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FIAS - MGP 2021 - GS paper #3

TEST CODE : 4 1 0 7 5

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GENERAL STUDIES

Name Of Candidate

AYUSH JAKHAR

Roll No.

19100 39140

Date:

17/11/2021

Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE

INSTRUCTION

Q. No.	Max. Marks	Marks Obtained
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
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Total:	250	

1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet.
2. There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory.
3. The number of marks carried by a question/part is indicated against it.
4. Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided.
5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off.

Any specific messages for ForumIAS Mentors/Evaluators with respect to your copy? Write it here.

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Evaluator's Discretion:

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Total Marks:

Mode Of Examination:

Online Offline

Evaluator's Discretion: This is the marks awarded at the discretion of the evaluator based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy.

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

ADDITIONAL REMARKS

ForumIAS



Q.1) The role of state in a liberalized economy is best suited as a facilitator and not as an engaged participant. Critically analyse this statement with respect to privatization drive of the government.

(10 Marks, 150 words)

उदारीकृत अर्थव्यवस्था में राज्य की भूमिका एक सहभागी के रूप में नहीं, बल्कि एक सुविधाप्रदाता के रूप में सबसे उपयुक्त है। सरकार के निजीकरण अभियान के संबंध में इस कथन का समालोचनात्मक विश्लेषण करें। (10 अंक, 150 शब्द)

The LPG reforms of 1991, ushered in a new era where the role of state changed from 'achieving commanding heights of economy' to being a facilitator.

Arguments for Privatisation

1. Brings innovation & fresh ideas → from bureaucratic approach to a business approach.
2. Rapid growth of privatised PSUs (public sector units).
eg. Hindustan Zinc has grown 10 times & created 10,000 new jobs after privatisation.
3. For consumers → competitive costs, improved quality & more options.
- seen in 3G/4G connections, automobile sector.

4. In line with neo-liberal economy → "government has no business being in business."

Arguments against Privatisation

1. From welfare motive to profit motive → ignores environmental & societal concerns.
2. Government loses policy instrument to regulate prices of critical items like electricity, food items etc.
3. Large scale job losses to enhance efficiency & cut costs.
4. Worker welfare & social security take a backseat → seen in low wages, long work hours, no security of tenure.

While privatisation is needed to unleash true spirits of economy, it must be regulated by government so that the core idea - public welfare remains relevant.

Feedback

(For OFFICE use only)

Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.2) What are the major changes brought in the Deposit Insurance and Credit Guarantee Corporation (Amendment) Act 2021? How will it promote the interest of small account holders and depositors? (10 Marks, 150 words)

जमा बीमा और ऋण गारंटी निगम (संशोधन) अधिनियम 2021 में कौन से बड़े बदलाव लाए गए हैं? यह छोटे खाताधारकों और जमाकर्ताओं के हितों को कैसे बढ़ावा देगा? (10 अंक, 150 शब्द)

In light of the PMC (Punjab & Maharashtra Cooperative Bank) crisis, the ~~the~~ DICGC Act was amended to protect small depositors.

Major changes

1. Increased limit of minimum ensured deposit amount, from Rs 1 lakh to 5 lakhs
2. Widens the scope of the act → brings cooperative banks under its ambit.
3. More regulatory powers to RBI & DICGC (Depositor Insurance & Credit Guarantee Corporation)

Benefits

1. Protects more than 90% depositors → as their

deposits are less than Rs 5 lakh.

2. Creates incentives to improve banks lending practices
3. Enhanced regulatory oversight.

Limitations

1. Core issue remains unaddressed i.e. (a) poor lending practices
 (b) professional management & corporate governance of banks.
 (c) lack of asset quality review & 'evergreening' of bad loans.
2. NBFC, small finance banks, payment banks remain outside the framework.

Way forward

- ~~Address~~ Improve lending practices of the banks through professional management.
- Use of technology for asset monitoring.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.3) Discuss how the food processing sector can be the panacea for addressing the triple whammy of low value addition, high post-harvest losses and disguised unemployment associated inherently with the Indian agriculture. (10 Marks, 150 words)

भारतीय कृषि के साथ स्वामाविक रूप से जुड़े कम मूल्यवर्धन, कटाई के बाद के नुकसान और प्रचलित बेरोजगारी के रूप में तिहरी मार की समस्या से निपटने के लिए खाद्य प्रसंस्करण क्षेत्र रामबाण कैसे हो सकता है। चर्चा करें।

(10 अंक, 150 शब्द)

Food processing is a sunrise sector that joins 2 core sectors of economy i.e. agriculture & industry.

Panacea to address agricultural problems

① Post harvest loss → India loses ₹ 90,000 per year in post harvest loss (NABARD data).

↓

(a) FPI increases shelf life of foods.

(b) Cold storage & refrigeration prevents perishables from rotting.

(c) Jams, pickles etc can be transported farther & stored longer than raw products

② Low value addition

1. Local value addition

- eg. AMUL in Anand makes butter & cheese that are sold at higher prices than milk.
- attractive packaging helps improve branding

(ii) Creating employment

- Local processing units & ancillary industry e.g. grading, sorting, etc.
- In Kerala, women self help groups are packaging milk & fruits & supplying them to Anganwadis under ICDS.

Realising the potential of FPI

Cluster based approach

↓
AEE (Agri-economic zones)

↓
providing capital & skill training to entrepreneurs

↓
empowering members of Cooperatives, & SHGs.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total



Q.4) What explains the paradox of higher farmer suicide rate in more prosperous states than in poorer states? (10 Marks, 150 words)

गरीब राज्यों की तुलना में अधिक समृद्ध राज्यों में किसान आत्महत्या दर के अधिक होने का विरोधाभास क्या बताता है? (10 अंक, 150 शब्द)

NCRB data suggests that farmer suicides have been on the rise lately, more so in the prosperous states.



Fig - states with maximum farmer suicide rates (top 5).

Reasons behind this phenomenon

1. Rising input costs → e.g. - prices of advanced seed, fertiliser, pesticide - rising fuel prices.

2. Soil degradation → so the requirement

of fertiliser & pesticide is more.

[eg. NPK ratio in India = 6.4 : 28 : 1
in Punjab = 32 : 8 : 1]

3. Rising indebtedness + due to stagnating income & fragmentation of landholding

4. Variability of monsoon + in Uttar Pradesh region, failed monsoon ~~leads to seasons~~ see more farmer suicides.

- with climate change + this is expected to get worse.

Way forward

1. Increase irrigation facilities e.g. PM Krish Sinchayi Yojana → to reduce monsoon dependence.

2. Crop insurance penetration to be raised under PM Fasal Bima Yojana.

3. Income support under PM-KISAN, PM-AASHA, Kisan Vikas Patra etc.

Feedback

(For OFFICE use only)

Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.5) India's policies on environmental regulation are discordant, lofty on intent but feeble on outcomes. Critically examine this statement with special emphasis on plastic waste management in the country. (10 Marks, 150 words)

पर्यावरण नियमन पर भारत की नीतियां असंगत हैं, इरादे से बुलंद हैं लेकिन परिणामों पर कमजोर हैं। देश में प्लास्टिक अपशिष्ट प्रबंधन पर विशेष बल देते हुए इस कथन का समालोचनात्मक परीक्षण कीजिए। (10 अंक, 150 शब्द)

8 million ton of plastic that enters oceans every year is choking global ecosystems & poses a grave environmental threat.

Discordant environmental policies

1. Overcentralised policies → waste management rules made by centre, with a top down approach.

2. Lack of enforcement capability with CPCB, SPCB & local authorities

3. Do not focus on the main source i.e. households & producers

Case : source segregation of waste in most households is not practiced.

u. fail to address peoples behaviour → seen in people littering in public.

Recent Improvements seen in Policy

1. EPR (Extended producer responsibility) → puts the onus of waste collection on producers.
2. Empowering local bodies ~~to~~ with money & manpower → for safe segregation & disposal → creating waste disposal plans as per local needs.
3. Discouraging plastic → minimum thickness ~~has~~ been increased to 25 microns & with these progressive policies, India needs to move towards our stated target of eliminating single use plastic by the end of 2022.

Feedback

(For OFFICE use only)

Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.6) Discuss the impact of illegal construction and encroachment on disaster vulnerability, biodiversity and ecology of mountain regions in the country. (10 Marks, 150 words)

देश में पर्वतीय क्षेत्रों की आपदा के प्रति सुभेद्यता, जैव विविधता और पारिस्थितिकी पर अवैध निर्माण और अतिक्रमण के प्रभाव की चर्चा कीजिए। (10 अंक, 150 शब्द)

The recent Uttarakhand disaster highlighted the impact of encroachment in fragile mountain regions.

Impact of illegal construction & Encroachment

① On disaster vulnerability

↳ makes slopes more vulnerable to landslides by removing soil binding tree cover

↳ soil rock blasting & construction caused earthquakes

↳ Flood risk due to debris blocking rivers

↳ Bursting of dams causing damage to downstream area, as seen in Alekonda tragedy of 2021.

On biodiversity & Ecology

- ↳ Deforestation & removal of tree cover
- ↳ Wild fauna dependent on tree cover lost, as seen in recent road made in Jim Corbett National park
- ↳ Encroachment into wild life habitat

Way forward

1. Limiting tourism → e.g. Maintal placed a cap on total number of tourists at a time.
2. As per Ravi Chopra Committee → construction of dams should be stopped in Uttarakhand & Himachal.
3. Proper planning & enforcement of building codes.

These measures are needed to protect our fragile mountain ecosystem.

Feedback (For OFFICE use only)

Structure/ Presentation
Question Interpretation
Content
Value Addition
Total

Q.7) What do you mean by scientific social responsibility (SSR)? In light of draft policy of SSR, discuss how can SSR strengthen science-society linkages and usher in a cultural change in the conduct of science for the benefit of society at large in the country? (10 Marks, 150 words)

वैज्ञानिक सामाजिक उत्तरदायित्व (SSR) से आप क्या समझते हैं? SSR की मसौदा नीति के आलोक में, चर्चा करें कि SSR विज्ञान-समाज संबंधों को कैसे मजबूत कर सकता है और देश में बड़े पैमाने पर समाज के लाभ के लिए विज्ञान के संचालन में सांस्कृतिक परिवर्तन की शुरुआत कर सकता है? (10 अंक, 150 शब्द)

SSR refers to a set of policy recommendations that integrate scientific research with ethical & societal guidelines, so that science benefits the society at large.

Potential Role of SSR

1. Strengthen science-society linkage →

Case: many researchers developed homegrown ventilators, O₂ delivery systems during pandemic.

2. Prevents unethical & unsustainable practices in research e.g. in ~~harm~~ potentially harmful pathogen.

3. Acts as a moral code of conduct to

guide researchers.

4. Enhances trust among common people.

Limitations of SSR

1. Difficult to monitor all research

Case: In China, Hi Jiankui ~~did not~~ created genetic changes in embryos to make them HIV resistant.

2. Implementation challenge + due to limited enforcement capacity.

3. ~~It~~ May hamper even genuine & bonafide research + may be perceived as regressive & back ward looking.

Way forward

1. Strengthening ethics committees in all research institutions.

2. Embedding social responsibility in all scientific courses at school & college level.

Feedback

(For OFFICE use only)

Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.8) Analyze the critical importance of genome sequencing in pandemic control.

(10 Marks, 150 words)

महामारी नियंत्रण में जीनोम अनुक्रमण के महत्वपूर्ण महत्व का विश्लेषण करें।

(10 अंक, 150 शब्द)

Genome sequencing refers to analysis of DNA/RNA sequence of the entire genome, & the genes present in it of an organism.

Importance in Pandemic Control

1. Early identification of new mutant strains

e.g. COVID variant B.6.1.7 or the Indian strain (Delta strain).

strict lockdown prevented its spread.

2. Vaccine development e.g. m-RNA vaccines by Pfizer-BioNTech & Moderna were

made by genome sequence data.

3. Predicting susceptibility to antimicrobials or antivirals → identifying 'resistance'

~~3.~~

4. Data analysis for possible future outbreaks

5. Assessing human susceptibility to pathogen

e.g. analysis of COVID organism with human 'ACE' receptor.

Steps taken

1. WHO solidarity trial.

2. Open sharing of genome data by all countries through WHO - GAVI.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.9) Examine the need of a clearly articulated National Security Strategy for systematic, consistent and coherent approach towards national security. (10 Marks, 150 words)

राष्ट्रीय सुरक्षा के प्रति व्यवस्थित, सतत और सुसंगत दृष्टिकोण के लिए स्पष्ट रूप से स्पष्ट राष्ट्रीय सुरक्षा रणनीति की आवश्यकता का परीक्षण करें। (10 अंक, 150 शब्द)

National Security Strategy is a ~~document~~ policy document of government that

highlights :-

1. Prominent security threats / challenges → both internal & external.
2. Preparedness of the state to deal with them.
3. Response strategies & options

Need of NSS

1. Established ~~practice~~ global practice → eg. USA shares security strategies for all areas like Indo-Pacific, Middle East.
2. Growing strategic threats to India → eg. "China-Pak axis", Taliban rule in

Afghanistan, maritime challenges

4. Ensures 'policy continuity' → despite changes in party in power.

5. Creates deterrence among adversaries. of 'No first use' policy of India.

Limitations of NSS

1. Rapidly changing dynamics of global order → strategies need to change frequently.

2. Stated policy can make our response predictable to adversaries.

3. May not be implemented due to political

& geostrategic pressures.

will remain mere paper tiger.

Despite limitations, a coherent NSS can be a valuable guiding force for our security & foreign policy.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.10) The issues associated with Left Wing Extremism (LWE) are both developmental and ideological. Analyze the trend in Left Wing Extremism (LWE) affected areas over the past decade and evaluate India's strategy to tackle LWE. (10 Marks, 150 words)

वामपंथी उग्रवाद (LWE) से जुड़े मुद्दे विकासात्मक और वैचारिक दोनों हैं। पिछले एक दशक में वामपंथी उग्रवाद (LWE) प्रभावित क्षेत्रों में प्रवृत्ति का विश्लेषण करें और एलडब्ल्यूई से निपटने के लिए भारत की रणनीति का मूल्यांकन करें।

(10 अंक, 150 शब्द)

The recent deaths of 22 CRPF personnel in Bastar in Maoist violence highlighted LWE challenge.

Issues Associated with LWE

Developmental

1. Restricting access to natural resources e.g. timber, minor forest produce.
2. Large scale displacement ~~under~~ for dams & industry.
3. Inadequate rehabilitation
4. Malgovernance + seen in corruption.
5. Poor infrastructure - schools, hospitals.

Ideological

1. Presence of strong Maoist & LWE ideology.
2. It opposes Indian states, highlights its failures to alienate tribals.

Recent Trends

1. Eliminating LWE in strong holds like Andhra & Maharashtra.
2. Robust security response under Greyhounds of Andhra & CGO of Maharashtra.
3. Developmental efforts under - Special Action Plans to create infrastructure, schools, roads etc.
4. But some areas remain e.g. Bastar.

India's strategy - 2 pronged

- Development
1. Special Action Plan.
 2. Accelerated infrastructure development.
 3. Rehabilitation of surrendered militia

1. Elimination of violence under special forces
2. Modernisation of police force.
3. Improving local intelligence

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.11) While imposing a tax is a legitimate exercise of sovereign's power, retrospective taxation undermines the credibility of a nation as a stable legal regime and discourages international investments. Discuss in light of recent controversies. (15 marks, 250 words)

जबकि कर लगाना संप्रभु शक्ति का एक वैध परिपाटी है, पूर्व कराधान एक स्थिर कानूनी व्यवस्था के रूप में एक राष्ट्र की विश्वसनीयता को कमजोर करता है और अंतर्राष्ट्रीय निवेश को हतोत्साहित करता है। हाल के विवादों के आलोक में चर्चा करें। (अंक 15, शब्द 250)

Recently, the government abolished the retrospective tax regime that was introduced in 2012, which taxed past transactions of large MNCs.

Need Argument for Retrospective Tax

1. Sovereign power

(A) The state is free to tax any entity at any date

(B) Constitution does not restrict ex-post facto taxation laws.

2. Needed to curb misuse of tax laws

- as seen in Vodafone deal, that was

done primarily to evade tax.

3. Mainly directed against large MNCs that exploit tax loopholes → not against small players.

4. Prevents misuse of Bilateral investment treaties.

Argument Against

1. Undermines credibility → erodes trust in policy continuity.
2. Amounts to tax terrorism by the state.
3. Goes against Bilateral Investment Protection Treaties e.g. in this case, it went against India-UK BIT.
3. Harmful in long run → in Vedanta case, India has to pay 2 billion dollars to

the aggrieved company.

4. Deters investment & FDI → as investors trust is eroded.

5. May lead to outgo of existing investments

Way forward → Modify existing BITs & DTAA's

to plug loopholes & prevent misuse, but

retrospective taxation is not a prudent idea.

- India's Model BIT, 2016 is a step in the right direction.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total



Q.12) India's stressed asset and bankruptcy reforms started on a good note, but now seems to have lost steam. Identify various issues faced in effective implementation of Insolvency and bankruptcy code in the country. How can the newly created Bad Bank help in overcoming the problem of bad debt and stabilizing the financial system? (15 marks, 250 words)

भारत की दबावग्रस्त संपत्ति और दिवालियापन सुधार एक अच्छे नोट पर शुरू हुए, लेकिन अब लगता है कि यह महत्व खो रहे हैं। देश में दिवाला और दिवालियापन संहिता के प्रभावी कार्यान्वयन में आने वाले विभिन्न मुद्दों की पहचान करें। नव निर्मित बैड बैंक खराब कर्ज की समस्या पर काबू पाने और वित्तीय प्रणाली को स्थिर करने में कैसे मदद कर सकता है? (अंक 15, शब्द 250)

After limited success of SARFAESI, IBC (Insolvency & Bankruptcy Code) was hailed as revolutionary in resolving India's NPA problem.

Good start

1. Recovered about 70,000 crores of bad debt till now.
2. Reduced recovery time from 4-5 yrs to 450 days average.
3. Better institutional structure under IP (Insolvency professionals)

Issues faced by IBC

1. Limited strength of NCLT (National Company Law Tribunal) & DRT + less number of benches.

2. Frequent delays in resolution → most cases go beyond time limit of 270 days.

3. Most cases are liquidated, not resolved → liquidation limits the face value of assets.

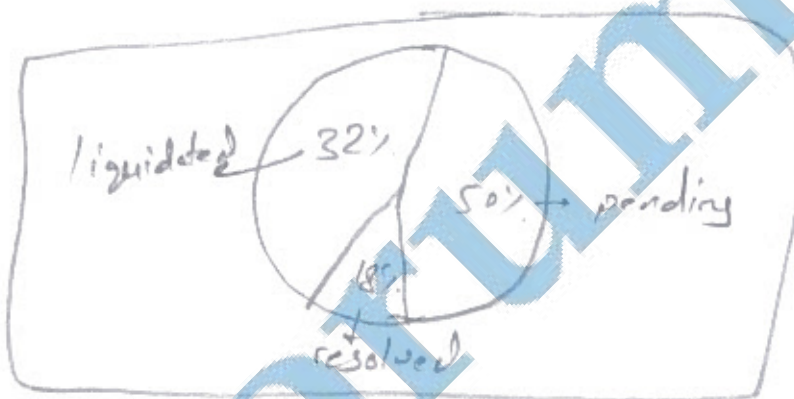


Figure - outcome of IBC cases.

4. Successful only in large cases, small defaults saw limited success.

5. Issue of willful default & promoters coming back to manage the bad assets.

Pole of Bad Bank

1. Frees up bank balance sheet

↓
- ~~they~~ capital locked up for 'provisioning' is freed

- they can focus on their core function i.e. lending.

2. Professional expertise in resolving NPA → enhanced recovery.

3. Will enhance liquidity supply in economy as bad loans reduce.

Case Study Sweden's 'Securum' Bad Bank

created in 1992 ~~stoo~~ crisis

+ resolved most NPAs & freed up the bank capital

↓
dissolved in 1997.

- Bad bank is a good 'one time solution' for NPA issue.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.13) Stagnant farm incomes, present a strong case to develop agriculture in India as an enterprise. Discuss how the new farms laws can help in development of farming as an enterprise and increasing the farm incomes. (15 marks, 250 words)

स्थिर कृषि आय, भारत में कृषि को एक उद्यम के रूप में विकसित करने के लिए एक मजबूत केस प्रस्तुत करती है। चर्चा करें कि कैसे नए कृषि कानून कृषि को एक उद्यम के रूप में विकसित करने और कृषि आय बढ़ाने में मदद कर सकते हैं।

(अंक 15, शब्द 250)

While 58% population depends on farming, it makes only 14% of GDP. This indicates stagnating farm incomes in India.

Agriculture As enterprise - A case

1. Shift - from subsistence approach to business approach.
2. Capital investment → in mechanisation & better inputs ⇒ enhanced efficiency
3. Food processing → local value addition to increase value of products. e.g. jams, biscuits.
4. Local entrepreneurship of FPOs.
5. Remunerative incomes & profitability.

Pole of Farm Laws

1. Create unified market + by allowing inter & intra state trade outside APMC.

2. Promote Contract Farming

- Assured market for farmers
- Improved access to quality seed & fertiliser
- Assured, good quality inputs for industries

3. Welcome private participation + in creating cold storage, warehouses etc.

+ in marketing through e-NAM & commodity trading.

4. Remove stock limits + for better inventory management.

→ reduced inspector Raj & harassment of traders.

5. Will promote Food Processing Industry

Challenges

1. ~~Challenges~~ Apprehension among farmers (as seen in farm protests)
 - f possible dismantling of APMC Mandis.
 - ↳ dominance of large MNCs at the cost of small farmers.
2. Issues with laws → no scrutiny by Parliamentary Committee, no debate in houses
3. Do not address issues with contract farming
 - i.e. - power asymmetry
 - as seen in PepsiCo v/s Gujarat farmers case.

Way forward

1. Assuring farmers → by safeguards to protect farmers interest.
2. Gradual reform with dialogue & discussion with all stakeholders.

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

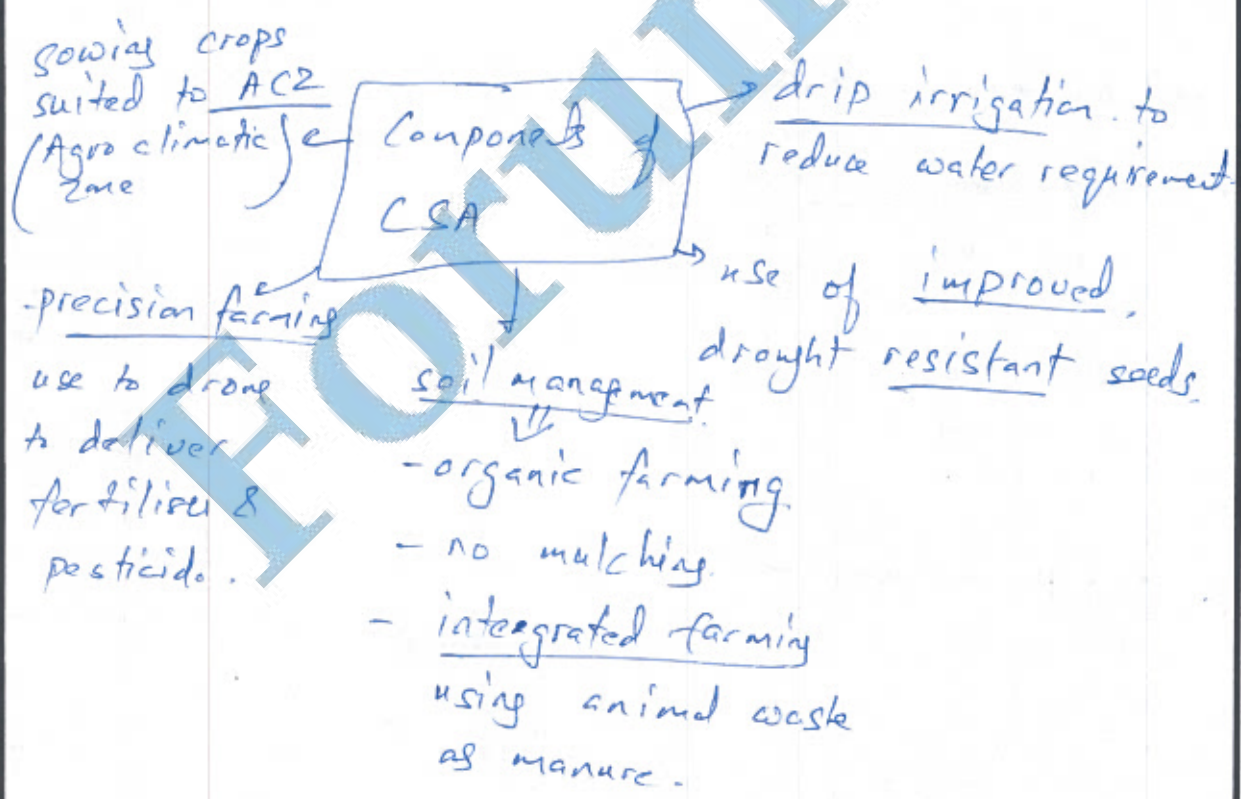
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Q.14) What is climate smart agriculture? Despite its critical role in climate change mitigation and substantial state intervention to promote climate smart agriculture, the progress made in adoption of climate smart agriculture is unimpressive. Discuss. (15 marks, 250 words)

जलवायु स्मार्ट कृषि क्या है? जलवायु परिवर्तन उपशमन में इसकी महत्वपूर्ण भूमिका और जलवायु स्मार्ट कृषि को बढ़ावा देने के लिए पर्याप्त राज्य के हस्तक्षेप के बावजूद, जलवायु स्मार्ट कृषि को अपनाने में की गई प्रगति अप्रभावी है। चर्चा करें।
(अंक 15, शब्द 250)

Climate Smart agriculture is the use of new technology to improve agri-output, while minimising its impact on climate.



Unimpressive Adoption

1. Large dependence on monsoon \rightarrow (52%) so on area is rained.

2. Heavy & unscientific fertilizer use.

Recommended NPK ratio = 4 : 2 : 1
NPK in India = 6.4 : 2.8 : 1

3. Water overuse \rightarrow scarcity

\rightarrow declining water table in Punjab & Haryana.
 \rightarrow Arsenic & heavy metal pollution.

4. Old technologies like seedling plantation in rice \Rightarrow methane release

5. Soil & groundwater pollution.

6. Pesticide residue high in fruits & grains
 \downarrow
harmful for health.

Way forward

1. State intervention

- (a) Smart use of fertiliser → Soil Health Card tells about needed ratio of nutrients
- (b) PM Krishi Sinchayi Yojana to improve irrigation.
- (c) KOSUM → to replace electric pump with solar.
- (d) e-KRISHI MITRA app → informs about weather forecast, recommends crops to be planted etc.

As farming & livestock contribute to 1/4th of greenhouse emissions, climate smart farming is needed for a sustainable future.

Feedback (For OFFICE use only)

Structure/ Presentation
Question Interpretation
Content
Value Addition
Total

Q.15) How is urban flooding different from rural flooding? Discuss the reasons for and implications of increased instances of urban flooding in recent times. (15 marks, 250 words)

शहरी बाढ़ ग्रामीण बाढ़ से किस प्रकार भिन्न है? हाल के दिनों में शहरी बाढ़ के बढ़ते मामलों के कारणों और प्रभावों पर चर्चा करें। (अंक 15, शब्द 250)

INCOS & IMD point out that with climate change & unplanned urbanisation, urban floods are likely to increase.

Urban floods

1. May occur with slight rainfall
 as drainage pathways are lacking.
2. Take more time to resolve
3. Cause more damage to infrastructure & life
4. Occur quickly

Rural floods

- Occur at extreme rainfall
 as drainage pathways are intact.
- Resolve rapidly
- less damage
- occur slowly.

Reasons for Rising Urban Floods

1. Unplanned urbanisation → that ignores natural drainage pathways & watersheds.
2. Concretisation → percolation of water reduces.
3. Urban heat island effect → creates rapid build up of clouds.
4. ~~It~~ Loss of tree cover → water absorption reduces.
5. Climate change & unpredictable rainfall → rising cloudbursts.

Implications

1. Rising vulnerability of people.
2. Loss of life & property will increase, as seen in recent Chennai floods.
3. Infrastructure damage → huge fiscal cost.

Way forward

1. 'Sponge city' approach as seen in China
 ↓
road building material etc act as sponge
 & enhance percolation.
2. Urban afforestation as in Nagar Van scheme
 - Use Miyawaki technique to create dense forest in small spaces, as seen in Baroda & Mumbai.
3. Planned urbanisation → using watershed management

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total



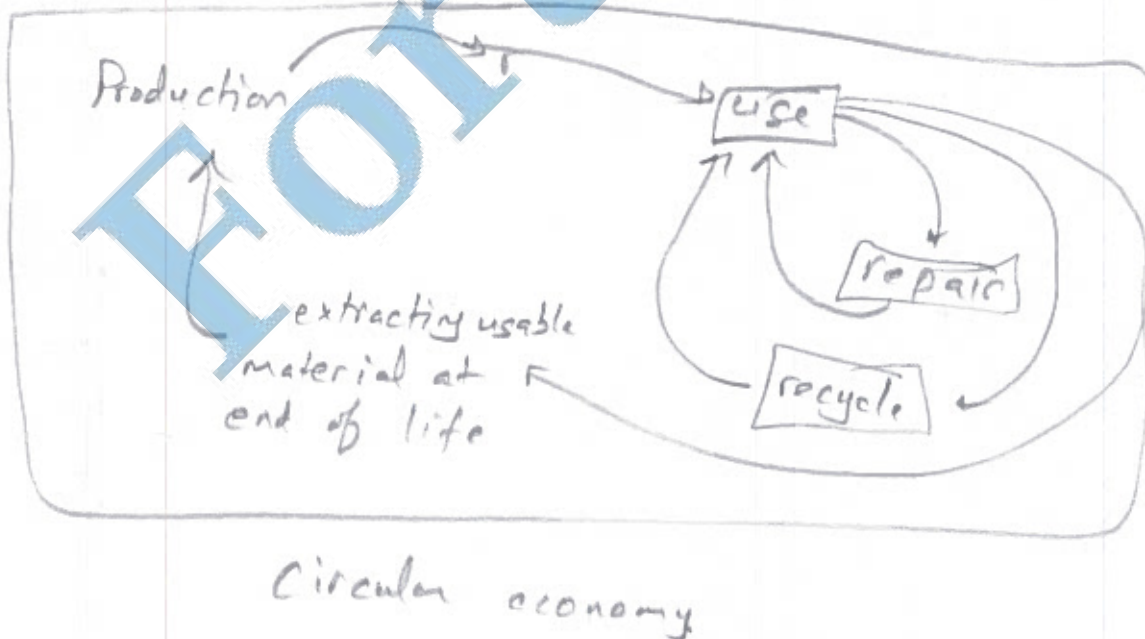
Q.16) What do you mean by a circular economy? Discuss how can this concept help in resolving the dilemma of achieving rapid economic growth and reducing environmental footprint.

(15 marks, 250 words)

चक्रिय अर्थव्यवस्था से आप क्या समझते हैं? चर्चा करें कि यह अवधारणा तेजी से आर्थिक विकास प्राप्त करने और पर्यावरणीय फुटप्रिंट को कम करने की दुविधा को हल करने में कैसे मदद कर सकती है। (अंक 15, शब्द 250)

Circular economy, as opposed to traditional linear economy, is based on reuse, recycling & repair of a product to increase their lifespan.

[Production → single use → disposal]
in Linear economy



Role in resolving many problems.

(i) Economic growth

(a) Creates an entire industry for repair, maintenance.

(b) New semi & low skilled jobs.

Case : Gujarat's ship breaking industry extracts usable metals from ships

↓
used in manufacturing

(c) Reduced manufacturing cost + due to cheap recycled material.

(d) Entrepreneurial opportunities.

(ii) Reducing environmental footprint.

(a) Reduces waste generation → toxic chemicals, plastic etc.

(b) Low resource extraction needed for

raw materials.

(c) Reduced pollution from industry.

(d) Protects human & animal health from these hazards.

Circular economy presents as a ~~an~~ ~~alternative~~ greener & more sustainable alternative to fundamentally reimagine our economy & society.

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Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Q.17) Green hydrogen presents an opportunity for the economy to modernize without the need to 'carbonize'. Discuss the statement and suggest strategies for leveraging benefits of green hydrogen. (15 marks, 250 words)

ग्रीन हाइड्रोजन अर्थव्यवस्था को 'कार्बोनाइज' किए बिना आधुनिकीकरण करने का अवसर प्रस्तुत करता है। इस कथन पर चर्चा करें और ग्रीन हाइड्रोजन के लाभों का लाभ उठाने के लिए रणनीतियों का सुझाव दें। (अंक 15, शब्द 250)

Green Hydrogen refers to ~~pure~~ Hydrogen (H_2) obtained by electrolysis of water, energised by renewables like solar or wind.

Opportunities of green H_2

1. ~~Also~~ Non polluting → only emissions are water & Heat.
2. No CO_2 ~~emissions~~ or greenhouse emission
3. Can be stored & transported ⇒ diverse uses.
4. Possible uses
 - ↳ generating electricity
 - ↳ fuel for cars, automobiles
 - ↳ power for industries.

+ raw material for fertiliser & industry.

5. Potential for complete decarbonisation of economy → by eliminating carbon emitting combustion engines.

Challenges

1. Very high cost of obtaining pure H_2
2. Nascent technology → needs many advances.
3. Not safe
if H_2 is highly explosive & volatile.
~~diff.~~
4. Difficult to store & transport → needs -200°C temperature.
5. Huge investment cost needed to replace existing machinery.

Strategies for H₂ based economy

1. Leveraging vast solar & wind potential of India.
e.g. Peru & Chile are already making H₂ from wind.
2. Attracting both private & public investment for R&D to improve technology.
3. Promoting entrepreneurship by startup challenges.
4. Global cooperation with countries already engaged in H₂ production.

Green H₂ is one of the most promising technologies for a clean future. It needs our complete attention.

Feedback

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Structure/
Presentation

Question
Interpretation

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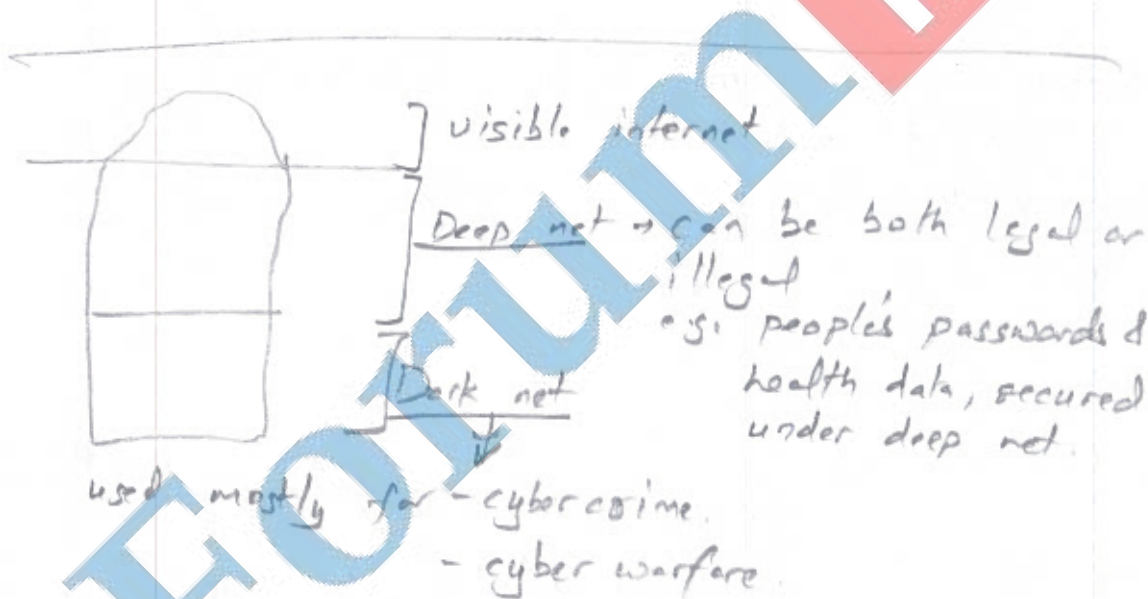
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Q.18) What do you understand by deep net and dark net? Highlighting various security threats posed by dark net, discuss challenges in its regulation. (15 marks, 250 words)

डीप नेट और डार्क नेट से आप क्या समझते हैं? डार्क नेट द्वारा उत्पन्न विभिन्न सुरक्षा खतरों पर प्रकाश डालते हुए, इसके नियमन में चुनौतियों पर चर्चा करें। (अंक 15, शब्द 250)

Deep Net & Dark Net are those parts of internet that are not accessible by conventional search engines like Google, Bing, safari & are not accessible to common public.



Security Threats of Dark Net

1. Use for illegal trade - drugs
- human trafficking
- arms trade.

2. Difficult to trace & by law enforcement agencies.
3. Cyber terrorism ~~is~~ & cyber warfare → as seen in recent hacking of Iran's nuclear site hardware.
4. Transactions cannot be regulated or tracked by banks or government agencies.

Way forward

1. Investing in cyber security capabilities
2. Creating institutional infrastructure
 - ↓
 - CERT-in
Computer emergency response team
 - ↓
 - ICCC
Integrated Centre for Cybersecurity Coordination
3. Empower people → awareness about malware & how to be safe online.

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Feedback

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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total

Q.19) Analyse the internal security implication of Taliban's rule in Afghanistan for India and suggest counter measures to address emerging security challenges. (15 marks, 250 words)

भारत के लिए अफगानिस्तान में तालिबान के शासन के आंतरिक सुरक्षा निहितार्थ का विश्लेषण करें और उभरती सुरक्षा चुनौतियों का समाधान करने के लिए काउंटर उपायों का सुझाव दें। (अंक 15, शब्द 250)

To everyone's surprise, as the western forces retreated, Taliban made rapid gains & captured Kabul, the implications of which can be potentially destabilising for the entire South Asian region.

Internal Security Implications for India

1. Rise in cross-border infiltration → into J&K & Punjab, which may disturb the already fragile peace.
2. Giving shelter & arms to Anti-India forces like Lashkar-i-Taiba (LeT) & GeM.
3. Morale booster for terror groups like ISIS.

4. Radicalisation & recruitment of youth by terror groups using social media, as seen in cases of Kerala.

5. Greater strategic depth of Pakistan in Afghanistan → may work against us.

6(a) Threat to Indian assets in Afghanistan → like Salma dam, new Parliament

(b) Threat to Indian diaspora there.

Counter Measures

1. Improving border management

← ICBMS (Integrated Control of Border management system) → uses satellite, lasers etc.
 use of drones, sensors in diff hilly & river terrain.

2. Multilateral cooperation

(a) Leveraging SCO - RATS (Regional Anti-

Terror Structure) to counter violence.

(b) Work with regional players like Iran, Russia, Tajikistan

3. Engaging with Taliban itself - to secure our national interest, as suggested by former diplomat Vivek Katiya.

4. Strengthen cyber security capability

This return of Taliban is not the same as 1996, it throws up new challenges. We need to be prepared for a 21st century Taliban.

Feedback
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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.20) Blurred lines between civilian and military use of technologies have created invisible enemies and new set of internal security challenges. Discuss in light of concerns related to use of drone, cyber and bio-technology. (15 marks, 250 words)

प्रौद्योगिकियों के नागरिक और सैन्य उपयोग के बीच धुंधली रेखाओं ने अदृश्य दुश्मन और आंतरिक सुरक्षा चुनौतियों का नया सेट बनाया है। ड्रोन, साइबर और जैव-प्रौद्योगिकी के उपयोग से संबंधित चिंताओं के आलोक में चर्चा करें।

(अंक 15, शब्द 250)

After conventional land, air & water, Cyber & drone are being called as 4th & 5th arena of warfare.

Concerns with new technologies

① Drones

1. Can be used for both civil & military use → difficult to identify intent.
2. Easily available & easy op. to operate → minimal training needed.
3. Low flying → can escape radars & detection systems.
4. Deep penetration → can reach inside enemy area → as seen in Jammu airbase attack

& Panjab arms smuggling cases.

(i) Cyber technology

1. Invisible enemy → hard to find the perpetrators.
2. Boundariless → can operate from within or outside the country.
3. Limited cyber security competence of India.
4. Digital divide & lack of awareness about this challenge → as seen in bank & credit card frauds everyday.

(ii) Biotechnology

1. Micro organisms as bioweapons → anthrax, botulinum bacteria etc.

Case : Anthrax spores found in envelopes in USA.

2. ~~Misaid~~ 'Lab-leak' theory of COVID-19 → COVID escaped from a biotech lab in Wuhan due to mishandling.

Way forward

1. 'Built-in' security measures → to prevent mishaps e.g. genetic research in BSL-4 labs.
2. R. & D with private participation → in drone technology, biotech etc.
3. Develop both defensive & offensive capability to create deterrence.
 - a. Educate people via school, newspaper about how to deal with cyber threats

Feedback

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Structure/
Presentation

Question
Interpretation

Content

Value
Addition

Total

Mentor Feedback Questions

- 1
- 2
- 3
- 4
- 5

Test Goal

- 1
- 2
- 3

Outcomes

- 1
- 2
- 3

Marking Scheme

Mark	Good	Average	Below average
10 Marker	3.75 – 5.0	3.0 – 3.5	< 3.0
15 Marker	5.75 – 7.0	4.0 – 5.5	< 4.0
✓	Key / Relevant Point		
✗	Vague / Irrelevant		

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