

TEST CODE 8 1 3 2 1 3

MGP 2025

Time Allowed : One and Half Hours
समय : डेढ़ घंटे

ForumIAS

Maximum Marks : 125
अधिकतम अंक : 125

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	DEVYANSHI KAURA		
Roll No./अनुक्रमांक	1910160268	Medium/माध्यम	English <input checked="" type="checkbox"/> हिंदी <input type="checkbox"/>
Center Code/परीक्षा केंद्र		Date/दिनांक	29 Nov 2024

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

INDEX TABLE / अनुक्रमणिका			INSTRUCTION / अनुदेश		
Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक	1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet. कृपया उत्तर-पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर भरें।		
1			2. There are TEN questions printed in ENGLISH & HINDI, all questions are compulsory. उत्तर पुस्तिका में अंग्रेजी/हिंदी में दस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।		
2			3. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।		
3			4. Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।		
4			5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off. प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।		
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Total/कुल अंक	125		For Student Only / केवल परीक्षार्थी प्रयोग हेतु		
Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :	
			9:00 AM	10:45 AM	
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन <input checked="" type="checkbox"/>	
				Offline/ऑफलाइन <input type="checkbox"/>	
*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy. मूल्यांकन कर्ता का विवेक अंक, आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आती के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।			For Office Use Only / केवल कार्यालय प्रयोग हेतु		
			ECN CODE/ ईसीएन कोड :	EG/ईजी :	Evaluation Date/ मूल्यांकन तिथि :
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Note: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussion classes for the tests are also available online in your portal to aid in your preparation. Further, students are requested to see the good copies of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways and means to improve your answers, or if you have any issues with this test / copy. Ask specific questions, to get specific answers.

EXAMINER'S REMARKS

CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

1. **AWIS = Answered What is Asked.** This means whether you have addressed the core demand of the question or not. Addressing the core demand of the question gets you an objectively fair score. It is examiner's perception if you have understood the question and if you know the answer in the first place. Creative answer writing, sometimes missing the core demand, may fetch very high or very low scores, and exposes your answer to the subjectivity of the examiner.
2. **CD & VA = Content Density & Value Addition.** Examiner will evaluate the quality and quantity of your content in the answer. In the same word limit and space limit have you (a) written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (but not all!) suggestions, ideas, quotes, flowcharts, diagrams, facts and figures, data etc. This affects objective components of assessment.
3. **S & F = Structure & Flow** = Whether you have structured your answer properly or not. Whether the answer has been broken into parts and sub-parts and each part has been addressed appropriately or not. Whether the flow of the answer is maintained. Affects both subjective and objective components of assessment.
4. **P & R** = How your answer performs on the criteria of **presentation, ease of read, clarity and apparent effort** in writing the answer. This affects the subjective components of assessment.



Q.1) A robust and thriving food processing sector can address multiple issues plaguing Indian agriculture. Elucidate. (10 Marks, 150 Words)

एक सशक्त और संपन्न खाद्य प्रसंस्करण क्षेत्र भारतीय कृषि को प्रभावित करने वाली कई समस्याओं का समाधान कर सकता है। स्पष्ट कीजिए। (10 अंक, 150 शब्द)

Food processing is considered to be a 'sunrise sector' by the government, given its potential for transforming Indian agriculture.

Food processing can address multiple issues plaguing agriculture:

- ① Price discovery before sowing - contracts with processors → better prices and shift to high value crops.
- ② Reducing post harvest losses - currently to the tune of 30-40% for fruits and vegetables.
- ③ Value addition and moving up the value chain - eg ready to eat meals, purees and sauces.

Q.2) Define 'food security' and outline its main dimensions. Also, throw light on various steps taken by the government to ensure food security in the country. (10 Marks, 150 Words)

'खाद्य सुरक्षा' को परिभाषित कीजिए और इसके मुख्य आयामों की रूपरेखा तैयार कीजिए। साथ ही, देश में खाद्य सुरक्षा सुनिश्चित करने के लिए सरकार द्वारा उठाए गए विभिन्न कदमों पर प्रकाश डालें। (10 अंक, 150 शब्द)

Food security refers to the ability to consume adequate amount of safe and nutritious food by all citizens of all age groups. UN's SDG 2 directly addresses it by adopting the goal of zero hunger.

Dimensions of food security → Access to food - depends on level of production and regional distribution.
→ Affordability of food - depends on • food prices • income and poverty.

various steps taken by government for food security :

- ① Green Revolution Program of the 1960s and 1970s to increase food grain production to make the country food secure.

② 1970s - Food for work programs for grain distribution in exchange for work via a network of ration shops and Fair price shops

③ Targetted Public distribution Scheme in 1997 (TPDS) for distribution to the poorest households at subsidised rates (AAY).

④ National food security Act, 2013 (NFSA)

- food as a right - fixed entitlement of 5 kg grain/person/month.
- affordability - ₹ 3 for rice, ₹ 2 for wheat, ₹ 1 for coarse grain
- 35 kg per household for BPL families.

⑤ ICDS and MDM for early age care and school going children for cooked meal conforming to set nutrition targets.

way forward

- protein promotion - soy, dairy, poultry
- micronutrient inclusion - fruits and vegetables, fortification.
- governance reforms in PDS, MDM.

Feedback

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#	G	A	P
AWIS			
CD & VA			
S & F			
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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.3) Describe the various applications of nanotechnology in the agricultural sector.

(10 Marks, 150 Words)

कृषि क्षेत्र में नैनो प्रौद्योगिकी के विभिन्न अनुप्रयोगों का वर्णन कीजिए।

(10 अंक, 150 शब्द)

Nanotechnology refers to working with materials at the nanoscale i.e. between 1-100 nanometres. Benefits include increased surface area, greater absorption and even new properties at nanoscale.

Applications of nanotechnology in agriculture :

- ① Fertilisers - nanoparticles result in greater surface area → greater absorption and efficiency. eg - Nano-urea
- ② Pesticides - nanopesticides can help to minimise application and help with precision. → reduces residues.
- ③ Nanogels, emulsions can be used for delivery of materials, and in gene modification of crops.

→ better and cheaper seed trait development.

④ Soil quality improvement using nanogels,
nano materials to absorb contaminants.

Way forward

- incentivising research by public and private sector
- farm incentives for shift to nano-inputs eg Nano urea of IFFCO.
- international partnerships for technology access.

Nano materials have potential for 'futuristic agriculture'.

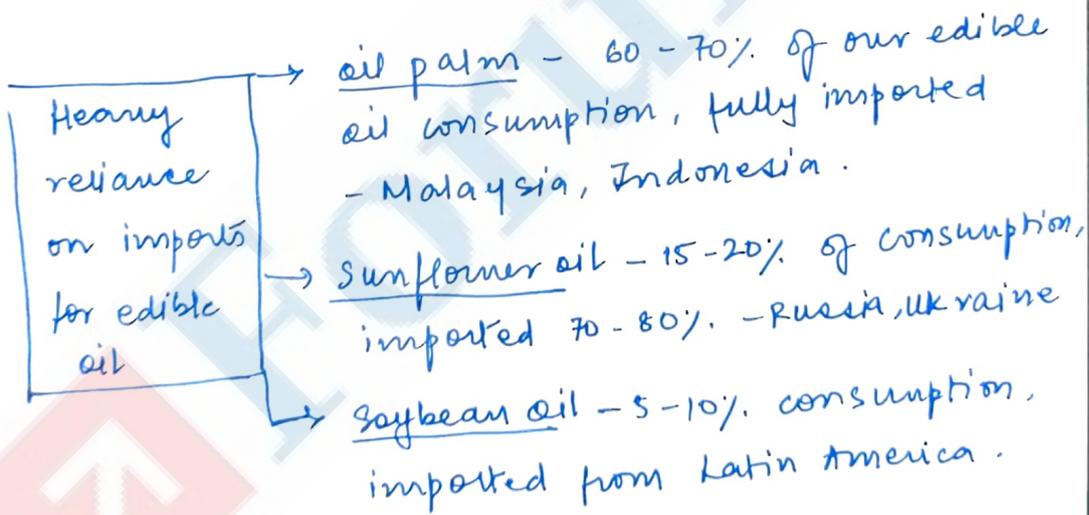
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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.4) "India's heavy reliance on imported edible oils, stemming from multiple factors, calls for a comprehensive approach to boost domestic production and reduce this dependency." Elaborate. (10 Marks, 150 Words)

"भारत की आयातित खाद्य तेलों पर भारी निर्भरता, जो कई कारकों से उत्पन्न होती है, घरेलू उत्पादन को बढ़ावा देने और इस निर्भरता को कम करने के लिए एक व्यापक दृष्टिकोण की मांग करती है।" विस्तार से बताइए। (10 अंक, 150 शब्द)

India's consumption of imported edible oils is to the extent of 60-70% of our total, making us vulnerable to external market pressures. This was seen during 2022 Russia-Ukraine crisis - which caused global shortage and edible oil inflation.

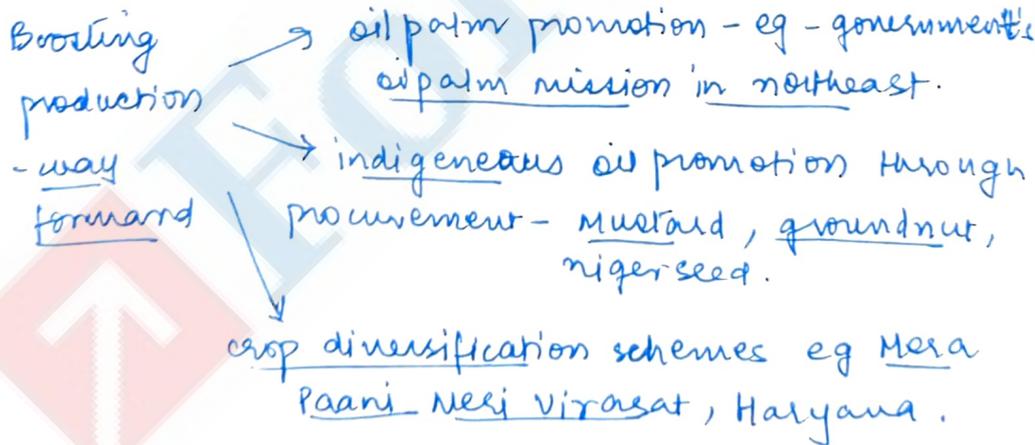


Factors behind import reliance :

- ① Distorted cropping pattern :
 - 60-70% of gross cropped area (GCA) for

food grains, within it 70% for rice and wheat.
inadequate GCA for oilseeds.

- ② Lack of innovation in oilseeds - no technical innovation post 1980s oilseed mission.
 currently, GM Mustard (DMH) release delayed by courts.
- ③ lopsided FTA with ASEAN - resulted in massive oil imports flooding Indian market.
- ④ Technical superiority of oil palm - highest yielding oilseed with diverse applications, hence is cheapest in commercial operations.



Reducing import dependency in oilseeds is crucial for food security.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.5) Discuss the multi-dimensional impact of climate change on agriculture. What strategies would you suggest to make agriculture sustainable and climate resilient? (10 Marks, 150 Words)

कृषि पर जलवायु परिवर्तन के बहुआयामी प्रभाव पर चर्चा कीजिए। कृषि को टिकाऊ और जलवायु के प्रति लचीला बनाने के लिए आप क्या रणनीति सुझाएंगे? (10 अंक, 150 शब्द)

Rising temperatures, extreme weather events and desertification induced by climate change are expected to adversely affect food production and security. Various global organisations call for shift to climate proof agriculture.

Multi-dimensional impact of climate change on agriculture:

- ① Seasonal shifts - advancing of summer and delayed winters causing mismatch of sowing and harvesting schedules with temperature conditions.
- ② Rising temperatures in tropical and subtropical parts - causing yield losses of temperate crops e.g. - 2022 Indian wheat yield losses due to heatwave.

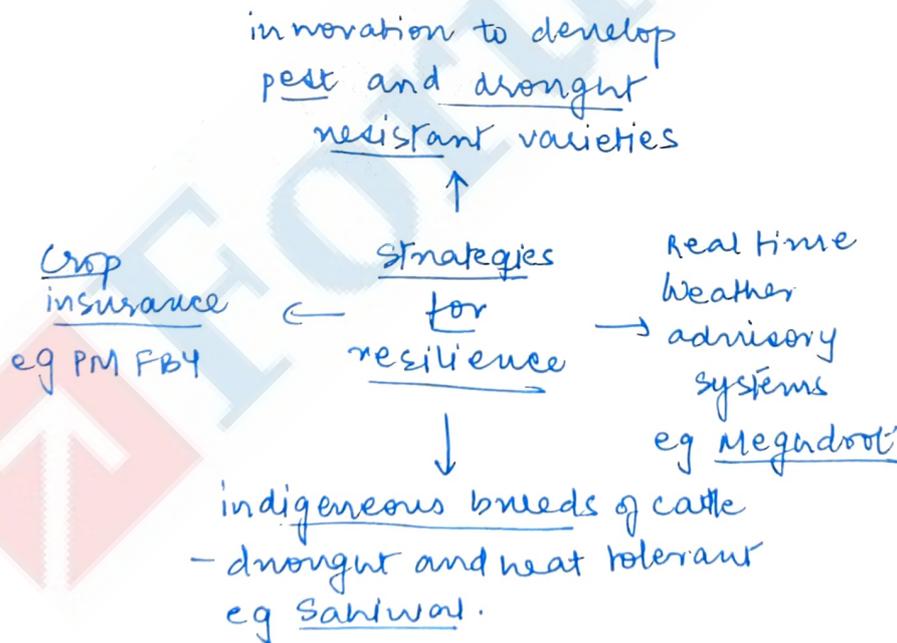
③ Droughts and drying of rivers - impacting hydropower generation and irrigation eg drying of Amazon in 2024 causing crop losses.

④ Shifting food demand patterns :

- prolonged demand season for ice cream and cola.
- shorter demand season for winter crops.

⑤ Poultry ~~and~~, livestock and fisheries :

- Milk production falls in warmer seasons.
- fodder shortage worsens as temperature rises
- fish - narrow temperature band.



Above measures will help us to achieve 'climate smart and climate proof agriculture'.

Feedback

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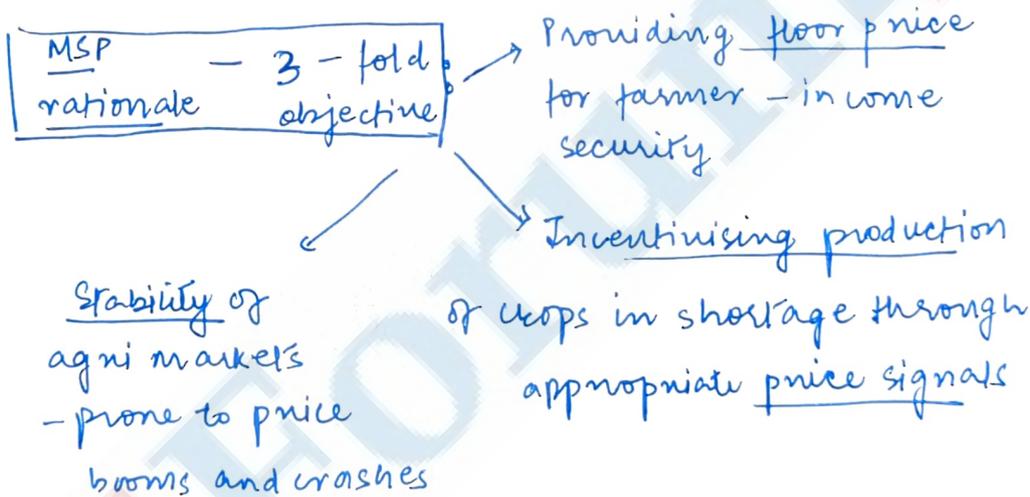
TOTAL MARKS	
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Q.6) The rationale behind the MSP system is well acknowledged, but it requires comprehensive reforms to mitigate the unintended consequences on the market and environment. Analyse.

(15 Marks, 250 Words)

एमएसपी प्रणाली के पीछे का तर्क सर्वविदित है, लेकिन बाजार और पर्यावरण पर पड़ने वाले अनपेक्षित परिणामों को कम करने के लिए इसमें व्यापक सुधारों की आवश्यकता है। विश्लेषण कीजिए। (15 अंक, 250 शब्द)

The MSP regime began in 1965 with the Agriculture Price Commission to set MSPs, later renamed as Commission for Agriculture Costs and Prices (CACAP).



Yet, there are several unintended consequences on the market and environment:

① Cropping pattern distorted.

MSP for 23 crops, but procurement only for rice and wheat - hence cereal centric pattern.

- ② Inefficient production pattern
 - wet crops - paddy and sugarcane in dry, arid zones - high cost of production.
- ③ Shortage and import reliance for crops not grown adequately - pulses, oilseeds.
- ④ Natural resource base being destroyed.
 - groundwater overextraction - more than combined of USA and China.
 - soil health impacted - fertiliser overuse - NPK ratio several times optimal. (normal 6:4:1, ours 9:2:1).
- ⑤ MSP based on production cost alone (1.5 times of A2+FL), but unresponsive to changing demand patterns (less cereals, more high value crops).
- ⑥ Elite capture - only 6% farmers avail MSP.

Comprehensive Reforms required to Mitigate these:

- ① Procurement diversification for crop diversification :
eg: Midlet Mission, Odisha, Raitha Siroi, Karnataka

② shifting to price deficiency payments instead of direct open ended procurement (Ashtok Dalwai Committee)

③ Diversifying procurement to other states - currently centred to Green Revolution states.

④ Reforming input subsidy regime - shift to water and electric metering
 • NBS for urea also.

⑤ Using savings in above for public investment in agriculture:
 • irrigation completion.
 • extension services
 • logistics development.

MSP has earned its purpose to improve food security, but has not been able to improve agrarian welfare. Necessary reforms are needed.

Feedback

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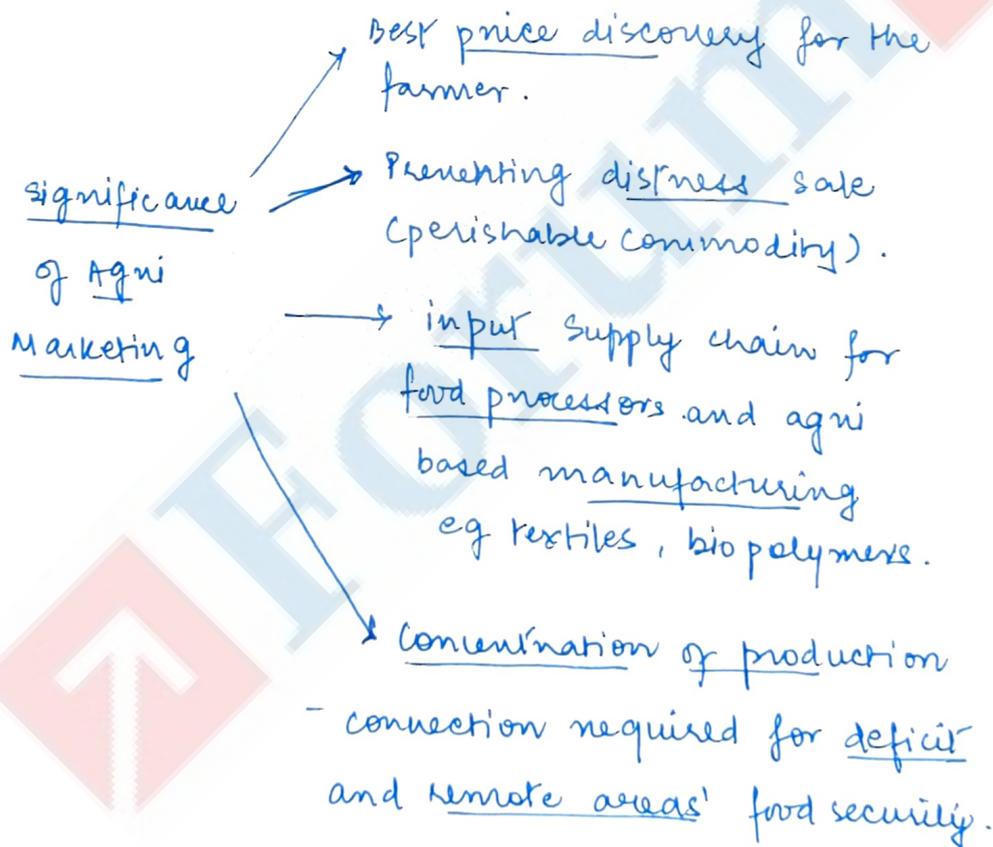
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TOTAL MARKS			



Q.7) Explain the significance of agricultural marketing in the country. Outlining the key challenges it faces, suggest reforms to address them. (15 Marks, 250 Words)

देश में कृषि विपणन के महत्व को समझाइए। इसके सामने आने वाली प्रमुख चुनौतियों को रेखांकित करते हुए, उनके समाधान के लिए सुधार सुझाइए। (15 अंक, 250 शब्द)

Agriculture marketing is a state subject under list II of 7th schedule, resulting in significant variations across states. Its underdevelopment is constraining farm prosperity.



Yet, agricultural markets face key challenges:

- ① Concentration and shortage of mandis:
 - in Punjab, Haryana, Tamil Nadu, UP, Andhra Pradesh.
 - Suaminathan Report, 2005 - recommended 1 market every 80 sq km, we have 1 every 500 sq km.
- ② Monopoly of state mandis and licensed traders (arhatiyas) - farmers get only 40-50% of final price on average (RBI).
- ③ Multitude of commissions, fees, levies at mandis.
- ④ Small farmers and landless - net buyers (80-85% of rural India) - high food prices adversely affect them.
- ⑤ MSP functional only for rice and wheat.
- ⑥ Cold storage and transport undeveloped.
- 30-40% of horticulture crops wasted.

⑦ Warehousing shortage.

- overflowing godowns - grain wastage to the tune of 2 lakh MT between 2011-13.

Shift from licensing to registration of traders - APMC Act's amendment.

Leveraging agriculture startups and digital tech for marketing.

Required Reforms

e-NAM portal must be made functional - investment for logistics development.

Diversifying procurement to poorer states like Bihar, West Bengal.

Marketing reforms can help to achieve goal of doubling farmer incomes by building of 'farm to plate' connection.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.8) The transition from the green revolution to an 'evergreen revolution' is essential for sustainable agricultural growth. In this context, examine the impact of green revolution on Indian agriculture. What measures can be taken to usher in evergreen revolution? (15 Marks, 250 Words)

हरित क्रांति से 'सदाबहार क्रांति' की ओर संक्रमण टिकाऊ कृषि विकास के लिए आवश्यक है। इस संदर्भ में, भारतीय कृषि पर हरित क्रांति के प्रभाव की परिक्षण कीजिए। सदाबहार क्रांति लाने के लिए क्या उपाय किए जा सकते हैं? (15 अंक, 250 शब्द)

Green Revolution introduced in the 1960s referred to the sum total package program - HYV seeds, fertiliser application, electric power, and state led grain procurement at MSP.

Green Revolution has had many positive impacts:

- ① Food security - India is no longer import dependent for cereals - net exporter since late 1990s.
- ② Higher yields due to HYV seeds - in wheat (1960s), rice (1970s and 80s) and oilseeds (1980s).
- ③ Intensification of input use - irrigation, fertilisers.

Yet, it has had some important adverse effects!

- ① Cropping pattern - cereal centric (50-60% of GCA)
- import dependence for pulses and edible oils.
- ② Overuse of inputs - natural resource base shrinking.
 - water - groundwater (62% of irrigation).
 - fertilisers - soil health, eutrophication, soil salinisation.
 Dine problem in GR states - Punjab, Haryana.
- ③ Rising production cost - yield gains exhausted, input use efficiency falling
- ④ Government budget distortion - food and fertilizer subsidy worth ₹4 lac cr in 2024-25 - 1/3rd of revenues.
- ⑤ Climate change worsening problems - current pattern faces severe risk from rising temperatures and ensuing droughts.

Hence, we need to transition to an 'evergreen revolution' in light of these problems :

Measures needed for energy revolution

- Climate resistant crops promotion
 - millets
 - oilseeds
 - pulses.
 - replenish soil fertility
 - reduce water and fertiliser use.
 - nutritional security.
- Innovations for rice and wheat
 - Direct seeded rice (DSR)
 - zero tillage wheat (ZTW)
 - System of rice intensification (SRI)
- Conservation agriculture practices:
 - micro-irrigation.
 - Mulching and cover cropping.
- Marketing reforms
 - APMC reform
 - D2C platforms
- Subsidy reforms - MSP, fertiliser, electricity pricing.

Entire agrarian value chain must be re-oriented to sustainable agriculture practices for 'evergreening' our farms.

Feedback
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TOTAL MARKS			



Q.9) While the livestock sector has immense potential to contribute to the socio-economic development of rural India, the realization of its true potential is hindered by a multitude of challenges. Elaborate. Also, suggest strategies to address these challenges. (15 Marks, 250 Words)

जबकि पशुधन क्षेत्र में ग्रामीण भारत के सामाजिक-आर्थिक विकास में योगदान करने की अपार क्षमता है, लेकिन इसकी वास्तविक क्षमता का एहसास अनेक चुनौतियों के कारण बाधित है। विस्तार से बताएँ। साथ ही, इन चुनौतियों से निपटने के लिए रणनीतियाँ भी सुझाएँ। (15 अंक, 250 शब्द)

As per livestock census, India has world's largest cattle population and is largest milk producer in the world. Given socio-economic importance, this sector has power to unlock rural prosperity.

livestock sector's immense potential for rural development:

- ① Supplementary income for farmers from cattle and dairy.
- ② Collateral to avail credit on viable terms
- ③ Source of social prestige.
- ④ Superior bull breed maintenance to sell sperm for artificial insemination.

⑤ Nutritional security for farmer and society - livestock products rich source of proteins and micronutrients.

⑥ Cooperatisation for collective welfare
eg - AMUL model - maximum returns to farmer.

However, multitude of challenges persist:

① Fodder shortage becoming structural:
- import dependence, erosion and degradation of pastures.

② Cooperative sector struggling - NPAs, Political interference and ineffective Management.

③ Cattle diseases and reactive response
eg - Lumpy skin disease outbreak.

④ Antibiotic abuse in livestock sector - source of antimicrobial resistance.

⑤ Dominance of mixed breeds - high yield but low resistance to climate and diseases.

- ⑥ End of life cattle - abandoned, need for policy approach.
- ⑦ emissions from dairy sector - 15% of methane emissions.

Future Strategies

- Reform of cooperative sector - eg New Cooperation ministry; and 97th Amendment
- investment in indigenous breeds eg - National Kamdhenu Mission
- Setting up of compressed biogas (CBG) ecosystem for additional income, energy security and emission reduction eg - SATTA scheme
- Addressing fodder shortage (70% of operating cost) - imports, pasture development.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.10) Farm mechanization can drive rural prosperity and sustainable farming, but its widespread adoption is hindered by various factors. Discuss. Also, mention initiatives taken by the government to promote farm mechanization in the country. (15 Marks, 250 Words)

कृषि मशीनीकरण ग्रामीण समृद्धि और टिकाऊ खेती को बढ़ावा दे सकता है, लेकिन इसके व्यापक रूप से अपनाए जाने में विभिन्न कारकों से बाधा आ रही है। चर्चा कीजिए। साथ ही, देश में कृषि मशीनीकरण को बढ़ावा देने के लिए सरकार द्वारा की गई पहलों का उल्लेख कीजिए। (15 अंक, 250 शब्द)

With the Green Revolution, draught power was gradually replaced with mechanical power - with widespread use of tractors, harvesters, threshers, improving yields and farm incomes.

Farm mechanisation can drive rural prosperity and sustainable farming :

- ① Sowing time - in time operations can be done by machinery, since timing is crucial eg - Happy seeder.
- ② Soil bed preparation and ploughing has become easier and cheaper.
- ③ Proper even sowing can help to reduce weed growth.
- ④ Micro irrigation for saving water

and increasing water use efficiency (WUE).

- eg - drip irrigation
- sprinkler irrigation.

- ⑤ Reducing stubble burning and its pollution &.
- Happy seeder
 - Super SMS Machine.

Yet, only 40% farms have adopted some form of mechanisation. Reasons hindering adoption:

- ① Rural disparity - landless and marginal farmers - 80-85% - lack scale or capital for adoption.
- ② Lack of trained human resource for operation of machinery.
- ③ Accidents and losses due to improper machine use - eg loss of limbs, disability.
- ④ Surplus labor economy - migration from poorer regions - makes labor use cheaper.

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Government initiatives for farm mechanisation

- Custom Hiring Centres (CHCs) for utilisation of farm machines.
- Centres for testing and certification.
- Provision of subsidy for purchases
- work of agri research institutions like ICAR, PAU for creating machinery for problems - e.g super SMS seeds.

Rapid, large scale deployment of machinery to combat emerging farm problems can enable shift to sustainable agriculture.

Feedback

(For OFFICE use only)

#	G	A	P
AWIS			
CD & VA			
S & F			
P & R			
Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			