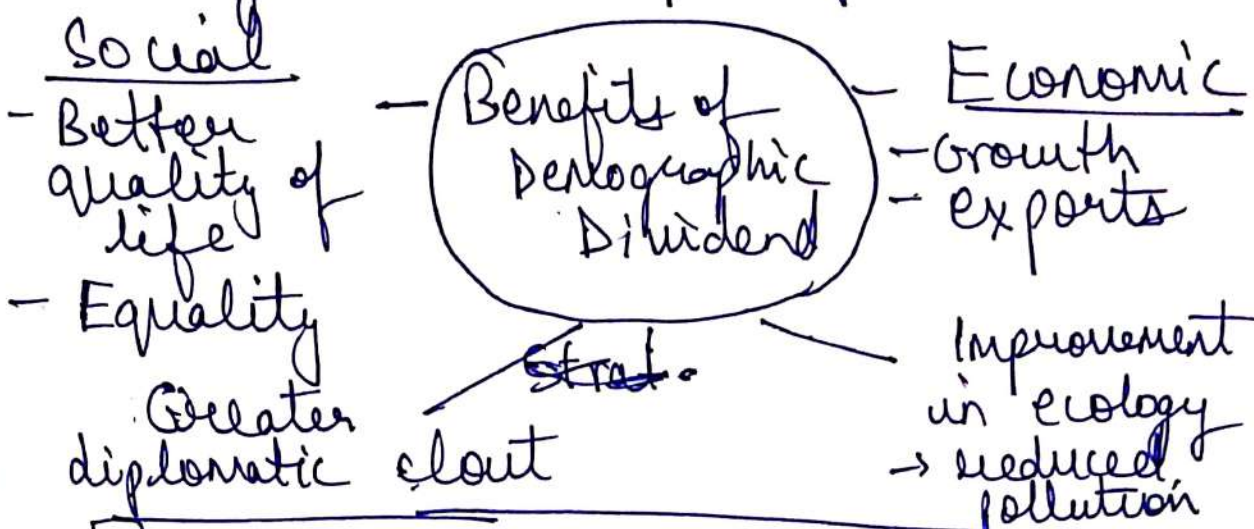
Demographic Dividend

With median age 25, and 65% of population in workforce, Economic Survey highlights potential demographic dividend.

Human Capital Challenges for Demographic Dividend

- ① Low productivity of workforce
- ② NASSCOM: Low employability
→ 98% engineers need to be retrained
- ③ Lack of international competitiveness
→ Reduce exports
- ④ Poverty, low health indicators
→ 1 in 5 children ~~stunted~~ malnourished, 2 in 5 stunted, 1 in 7 malnourished (WHO)
- ⑤ High dropout rate, especially girls
- ⑥ Restrictions on female employment

→ only 24% labor participation (NSSO)



Way Forward - Improve Human Capital

- ① PPP for skill development
- ② Online certification, training modules
- ③ Global collaboration
eg Singapore, Israel training institutes
- ④ Incentives for workforce to train

Thus, India can reap benefits of demographic dividend.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.4) "Despite bringing in new crops, technologies and markets for farmers, contract farming excludes the smallholder farmers." Analyse. (10 Marks, 150 Words)

Contract farming involves direct relationship between producer and purchaser for specified quantity, quality of produce to be purchased.

Measures Taken for Contract Farming

- ① New crops - Breeding of varieties
 - Protection of Plant Varieties Act to encourage private sector, protects breeder rights
 - Diversification of produce
- ② New technology
 1. Weather forecasting : Bhuvar by ISRO
 2. Price forecasting : Agri Market app
 3. Insurance - Fasal Bima Yojana
 4. Soil Health: Soil Health Card
- ③ New Markets - e-National Agriculture
 1. Market for single unified market
 - eliminates middlemen
 2. Agri Export policy to export abroad.

Challenges - small farmers excluded

1. Difficulty in contracting due to fragmented landholdings - MNCs avoid

- 2. Asymmetry in power between MNCs, small farmers
- 3. Low awareness of government schemes
- 4. Lack digital, financial literacy
- 5. Low access to credit, technology

Way Forward

- ① NITI Aayog Model Contract Farming Act
 → facilitate Farmer Producer Organizations to protect farmer rights
- ② Dedicated Agri Export Zones as per NITI Aayog 3 Year Action Plan
- ③ Encourage cooperatives among producers

Thus, contract farming can help double farmer incomes as suggested by Dalwai Committee

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	



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Q.5) "Plant Variety Protection law regulating intellectual property rights in seeds is considered indispensable for seed sovereignty and thus food sovereignty." Examine.

(10 Marks, 150 Words)

India enacted Plant Variety Protection Law in accordance with TRIPS obligations under WTO to protect breeders' rights over their varieties.

PVP Authority,
PVP Appellate Tribunal for enforcement, dispute settlement
Protects farmers' rights over their varieties similar to breeders

PVP law

Protection of breeders rights to exclusive use

Allows farmers to store, use, sell, sow protected varieties in unbranded forms

Indispensable for seed, Food sovereignty

- ① Protection of breeders rights encourages R & D.
- ② Protection of farmer rights over varieties to boost farmer income
- ③ Allows researchers to use protected varieties
- ④ Enables farmers to use protected varieties
→ prevents MNC monopoly on seeds
→ keeps seed price low

⑤ Compensation for failure of seeds to farmer - safeguards against MNC exploitation

Limitations

① Allowing use of protected varieties in unbleeded forms violates IP protection
→ eg recent PepsiCo case - deters firms from developing varieties

② ~~Excess~~ Exemptions for researchers often misused by rival firms

Way Forward

Thus, there is need to incentivize R&D in seed varieties through limited protection like royalties while ensuring seed prices are regulated

Feedback (For OFFICE use only)

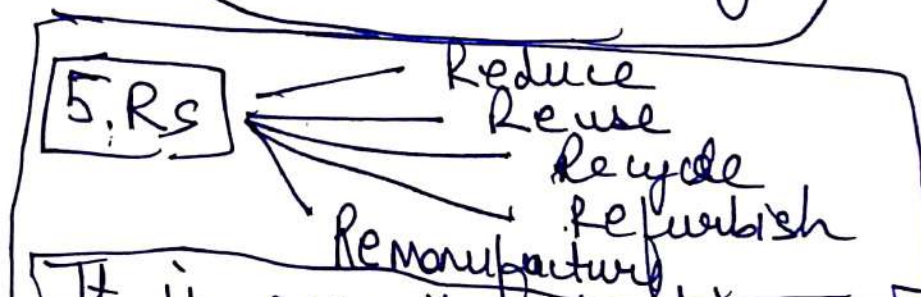
Structure		Content	
Question Interpretation		Total :	

Q.6) What do you understand by Circular Economy? Describe the role of Circular Economy in increasing productivity and sustainability. Discuss the steps taken by India towards being a circular economy.

(10 Marks, 150 Words)

Circular Economy refers to the attempt to enhance life-cycle of goods ~~and~~ by re-use, sharing, leasing

Circular Economy



It is opposite of Linear Economy, based on 'use and throw' model

Circular Economy

Productivity

1. Higher lifecycle of goods
2. Lower operating cost
3. Greater utilization efficiency
4. Lower idle time
5. Improved health ~~of~~ man's productivity
→ due to lower pollution

Sustainability

1. Less waste generation
2. Reduced GHG emissions
3. Lower resource extraction
4. Empowerment of women, children
→ lower burden on food collection

India's Steps

- ① NITI Aayog : Circular Economy Vision to provide strategic roadmap
- ② Bureau of Energy Efficiency
 - Perform, Achieve, Trade Scheme to incentivize firms
 - STAR rating for energy efficiency
- Economic Survey : Savings of Rs 50,000 crore / year by BEE
- ③ Waste to energy plants in Delhi
- ④ National Biofuel Policy Methanol Economy → energy from bio-mass, foodstock

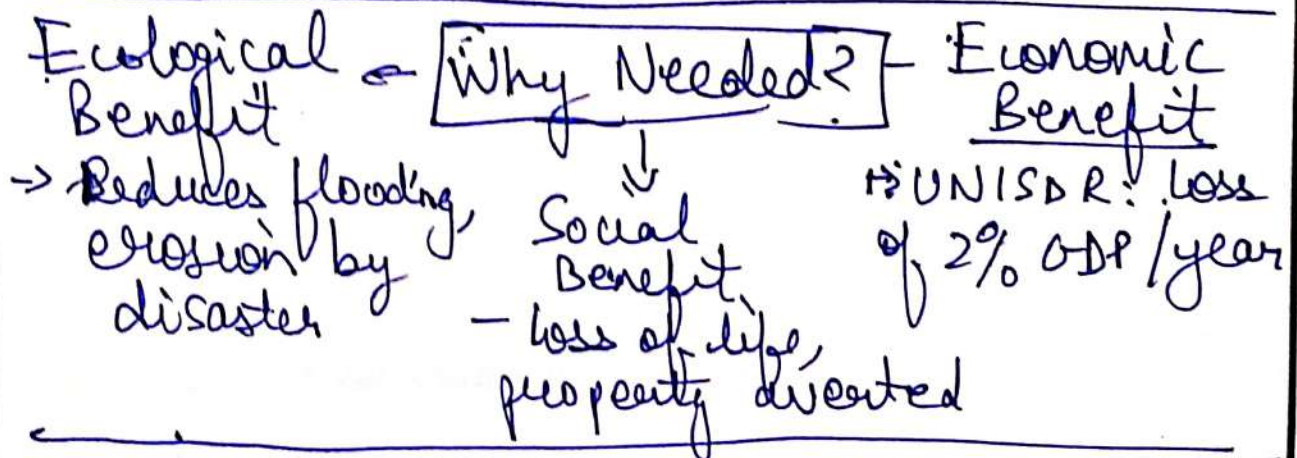
Thus, circular economy can help meet Paris INDCs while achieving goal of \$5 tr economy

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.7) Coalition for Disaster Resilient Infrastructure (CDRI) could fill a real gap at a time when climate change-induced floods, cyclones and fires have multiplied in destructive force. Analyse. (10 Marks, 150 Words)

India has recently taken lead in setting up Coalition for Disaster Resilient Infrastructure to reduce the risks due to disasters.



Multiplying Destruction of Disasters

1. Climate change - increases frequency of disasters
2. Higher population density - increases damage due to disasters

eg last year, over 5 cyclones - Gaja, Titli, Phailin, hit India.

Filling Gap in DM

1. Facilitates global collaboration
2. Emphasis on resilience rather than mitigation - prevention better than treatment

3. A line with Sendai Framework

Challenges

- ① Limited vulnerability assessment mapping in Least developed countries
- ② Political challenges
eg Brazil - destruction of Amazon, US - withdraw from Paris INDCs
- ③ Funding constraints
- ④ Enf No enforcement capacity.

Way Forward

Thus, it is crucial to build consensus and involve reputed organizations for ground level impact.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.8) Discuss the contribution of Vikram Sarabhai in the advancement of space technology in India. Also, enumerate challenges faced by Indian Space Research Organisation in the commercialisation of its Space programme.

Vikram Sarabhai, whose 100th ^(10 Marks, 150 Words) birth anniversary is this year, was father of Indian Space Programme.

Contributions

1. Foundation of National Space Committee
→ developed into ISRO
2. Creation of National Physical Laboratory, Space Centre at Ahmedabad
3. Major role in preparing path for first satellite, Aryabhata
4. Foundation of IIM Ahmedabad for managerial expertise

ISRO

India's premier space agency, has recently moved towards commercialization of space programme
→ New Space India Ltd launched in Budget

Challenges

- ① Lack of private sector expertise
→ eg no offers for developing ISRO's Li-ion technology

- ② Shortage of rare earth minerals in India → dependence on China for import
- ③ Brain drain - failure to attract talent in Indian space firms
- ④ No domestic regulatory framework for private sector participation in space
- ⑤ Challenges from SpaceX, Blue Origin firms abroad

Way Forward

- 1. Clear legislative framework to encourage domestic firms
- 2. Guidance, mentoring by IITs
- 3. International collaboration, partnerships to avoid duplication of efforts

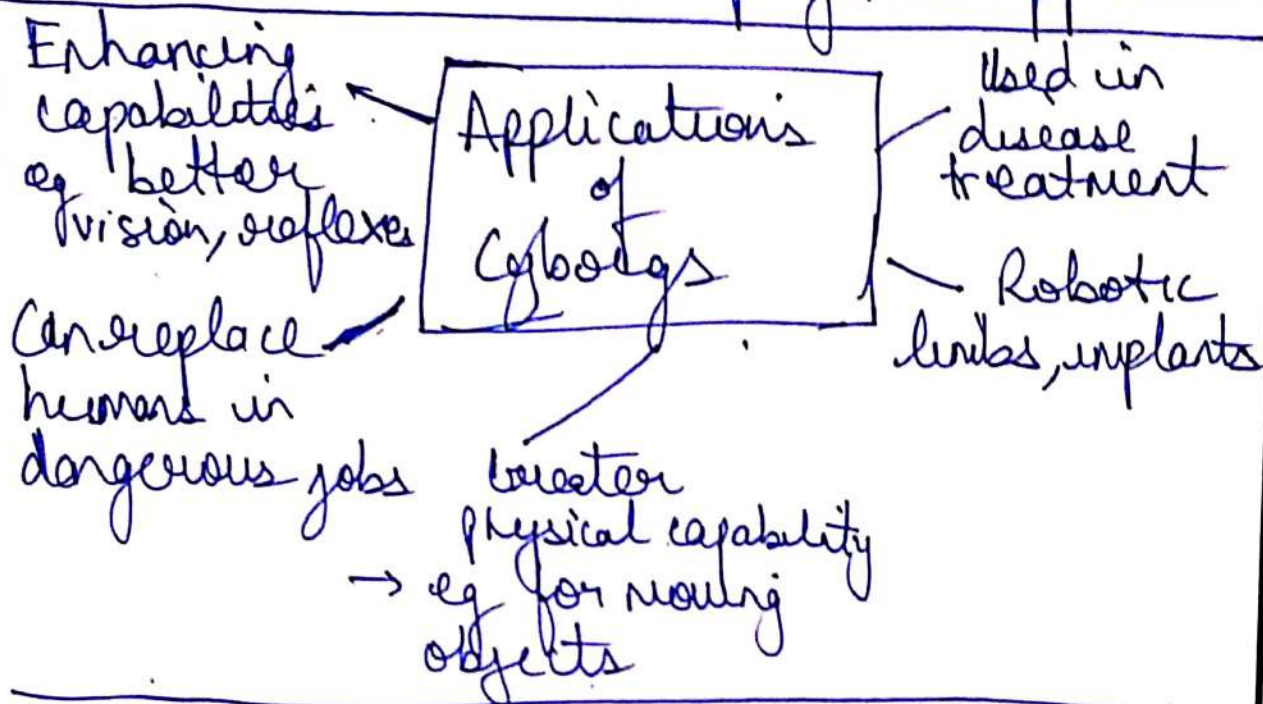
Thus, space programme, part of Vision 2030 in Budget, can be developed

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.9) What is a cyborg? Enumerate different application of cyborg in humans. Also, discuss various concerns arising out of it. (10 Marks, 150 Words)

Cyborgs are robotic machine structures with real world physical application.



Concerns

- 1) Job displacement and widening in equality
- 2) Ethical issues
 - > Increase physical, mental disparity between rich, poor
 - > Misuse for warfare, terrorism
- 3) Concerns about unintended impacts eg Stephen Hawking. They pose existential threat to humanity
- 4) No regulations or consensus among

global scientific community

⑤ Nations like US, China, Russia believed to be developing them secretly

Way Forward

- ① There is need to frame regulations to govern use
- ② Encourage further research before large scale use - prevent accidents
- ③ Global collaboration to develop cyborgs for welfare of all

Thus, cyborgs can be a tool to achieve SDGs if utilized properly

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	



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Q.10) What are the different challenges arising out of social media? Also, suggest additional measures to tackle the menace of social media. (10 Marks, 150 Words)

Social media refers to platforms where users can interact and create content online.
As per ITU, over 2 billion people use social media world wide.

Economic

1. Intrusive advertising
2. Monopoly power of large firms
3. Monetization of data
4. Tax evasion, base erosion & profit shifting (BEPS)

Challenges

1. Fake news
2. Conflicts, lynching due to rumours
3. Polarization of society
4. Pornography
5. Invasion of privacy
6. Cyber crime - eg

Political

1. Influence electoral outcomes eg Cambridge Analytica
2. State sponsored interference eg allegations against Russia
3. Radicalization eg ISIS
4. Honor Challenge

Potential of Social Media

- Platform for MSMEs to sell
- Encourage cross cultural contact
- Raise political awareness, on issues eg #MeToo, climate change

Measures Needed

International

1. Common consensus on regulations eg Budapest convention on cyber crime

② Government

- 1. Regulation to prevent misuse, ensure responsibility of firms
eg IT intermediaries guidelines

③ Social Media Platforms

- 1. Sophisticated algorithms to check fake news, bots, vicious content
- 2. Raise awareness on responsible use eg Whatsapp TV ads

④ Users

- must learn to use responsibly
- sign pledge before use
- educate children to increase safety

thus, we must adhere to Christchurch Call to Action guidelines to ensure social media is not used incorrectly.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.11) What is gene-editing technology? Also, enumerate the ethical and biological concerns associated with the gene editing in humans. (15 Marks, 250 Words)

Gene editing technology uses engineered nucleases like CRISPR-Cas 9 to add, delete or modify DNA in organisms in a manner not found naturally.

Gene Editing Technology

1. Cas 9 protein is used as a molecular scissor to cut desired gene.
2. CRISPR sequence of DNA is used as the replacement, to substitute RNA.
3. Cas 9 enzyme then is directed to attach new RNA at the point.

This is a 'cut and paste' principle
 → desired gene is cut, and new gene is substituted in its place

Potential of Gene Editing

Prevention of genetic diseases
 eg. Hi Jiankui in China - saved baby from HIV

1. Higher yield of crop
2. Greater retention value
3. Shorter crop cycle

1. New treatment for diseases eg. sickle cell anaemia
2. Lower cost of treatment

Further, gene editing may be used to enhance capabilities in future
→ eg better eyesight, smell, reflexes.

Concerns

① Ethical concerns

1. Misuse for 'designed babies'
→ can lead to eugenics
2. Widen rich-poor gap
3. Question of consent
- changes impact future generations
who are not yet born
4. ~~Wide~~ use for weaponry
eg used on humans to increase strength
5. Religious concerns - humans playing as God

Biological concerns

- ① No long term study on impact
- ② Unintended side effect
eg lancet: use of gene editing on babies in China will lower their life expectancy
- ③ Unknown impact on subsequent generations
→ no knowing how far effects will last

(ii) Use in agriculture exposes plants, animals, humans to health impact

Way Forward

1. There is need to establish consensus on acceptable use at international level
2. Must have India-specific studies to ascertain impacts on Indians
3. Expertise in enforcement agencies to prevent illegal use
4. Incentivize research in IITs, universities - can help in food security

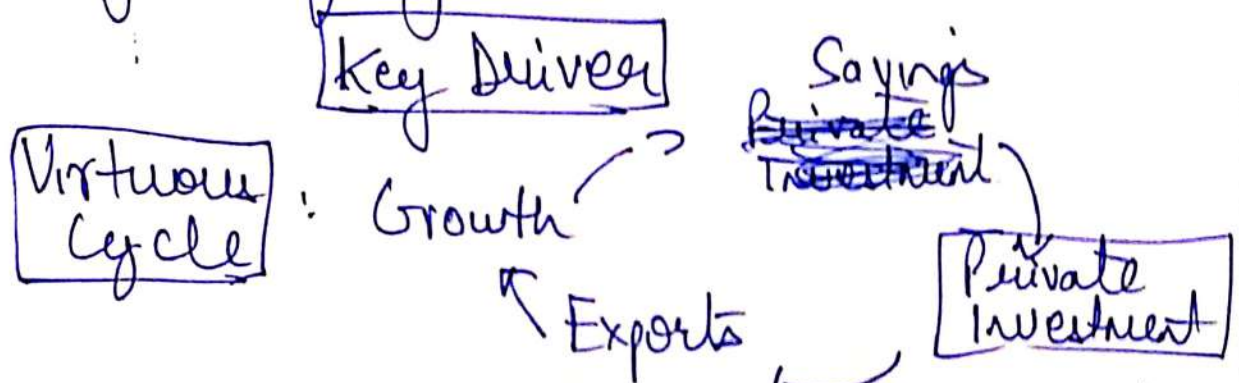
Thus, gene editing must be regulated to maximize potential while averting negative impact.

Feedback (For OFFICE use only)

Structure		Content	
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Q.12) "Investment, especially private investment, is the "key driver" that drives demand, creates capacity, increases labour productivity, introduces new technology, allows creative destruction, and generates jobs." Examine. Also, bring out the factors inhibiting the flow of private investment in India in recent past and suggest measures to address them. (15 Marks, 250 Words)

Economic survey highlighted private investment as key driver of economy that paves the way for virtuous cycle of growth.



1. Drives Demand - by creating new products through R & D
→ Raises income by job creation which further boosts demand
2. Raises productivity - by inflow of technology managerial expertise
3. Creates jobs through creation of industry, growth and greenfield development
4. Capacity development for future growth
5. Enhances international competitiveness

However, along with investment, Economic survey points 2 drivers

1. Savings - for easy access to capital
2. Exports - to raise production and income.

Factors inhibiting investment

① Governance Issues

1. Uncertainty in regulatory framework
→ eg changes in e-commerce rules
2. ~~too~~ Cumbersome regulatory restrictions
complex laws - eg over 2000 minimum
regs in India
3. Delay in clearances in administration

② Judicial backlog, poor contract enforcement is biggest hurdle (Eco survey)

③ Financing Issues

1. Highest cost of credit in Asia in India (OECD)
2. NPA crisis, IL&FS default led to liquidity squeeze

④ Low savings - fell to 30% GDP

⑤ Global concerns

- Trade war between US, China

creates uncertainty for firms

- ① Infrastructure deficit
- ② Competition from Vietnam, Bangladesh.

Measures

- ① Streamline clearance procedure
 1. Single window clearance
 2. Time bound approval
 3. Self certification
- ② Consolidation of laws eg Code on Wages
3 other codes
- ③ Speedy dispute settlement
→ eg New Delhi International Arbitration
Centre set up
- ④ Enhance access to capital
→ lower restrictions on external
commercial borrowing
→ capital convertibility (Tarapore
Committee)

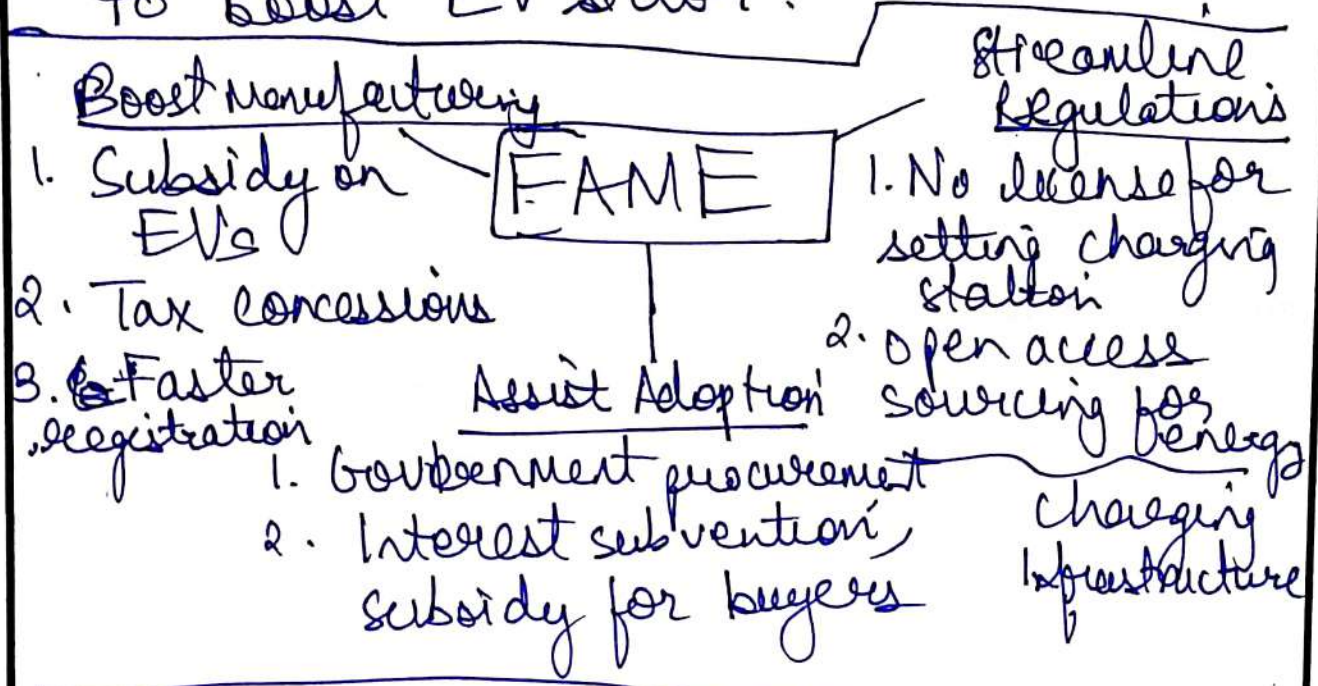
Thus, private investment can be attracted to India to achieve target of \$ 5tr economy.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.13) Discuss the significance and salient features of FAME II (Faster Adoption and Manufacturing of Hybrid Electric Vehicles) Scheme. Also, evaluate the impact of the FAME II scheme on the promotion of electric vehicles in India.

According to Economic Survey, India has the opportunity to become Detroit of the world for Electric Vehicles. Thus, government has launched FAME to boost EV sector. (15 Marks, 250 Words)



Significance

1. Create EV charging ecosystem in India
2. Develop India as hub of EV for world
3. Encourage shift to EV for consumers
4. Government procurement to support domestic firms

Ecological

1. Reduce GHG emissions
2. Bring down PM2.5, NOx pollution
→ health impact
3. Meet INDCs of Paris Target

Advantages

Economic

1. Make in India boost
2. Job creation
3. Exports

Strategic

1. Energy security
→ lower oil dependence
2. Reduce forex loss in import

Impact of FAME II

1. Creation of charging stations in large metros
2. Rollout of EVs - 0.06% market share (NITI Aayog)
3. Development of manufacturing capability in India
4. Domestic R&D ecosystem in place

Limitations

1. Lagging Norway China in EV market share
→ 0.06% in India, 40% in Norway, 2% in China
2. High price deters buyers
3. Long charge time, ~~is~~ low driving range prevents adoption

- 3 No consensus on standard technology for mass adoption by firms
- 4 High dependence on imports
- 5 Auto sector crisis - shift to EV, BSVI norms creating job loss, slowdown
- 6 Excess dependence on subsidy reduces international competitiveness

Way Forward

- 1 Integrate National Solar Mission, solar rooftops with EV charging
- 2 Enhance access to credit - include EV in green bonds
- 3 Economic Survey - Create incentives of free parking for EVs

Thus, India can achieve goal of 30% EV by 2030

Feedback (For OFFICE use only)

Structure		Content	
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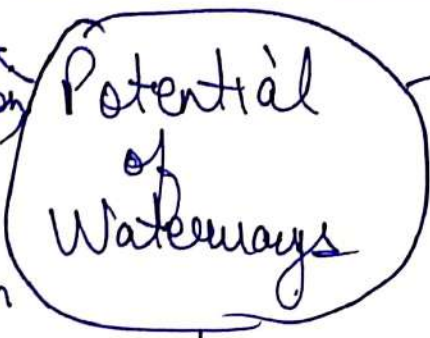
Q.14) "Revival of Inland Waterways in India is a new step towards economic development." Bring out the factors that hamper the progress in the development of inland waterways in India? Discuss initiatives taken by the Government of India in this regard.

(15 Marks, 250 Words)

Inland Waterways in India account for only 0.1% of total tonne-km against 9% in China, 8% in US.

Ecological

1. Reduce congestion & pollution
2. Decrease GHG emission
3. Meet Paris INDC



Vast waterway of 14,500 km

Economic

1. Job creation
2. Reduce cost of logistics
3. Boost to heavy industry
4. Tourism

Challenges

① Infrastructure

1. Outdated vessels,
2. ~~No~~ insufficient draft depth
3. Frequent siltation, need for dredging

② Financial

1. Low private sector investment
2. Low return, huge capital requirement
→ Asset liability mismatch
3. High cost of borrowing due to NPA crisis
4. ~~No Multi~~

③ Skill / Tech

- 1. Lack of trained manpower
- 2. No multi-modal integration
- 3. No data on river flow

④ Ecological

- 1. River shifting
- 2. Submergence of land, ~~loss~~ 4. Pollution in rivers
- 3. Displacement of tribals

Measures Taken

① Legislative

- 1. Inland Waterways Act - III waterways

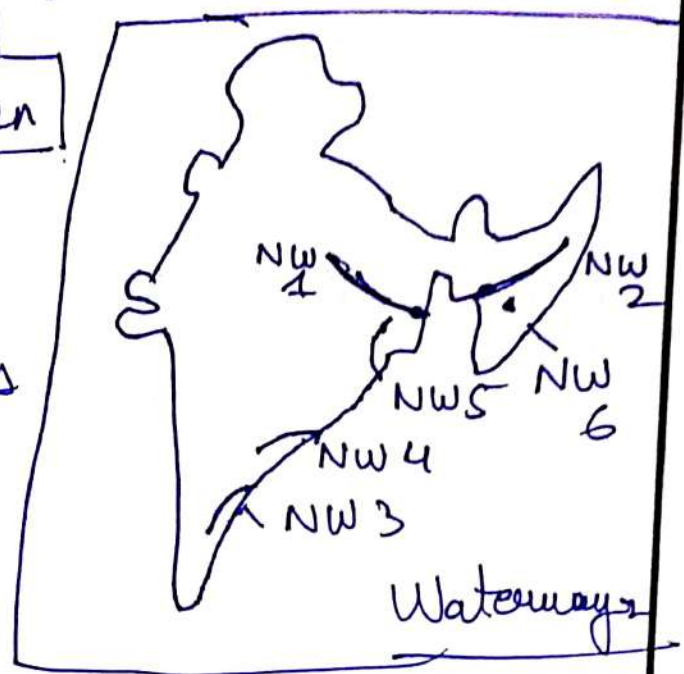
② Financial

- 1. Central Road Fund used for waterway

③ International Collaboration

- 1. Tal Megh Vikas Project on NW 1, Haldia to Varendra with World Bank
- 2. Protocol on Inland Water Transit with Bangladesh

④ Infrastructure Credit Enhancement Corporation announced in budget



5 PPP for inland waterway development
- allowed 100% FDI in dredging

6 River interlinking by National
Waterway Development Authority

Way Forward: NITI Aayog 3 Year
Action Plan

1 Development of central Database
on river flow

2 Night-time facilities for cargo
flow

3 Multi-modal, technology enabled,
platform

Thus, inland waterways are a key
driver to enhance economy
for \$ 5tn goal

Feedback (For OFFICE use only)

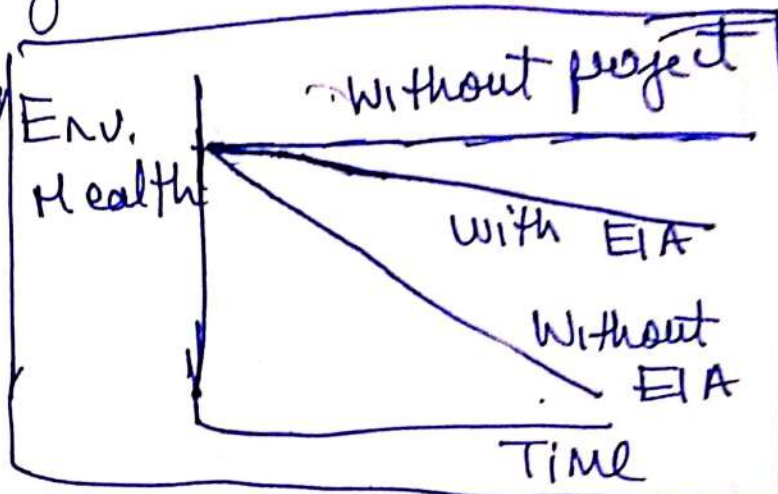
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Q.15) What do you mean by Environmental Impact Assessment? Discuss the major reasons that have limited the success of EIA. Suggest measures that can be taken to make EIA an effective tool. (15 Marks, 250 Words)

Environmental Impact Assessment is provided for under Environment Protection Act, 1986 to mitigate impact of development projects on Environment.

EIA

① seeks to reduce damage to environment that the project would cause
→ minimize gap between state of environment before project was done.



Procedure of EIA

- ① Assessment of potential impacts of project and vulnerability of area
 - Land, air, water pollution
 - Disaster risk
 - Displacement of community
- ② Consultation with all affected people
- ③ Preparation of Plan, schedule, budget
- ④ ~~the~~ Monitoring of progress

⑤ Independent verification after project.

Limited Success: Gadgil Committee Report

- 1. Bureaucrat-industry nexus bypasses EIA
- 2. Hasty approval
- 3. Fraudulent approval, EIA without any assessment
- 4. Lack of trained experts
- 5. No consultation with local community
- 6. Failure to address all impacts
→ not done professionally.
- 7. Further, poor enforcement ~~and~~ of EIA and no penalties for violation reduce effectiveness.

Low Awareness among people affected.

Measures Taken Recently

- 1. Independent audit mandatory
- 2. Involvement of 3rd party institutes such as IITs
- 3. Simplification of procedures
→ eg e-PARIVESH single window portal

Way Forward

- 1 - Involvement of local community, PRI
 - skill development with NGOs
 - raise awareness on rules
- 2 - GPS monitoring of EIA implementation
- 3 - Penalties for violating firms
- 4 - Incorporate global best practices
eg Norway: EIA must be ready before project can begin.

Thus, we can safeguard environment to achieve sustainable development.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.16) Illustrate with examples the menace of plastic pollution. With reference to Plastic Waste Management Rules 2016, discuss the measures to be adopted to mitigate the impact of the plastic wastes in India. (15 Marks, 250 Words)

According to UNEP, by 2050, the world's oceans will have more plastic than fish in them.

Plastic Pollution

① Economic Cost

- 1. Reduction in tourism potential
eg Verova Beach, Mumbai saw 400% increase after cleanup
- 2. Diseases due to carcinogens reduce productivity

② Ecological Impact

- 1. Biomagnification leading to death of wildlife
eg Blue whales in Australia with 150 kg plastic in stomach
- 2. Reduction in soil fertility due to degradation
 - threatens food security
 - lower farmer income.

③ Disaster Risk

- 1. UNISDR: Clogging of drains with

plastic increasing flooding in cities

(9) Health Impact

- 1 WHO: Average person consumes 5g of micro beads plastic daily
- 2 Carcinogens released by burning eg toxin, furan

Plastic Waste Management Rules

- Responsibility of generator to segregate
- Vendors must not use
- Extended Producer Responsibility to collect waste
- Municipal bodies can levy fee

- Central Registration System with CPCB
- States are in charge of enforcement.

Impact

- 1 Multiple states have banned plastic eg Maharashtra
- 2 Raised awareness among users
- 3 Firms developed collection mechanism

Limitations

- 1 Poor enforcement of laws - often violated
- 2 No cheap alternative yet is costly
- 3 Major job losses & protest in Maharashtra

- 4 Most firms yet to register on CPCB portal
- 5 No penalty imposed on firms

Measures

- 1 Utilize plastic for road construction
- 2 CPCB: Export plastic waste - can get Rs 5000 more/year
- 3 Raise awareness
eg Auroville plastic fashion dress show
- 4 Encourage alternatives
eg Government has done 100% jute procurement of sugar
- 5 Reduce, reuse, recycle
→ waste to energy by incineration

Thus, we can achieve goal of plastic free India by 2022, as mentioned by PM Modi.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.17) "Despite India's outstanding growth in the last two decades, low pay and wage inequality remain serious obstacles towards achieving inclusive growth." Comment. Also, suggests the way forward for rationalising and streamlining the policy for minimum wages. (15 Marks, 250 Words)

India is among fastest growing economies of the world, and is 3rd largest in terms of PPP (IMF).

Rapid Growth — Driven by IT, services
— Mostly urban based
— Capital Intensive growth

Challenges to Inclusive Growth

① Low Pay, Joblessness

- 1. NSSO: 6.1% unemployment, highest in 45 years
- 2. Jobless growth
 - Share of manufacturing stagnant (16% GDP)
 - Disguised unemployment in agriculture
 - 47% workforce, but 14% GDP
- 3. Informalization of labor force
 - Economic Survey: 93% informal sector

② Wage Inequality

Oxfam: 1% own 77% wealth,
60% own 4.5% only

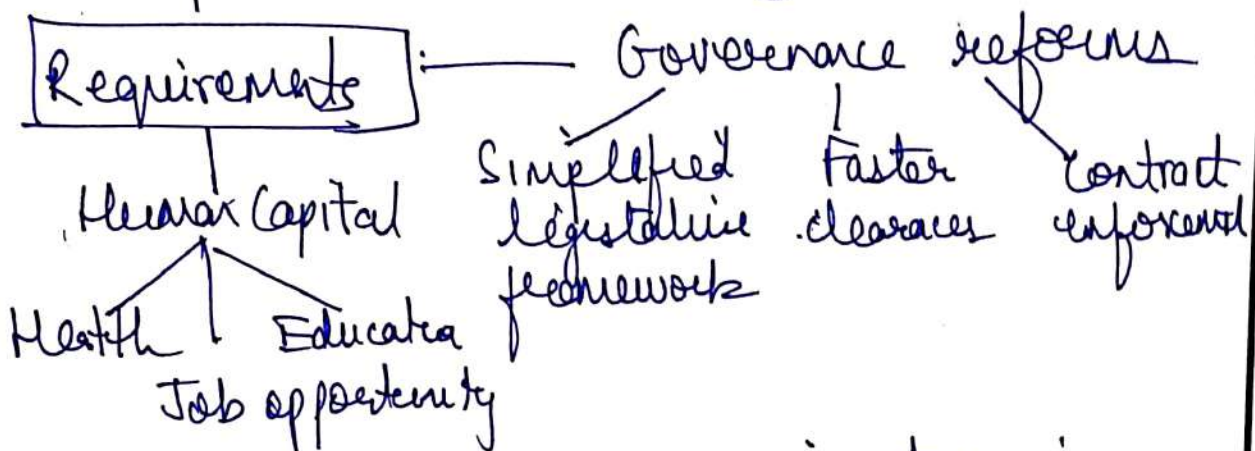
2. Women, SC/ST concentrated in landless labour, low paying jobs

3. Low productivity

Inclusive Growth

- Benefits of growth reach all sections
- Disparities are minimized over time

Requirements



Recent Code on Wages is step in this direction.

Code on Wages

Includes unorganized sector

- Subsumes existing Acts - Minimum Wages, Equal Remuneration, Payment of Wages, Bonus
- Wages based only on skill; geography
- Creates National Floor Minimum Wage
- 5 floors for geographical regions
- States can update according to need

ForumIAS

Challenges

Allows overtime

85% work force, less than 10 employees excluded
 Low min wage (Rs. 172) ^{fixed}
 Recognizes work by children
 Dilutes penalty for violation

Way Forward

1. Satpathy committee on minimum wage : Rs 375 wage
2. National labour commission : single wage floor for simplicity
3. Allow states flexibility in updating wages before 5 year time limit
4. Minimum wages should be decided with consensus of states

Thus, minimum wage code can guarantee living wage as per Article 43.

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.18) The space war would destroy the intrinsic trust and cooperation necessary to maintain the systems deployed in space for peaceful purposes. Examine. Also, discuss the concerns related to space debris with respect to India's mission Shakti.

(15 Marks, 250 Words)

Space war refers to the growing weaponization of space by nations such as US, China by space based weapons and earth based missiles.

Space War

- ① US developed Space Forces, France launched space command
- ② China has developed kinetic missiles - Assassin Mace weapons
- ③ Anti-satellite test by India.

Impact of Space War

① Destroys Trust

1. leads to arms race
2. Diversion of resources
3. Affects ~~to~~ global research projects of International Space Station was done by 16 countries

② Threat to Space Systems

1. Risk of accidents
2. Kessler Syndrome - can cause

- Cascading effect due to collision
- 3 Raises cost of space missions due to space debris
- 4 Can be used to disable infrastructure for war purpose

Mission Shakti

Was anti satellite test by India
→ disabled a low earth satellite

Impact ← Saffeguarded space infrastructure
Re cognition as space power

Shakti led to concerns of space debris.

Concerns

- 1 Increased debris - 400 pieces still in atmosphere as per NASA
- 2 Danger to satellites, astronauts
- 3 Fear of Kessler syndrome
- 4 Affects reputation as responsible space power
- 5 space debris will raise cost of missions

Not major concern

⊙ low Earth Test - debris will burn in few weeks

2 Equity: US, France, Russia, China have more than double debris as per NASA Space Debris Sensor
→ hence, cannot blame India

Way Forward

1. Need to update Outer Space Treaty 1967 for new concerns
→ ASAT tests - Space Debris
- Weaponization of space
- Extraction of resources by private firms eg Space X in 2025.

2. Confidence Building Measures to avoid arms race, prevent accident

3. Encourage debris removal technology
eg REMOVE Debris ← Drag sail
Net
Harpoon
Vision - navigation
eg e-deorbit

Thus, there must be cooperation via Inter Agency Space Debris Coordination Committee

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.19) Chief of Defence Staff (CDS) is the stepping stone for tri-services integration in India. In this context, discuss the significance of CDS and outlines the challenges faced in its appointment. Also, discuss further reforms required to make Indian military a modern force. (15 Marks, 250 Words)

Recently, position of Chief of Defence Staff as single point military advisor to government was announced

Chief of Defence Staff

Single point advisor

5 star officer,
in charge of tri-services command.

Significance

1. Future warfare needs holistic approach of all 3 branches of forces
 2. Long term strategic planning possible
 3. Facilitate coordination among services
 4. Eliminate redundancies, duplication - efficient use of funds
 5. Faster decision making in crisis
 6. Develop skills for new age war
→ cyber warfare, psychological war
- This is as per Kargil Review Committee

and Nareesh Chandra Task Force Recommendation

Challenges

1. Tri-services rivalry
2. Bureaucratic threat - due to excess power to military officer
3. Bureaucratic resistance to CSS
→ culture conflict, ~~and~~ coordination issue
4. Lack of integration at lower level of armed forces
- only top down change
5. Lobbying for posts politicization

Further Reforms

- ① Ground level restructuring for greater coordination

Shekhar Committee

1. Integrated Theatre Commands as per global best practice
2. Integrated Battle Group for coordination
3. Restructuring and downsizing
→ eg China reducing size by 50%

Weapon Development

- 1. Currently largest importer - must reduce imports
- 2. Strategic ^{Partnership} Policy for incentivizing private firms
 → PSU - private sector partnership

Financial Reform

- 1. CAG: 70% equipment is vintage (old)
- 2. 15th Financial Commission to look into adequate, secure non lapsable fund
- 3. Greater autonomy to armed forces in procurement

Training

- 1. Coordination & international exercises
 eg RIMPAC, Quad Malabar exercise

Thus, armed forces can ensure safe, secure India

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	

Q.20) In an era when cybersecurity is increasingly becoming a grave threat to nations, 'Digital India' cannot sustain without a 'Digitally Secure India.' Discuss. Also, critically evaluate the interventions by the Government of India in creating a digitally secure India.

(15 Marks, 250 Words)

Cyber security is the protection against illegal use of information technology for disruption or unauthorized access on cyber infrastructure.

Grave Threat

Symantec: India faces 3rd highest cyber attacks in world.

Threats

- 1 Cyber Warfare: By nations to disrupt essential services
eg North Korea attack on Sony
- 2 Cyber Espionage: To access information illegally
eg Google data re-routed in 2018
- 3 Cyber Terrorism: Use of cyberspace for radicalization, blackmail etc
eg WannaCry ransomware
- 4 Cyber Crime: offences by individuals
eg phishing, pornography etc

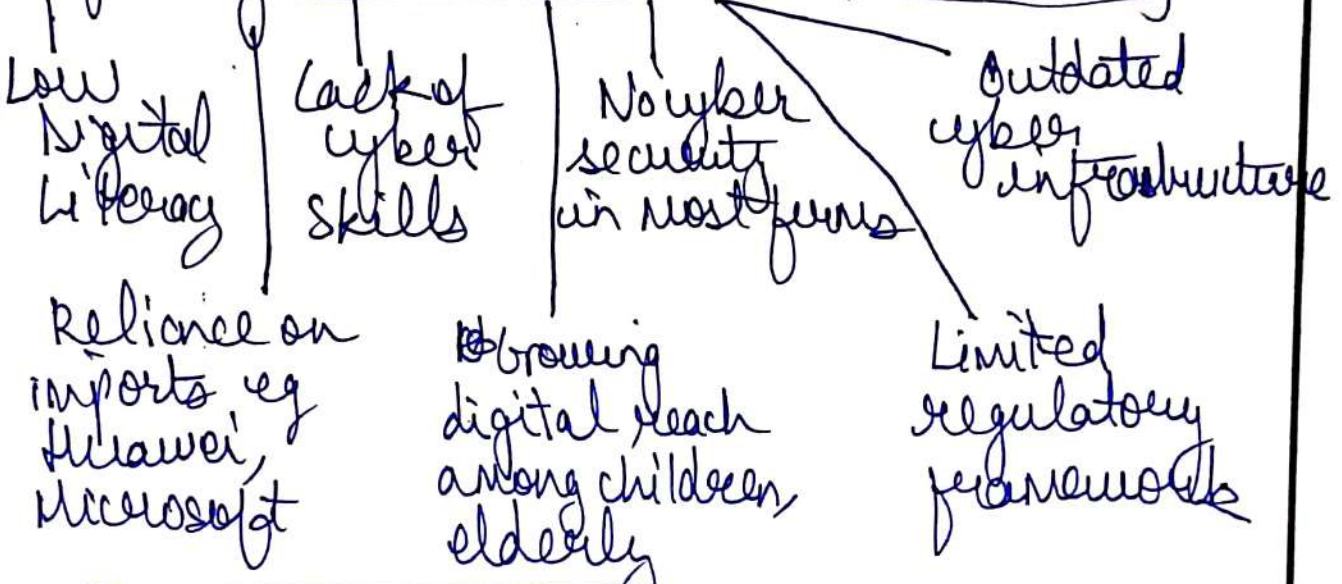
Digital India

- 1- 2nd largest internet user base in world (500 mil, as per UNDP)
- 2- E-Governance

eg Open government data platform
eg digital service delivery

Digitally Secure India

Vulnerability



Measures Taken

- 1- CERT: Cyber Emergency Response Team
- 2- CSIRT - Cyber Security Incident Response Team
- 3- BharatNet for access
- 4- Critical Information Protection Center
- 5- M-Kaam app. - security
- 6- PM Digital Saksharta Abhiyan for digital literacy

7 Cyber Sweatshirt Bharat Initiative

Benefits

Digital literacy

Regulation of IT intermediary rules

Skilled agency CSIRT, CERT

Challenges

- 1 Low quality education in PM UDISHA as per Parliamentary Standing Committee
- 2 No involvement of private sector
- 3 Failure to develop domestic R&D - BOSC software failed
- 4 Huge import dependence in electronics

Way Forward

- 1 Incentivize private firms via CSR for spreading awareness
- 2 Attractive compensation to get best talent

India can thus join Budapest Convention to deal with cybercrime

Feedback (For OFFICE use only)

Structure		Content	
Question Interpretation		Total :	