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NEXT IAS

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(To be filled by candidate)

Name of Candidate : Mahi Sharma.

NEXT IAS Roll No.: AIM24GCRA040 Date of Examination : 16/07/2023

Exam Centre : Old Rajinder Nagar [✓] Bhopal [ ] Online [ ]

Test Code : TC05L Program : SLT [ ] SLT+ [✓]

MAIN TEST SERIES 2023
(SECTIONAL TEST-5)

GENERAL INSTRUCTIONS

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Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

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SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

(For filling by Examiners only)

Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

MACRO COMMENTS

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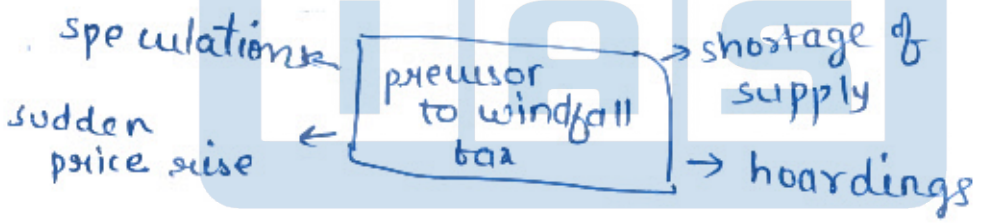
1. अप्रत्याशित कर (विंडफॉल टैक्स) से आप क्या समझते हैं? क्या आपको लगता है कि अप्रत्याशित करों से संपदा का प्रभावी ढंग से पुनर्वितरण हो सकता है और अधिक आर्थिक समानता को बढ़ावा मिल सकता है? (150 शब्दों में उत्तर दीजिए) 10 अंक

What do you understand by Windfall tax? Do you think that windfall taxes can effectively redistribute wealth and promote greater economic equality? (Answer in 150 words) 10 Marks

Candidates must not write on this margin

Windfall tax refers to the tax imposed on sudden income gains by individuals or big corporates without any substantial innovation and efforts.

Eg: Windfall tax on oil refinaries and petroleum companies due to Russia-Ukraine war.



Contribution in economic equality:

(1) It curbs inflation by taxing the sudden income gains.

(2) It reduces speculations

(3) It creats a progressive tax structure.

Candidates must not write on this margin

(4) The money collected through windfall tax can be used for welfare schemes like education, health etc.

(5) It helps to realize the objective of socialism and welfare state and reduces out of pocket expenditure.

However, it has certain repurcussions also like:

(i) It disincentivizes the corporates to earn more.

(ii) It creates an unstable tax structure.

(iii) Due to instablity in tax structure, it hinders the quality decision on investment.

Thus, windfall tax is necessary to objectively distribute the income but it should not affect the investment levels in the country.

2. भुगतान संतुलन (बीओपी) के घटकों के रूप में पूँजी खाते और चालू खाते के बीच अंतर का सविस्तार वर्णन कीजिए। भारत के बीओपी घाटे को संतुलित करने के लिए कुछ उपाय सुझाएँ। (150 शब्दों में उत्तर दीजिए) 10 अंक

Elaborate on the difference between Capital Account and Current Account as components of Balance of Payment (BOP). Suggest a few measures to balance the BOP deficit of India.

(Answer in 150 words) 10 Marks

Candidates must not write on this margin

'Balance of Payments' is the record of all the transactions taking place between the normal residents of the country and agents / corporates / residents of foreign company

Balance of Payments

Capital account

(i) It records long-term transaction.

(ii) It either creates liability or assets.

(iii) **Capital reciepts**: investments, loans taken, reciepts of disinvestments, FDI, borrowings etc

Current account

(i) It records day-to-day transactions.

(ii) It does not create liability or assets

(iii) **revenue reciepts**: grants, interest on loans given, ~~reciepts of~~ factor income from abroad

Candidates must not write on this margin

(iv) capital expenditure :	(iv) revenue expenditure
loans given, investment in any other country etc.	interest paid on loans, salaries, pensions

Suggestions to balance BOP deficit in India :-

(i) Focus on exports and manufacturing sector, especially with China-

Indo-China trade = $115 bn (approx); deficit of India = $75 bn approx

(ii) Policies to attract investments

Ex : Ease of doing business, stable tax structure, curbing ~~corrupt~~ corruption

(iii) Be a part of global supply chains

Thus, India with its share in global trade at 2% (approx) needs to take efforts to reduce BOP deficit for sustainable trade

3. नई मौद्रिक नीति समिति (एमपीसी) व्यवस्था के तहत मुद्रास्फीति लक्ष्यीकरण को लागू करने की अनुमानित सफलताओं और चुनौतियों पर चर्चा कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

Discuss the perceived successes and challenges of implementing inflation targeting under the new Monetary Policy Committee (MPC) regime.
(Answer in 150 words) 10 Marks

Candidates must not write on this margin

Inflation targeting refers to steps taken by "Monetary policy Committe" to tacken the inflation (CPI) within the range of 4% ± 2% (decided by GOI) by changing policy rates.

Perceived success of inflation targeting

(1) It helps to **better focus** on inflation as inflation targeting is the primary goal of MPC and stability becomes secondary.

(2) It increases **accountability** as if MPC is required to explain in written if it fails to manage inflation for 3 consecutive quarters.

Candidates must not write on this margin

(3) It helps in better controlling demand side inflation by increasing policy rates. Ex: 5% repo rate in 2019-20

(4) It helps to reduce investment related speculations.

Percieved challenges:

(1) It is not able to better controll inflation if it is from supply side.

Ex Recent inflation of 7% - 8% during covid and Russia-Ukraine war.

(2) Perception of policy rate structure instability in every two months.

(3) Chances of MPC to use sterlization technique to curb inflation

MPC is a breakthrough to control inflation in India but it should not mix up sterlization with policy rate change for sustainable economic structure.

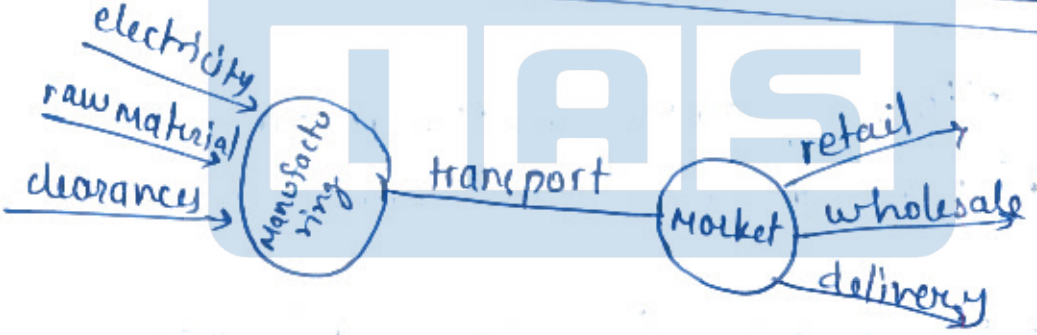
4. लॉजिस्टिक्स (रसद) क्षेत्र, विनिर्माण उद्योग के विकास के महत्त्वपूर्ण घटकों में से एक है। चर्चा कीजिए। साथ ही, हाल ही में घोषित राष्ट्रीय लॉजिस्टिक्स नीति, 2022 के विभिन्न घटकों का भी उल्लेख कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The logistics sector is one of the important components of the growth of the manufacturing industry. Discuss. Also, mention various components of the recently announced National Logistics Policy 2022. (Answer in 150 words) 10 Marks

Candidates must not write on this margin

~~Ans~~ i · logistic sector generally consist of connectivity, storage, clearances and ease of doing business but logistics cost in India is 14·1·, higher than global average.

Important for manufacturing industry :-



Forward and Backward linkage

Fig. 1

① **Connectivity** : Connectivity to market and areas of raw materials reduce input cost

Candidates must not write on this margin

② Multiple clearance : It delays the production and leads to inflation

③ **Supply chains** :- In an integrated economy, sustainable supply chains are required.

Ex:

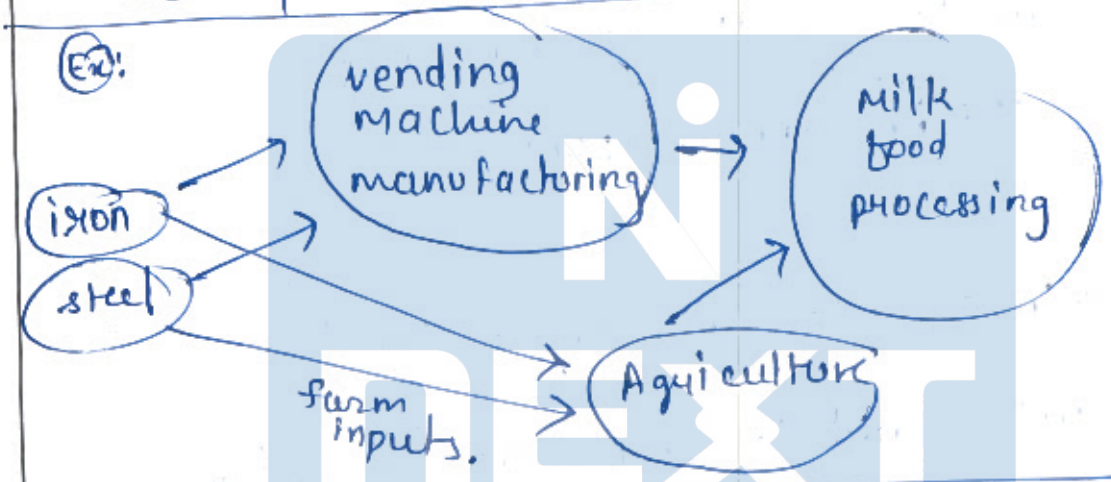


Fig 2

Components of National logistics policy, 2022 :-

① **Object** : To reduces logistics cost in India to **7-8%**

② **E Logs** → e-logistics will digitize the logistics system in India

③ **Single window clearance** : It will promote ease of doing business

Logistics are the backbone of manufacturing sector, and it needs to be strengthened to increase manufacturing output.

5. भारत में सतत् कृषि को बढ़ावा देने और खाद्य सुरक्षा में सुधार के लिए मोटे अनाज के उत्पादन की क्षमता का आकलन कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Assess the potential of millet production in promoting sustainable agriculture and improving food security in India. (Answer in 150 words) 10 Marks

Candidates must not write on this margin

India is the 2nd largest producer and largest exporter of millets in the world with its production at 117 ~~bn~~ mn tonne (approx)

Promoting sustainable agriculture

① It will lead to crop diversication and will break rice-wheat ~~montony~~ monotony

② It will increase farm income levels as it requires low cost farm inputs and is not prone to pest infestation

③ It will reduce land and soil degradation due to less use of fertilizers

④ It will provide fodder crop for good quality cattle ~~feed~~ feed

Candidates must not write on this margin

and will help in milk industry and integrated farming

⑤ less water requirement

④ Sustainable agriculture in dryer regions

Fig. 1



Millet producing states

Promotion of food security :-

(i) Along with food security, it will enhance nutrition security

(ii) It is cheaper than wheat and rice.

(iii) Distributing millets through Anganwadi and in mid day meals

Thus millets - 'shree anna' has both health as well as economic benefits but it requires governments support like storage, declaring MSP, ~~initiati~~ initiatives like International year/decade of millet to emerge as a global cereal.

6. जल जीवन मिशन में पेयजल की उपलब्धता और पेयजल तक पहुँच में क्षेत्रीय विषमता को समाप्त करने का सामर्थ्य है। मिशन के महत्त्व पर प्रकाश डालते हुए, वांछित उद्देश्यों की प्राप्ति में अंतर्निहित बाधाओं पर चर्चा कीजिए।

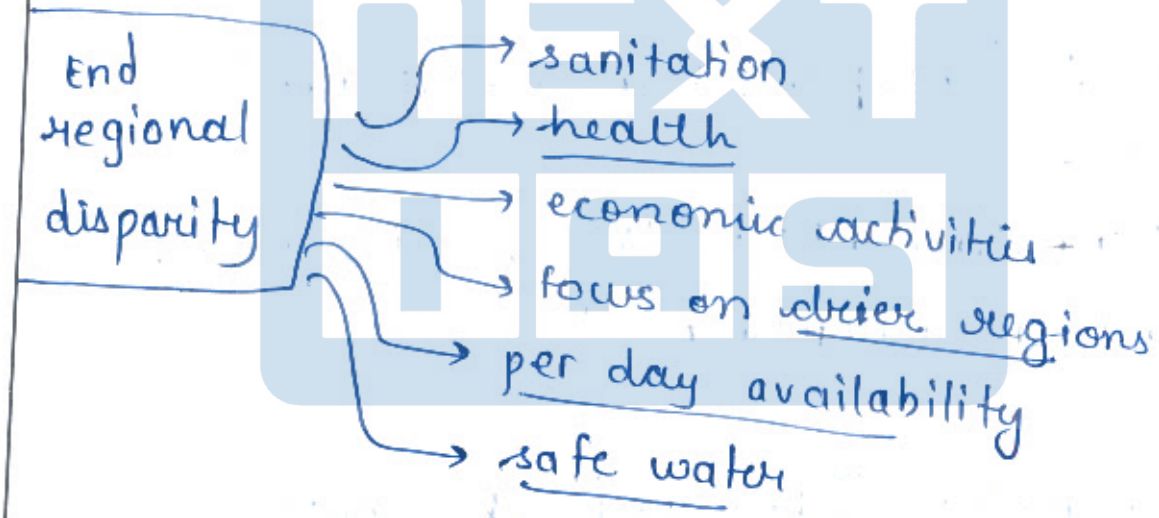
(150 शब्दों में उत्तर दीजिए) 10 अंक

Jal Jeevan Mission has the potential to end the regional disparity in the availability and accessibility of drinking water. Highlighting the significance of the mission, discuss the underlying impediments in achieving the desired objectives.

(Answer in 150 words) 10 Marks

Candidates must n
write on this marg

Jal Jeevan mission is a central sector scheme of Ministry of Jal Shakti and Ministry of rural development to provide 55 litre/per day potable water to rural households.



Significance of the mission :-

(1) Already [65%] rural households have been covered and are getting drinking water..

Candidates must not write on this margin

(2) Improvement in health standards of rural people.

Ex. study conducted by NGO Jal Saathi in a village of Maharashtra found 26% reduction in instances of diarrhea and jaundice

(3) Improvement in women health and women empowerment.

Ex: LANCET study: 61% rural women walk more than 5 km to fetch drinking water

Underlying impediments :-

(i) Still 19.6 crore rural households are not covered.

(ii) 13% rural households have tap but not the water.

(iii) diversion of water for other purposes.

Jal Jeevan Mission – a tool for water security is an important step but it should have holistic coverage as soon

7. डब्ल्यूटीओ के तहत मत्स्यपालन सब्सिडी पर नए समझौते पर भारत का क्या रुख है? भारत के लिए मत्स्यपालन क्षेत्र किस प्रकार महत्त्वपूर्ण है? इस क्षेत्र के विकास के लिए सरकार द्वारा उठाए गए कदमों का उल्लेख कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

What is India's stand on the New Agreement on Fisheries Subsidies under WTO? How is the Fisheries sector significant for India? Enumerate the steps taken by the Government to develop this sector.

(Answer in 150 words) 10 Marks

Candidates must n
write on this marg

Recent meeting of WTO has concluded an agreement on Fisheries which discourages export distortion subsidies on fisheries (not more than 10%) along with others.

India's stand:

- India has not accepted it whole-heartedly on two basis:
  (a) Food security
  (b) economic prosperity.
  (c) Developing economy.

Importance of Fisheries sector

- → increasing at the rate of 30% per annum since last 5 years
- → socio economic development of coastal regions
- → 23% contribution to overall exports

↓

large coastline so huge resources

Candidates must not write on this margin

Steps taken by GOI :-

(1) **Schemes** :

GOI has launched "Matasya Sampada Yojna" as a loan subvention scheme with a subvention of 2% upto loan of ₹ 2 crore

(2) **Infrastructural** :- Projects like Sagarmala to develop port infrastructure and cold ~~rate~~ storage networks. and Gram sadak yojna to connect villages to market

(3) **Virtual connectivity** :-

Applications like **GAGAN** and portals like **SAATHI** are one way communication channel if fisherman gets lost.

Fisheries sector is a **sunrise sector** in Indian economy and also a low hanging fruit to target upon so we must focus to optimize its potential

8. उन प्रणालीगत और संस्थागत बाधाओं का विश्लेषण कीजिए जो भारत में भूमि सुधार प्रयासों में बाधक बनी हुई हैं और भूमि के न्यायसंगत वितरण को सुनिश्चित करने के लिए व्यावहारिक समाधान प्रस्तावित कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Analyze the systemic and institutional constraints that continue to hinder land reform efforts in India and propose pragmatic solutions to ensure equitable distribution of land.

(Answer in 150 words) 10 Marks

Candidates must write on this marg

'Land Reforms' refers to set of initiatives taken for equitable redistribution of land along with improving its quality in order to ensure socialism and economic prosperity for all.

Systematic and institutional constraints

(1) Lack of political will as big farmers creates a voter base in agricultural states like Punjab and Haryana

(2) Farmer organizations like Krishak Sangh and Khap Panchayats are dominated by big farmers so there opposition hinders land reforms

(3) Lack of records of actual land holdings.

Candidates must not write on this margin

(4) If land reforms applied, so lack of credit facility to small farmer will not achieve the objective.

(5) It is perceived as a disincentive to hold more land

(6) It will lead to fragmentation of consolidated land which can impact agricultural production.

Steps to be taken :-

(i) Identification of land records and ownership through digitalization.

Ex SWAMITVA scheme

(ii) Allocation of fallow land to small and marginal farmers for residence and non-agricultural activities

(iii) Leasing the land to small farmers by big farmers ~~to~~ ~~up~~ above cap of land holding → It will not lead to fierce opposition and also increase economic empowerment of small farmers.

Thus land reforms are necessity but it should not be preciered as a regressive

9. "जलवायु परिवर्तन और प्रदूषण से निपटने की हमारी खोज़ में हरित हाइड्रोजन एक सरल और जादुई समाधान हो सकता है"। भारत के राष्ट्रीय हरित हाइड्रोजन मिशन के आलोक में कथन का आलोचनात्मक विश्लेषण कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

"Green hydrogen can be the silver bullet in our quest to tackle climate change and pollution". Critically analyze the statement in light of India's National Green Hydrogen mission.

(Answer in 150 words) 10 Marks

Candidates must write on this mar

National Green Hydrogen Mission is the set of initiatives taken to make India Green Hydrogen Hub and to ensure environmently friendly energy production.

Role in Tackling climate change and pollution:

(1) It is a renewable source of energy and will lower carbon emissions

(2) It is present in abundant amount

However there are certain impediments also:-

(1) Cost of energy production through green hydrogen

Candidates must not write on this margin

is very high.

(2) Initially it will lead to greater GHG emission while producing green hydrogen

(3) Hydrogen is highly inflamable and we lack in storage capacities.

(4) Technology for harnessness green hydrogen is not sufficient in India.

Suggestions

① Focus on R&D in green hydrogen

② Presently focus on biofuel and ethanol blending.

③ Attract international collaboration for green Hydrogen mission

Thus green hydrogen is a "fuel for future" which requires technological inputs in present to tackle the climate change and pollution

10. नवंबर 2022 में मिस्र में COP27 संयुक्त राष्ट्र जलवायु परिवर्तन सम्मेलन में लॉन्च किये गए "जलवायु के लिए मैंग्रोव गठबंधन" के उद्देश्य को स्पष्ट कीजिए। उष्णकटिबंधीय देशों की तटीय पारिस्थितिकी को बनाए रखने में मैंग्रोव के महत्त्व पर विस्तार से प्रकाश डालिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Explain the purpose of the "Mangrove Alliance for Climate" launched at the COP27 UN Climate Change Conference in Egypt in November 2022. Elaborate on the importance of mangroves in maintaining the coastal ecology of tropical nations.

(Answer in 250 words) 15 Marks

Candidates must not write on this margin

"Mangrove Alliance for Climate" (MAC) is a group of countries (India is not a member) launched at COP 27 UNCCC in Egypt which rolls out non-binding targets.

Purpose :-

1. Reduction in mangroove degradation by 30% till 2030.
2. Optimize mangroove economy in a sustainable manner.

Importance of mangroves :

(i) They are high biodiveroity areas and referred as **biological market**

(ii) They provide ecosystem services like supporting, recreational, regulating and ~~prec~~ precision services

Candidates must not write on this margin

(iii) Mangroves being a wetland are net carbon absorber and are used for carbon storage.

(iv) It protects other marine and terrestial vegetation by providing wall against floods or tsunamis.



Mangroove regions

Fig 1

Thus mangroves are the life line of coastal ecology which needs to be protected and preserved for sustainable coastal economy

Candidates must no write on this margi

11. विद्युत संशोधन विधेयक, 2022 उपभोक्ताओं, डिस्कॉम के साथ-साथ पर्यावरण के लिए कई लाभ प्रस्तुत करता है। सविस्तार वर्णन कीजिए। साथ ही इसकी कमियों को भी सूचीबद्ध कीजिए और उन्हें दूर करने के लिए कुछ उपायों का भी सुझाव दीजिए।
(250 शब्दों में उत्तर दीजिए) 15 अंक

Electricity Amendment Bill, 2022 brings several advantages for consumers, DISCOMs as well as the environment. Elaborate. Also, list out its shortcomings and suggest some measures to overcome them.
(Answer in 250 words) 15 Marks

Electricity Amendment Bill, 2002 aims to bring some breakthrough changes in electricity production and distribution structure of the country.

Advantage :-

(1) Consumers

(a) Cost of electricity per unit will be reduced

(b) Better choice and comparision among consumers due to multiple entry in the sector.

Candidates must not write on this margin

(2) DISCOMS

(a) The bill and recent govt. steps provide moratoriums

(b) Competition introduced by the Bill will encourage in quality service delivery and investing in R&D

(3) Environment :-

(a) Reductions in AT&C losses will reduce wastage ~~from~~ of electricity

(b) Compulsory production of electricity through renewable resources will reduce GHG emissions.

Shortcomings :

① Initially, for temporary period cost of electricity can increase

Candidates must n
write on this marg

② Bill does not provide any clause for loss making discoms.

③ share of compulsory electricity production through renewable energy is less.

Suggestions

① Clause for monetization of loss making DISCOMS

② Provide incentives or carbon credits for using renewable energy.

Today, electricity drives every part of human life, so it needs to be produced from sustainable sources in order to make human life sustainable.

Candidates must not write on this margin

12. भारतीय प्रतिभूति एवं विनिमय बोर्ड (सेबी) शेयर बाजार के नियमन और निवेशकों के हितों की सुरक्षा में महत्त्वपूर्ण भूमिका निभाता है। दिये गए कथन के आलोक में, सेबी के समक्ष आने वाली चुनौतियों पर प्रकाश डालिए और इस संबंध में सुधारों का सुझाव दीजिये। (250 शब्दों में उत्तर दीजिए) 15 अंक

Securities and Exchange Board of India (SEBI) plays an important role in the regulation of the share market and safeguarding the interests of investors. In the light of given statement, highlight the challenges faced by the SEBI and suggest reforms in this regard. (Answer in 250 words) 15 Marks

Securities and Exchange Board of India (SEBI) is a statutory body which is a watch dog of Indian stock market. and regulates the stock market through regulation of FPI's and announcing caps on stock holding.

Challenges faced by SEBI :

1. **Enforcement :-**
Recommendations given by SEBI are not binding, and it is not in position to enforce its decisions

2. **Information hiding by corporates**
In the recent example of Adani stock fluctuation, SEBI was

Candidates must n
write on this marg

not aware of the potential risks.

③ **Manpower crunch** : SEBI also suffers from manpower crunch and increased vacancies.

④ Lack of physical and regular interface between SEBI and investors.

Suggestions

① There is need to revision the functions and responsibilities of SEBI imparting more autonomy to it.

② Power to enforce its decision

③ Compulsory ~~disclosur~~ disclousure of information by corporates

④ Make SEBI accountable to Parliament.

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(5) Provide man power to SEBI

(6) Regular calculation of potential risks and sharing this information with Finance ministry.

SEBI, which is a regulator of Indian stock market needs a revision to make it more proactive and attentive.

13. अंतर्राष्ट्रीय व्यापार प्रमुख मुद्रा प्रतिमान (डीसीएम) पर केंद्रित है। अंतर्राष्ट्रीय व्यापार में हार्ड करेंसी (दुर्लभ मुद्रा) के महत्त्व का आलोचनात्मक विश्लेषण कीजिए और डॉलर साम्राज्यवाद के विकल्प के रूप में वैश्विक व्यापार में रुपये की स्वीकार्यता की संभावना पर चर्चा कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

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International trade is centered on the dominant currency paradigm (DCM). Critically Analyze the importance of Hard currency in International trade and Discuss the potential of rupee acceptance in global trade as an alternative to dollar imperialism. (Answer in 250 words) 15 Marks

Hurdle
Economic domination

Today, some dominant currencies like dollar, euro, yen etc control a larger part of international trade and majority of the international transaction are made in these currencies

Importance of Hard currency

① Easily available and acceptable by all the traders

② It is less volatile

③ It is very liquid currency. removing the complexities of double coincidence of want while

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trading in local currencies.

Ex:- 83% international trade is done in dollars.

But, there are certain concerns also.

① Contagion effect as seen in global melt down of 2008.

② Economic assertiveness by the countries like USA.

③ It creates compulsion to trade with the countries where the origin of hard currency lies. (Ex): Dollar imperialism

④ Undermines economic sovereignty.

Potential of rupee for internationalization:

① It shows the history of stability and does not fluctuate more.

② It is in use in various countries

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like Nepal, Bhutan, Thailand etc.

③ Ruppee already has full current account convertability.

But in order to make ruppee a global currency, we need to increase bilateral trade in ruppee on sustainable terms by increasing exports and becoming a part of global supply chains accompanied with currency swap agreements.

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14. जनसांख्यिकीय लाभांश संवृद्धि सुनिश्चित नहीं करता है; यह केवल सामर्थ्य उत्पन्न करता है। जनसांख्यिकीय परिवर्तन से उत्पन्न अवसरों का लाभ उठाने के लिए सरकार द्वारा उठाए गए कदमों पर चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Demographic Dividend does not ensure growth; it only generates potential. Discuss the steps made by the government to take advantage of the opportunities presented by the demographic transition.
(Answer in 250 words) 15 Marks

Demographic dividend refers to tranistion in the demographic structure of the country more in favour of youth population which generates greater economic potential.

For example: youth comprise 65% (approx) of Indian population.

potential generated
- → huge workforce
- → economic opportunites and entrepreurship.
- → less dependent population
- → proactive in attitude
- → more working hours
- → New start ups and generating more employment
- → quantity population to quality population

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Steps taken by govt :-

(1) **Education**:

Recent introduction of National Education Policy, 2020 aims at utilizing entrepreneurship skills by vocational training and providing scholarships It also ~~facilitation~~ facilitates industry- academia collaboration.

(2) **Schemes** :-

Initiatives like PM Kaushal Vikas Yojna, Startup India, incubation centres under Atal Innovation Mission are the steps taken in this regard.

Ex: ₹ 20 lakh loan and ₹ 50 lakh grant for space startups to young entrepreneurs

(3) **Institutional**

Setting up of Youth Affairs' Ministry at national level ~~and~~

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and programmes like Khelo India to encourage participation in sports.

Ex: Recent set-up of Youth Development Council in state of MP

(3) Women centric :- Legislations like Prevention of Harrasement at work place, Beti Bachao Beti Padhao encourages young women to be part of the labour force.

Demographic divident is a double edged sword which requires steps like funding for R&D (still 0.7% budget in India), more skilling, hand holding approach by GOI to ~~get transform~~. realise the saying of "Viksit Yuva Viksit Bharat".

15. भारतीय अर्थव्यवस्था में एक प्रमुख योगदानकर्ता होने के बावजूद, कृषि क्षेत्र कई बाधाओं से ग्रस्त है जो इसकी वृद्धि और विकास में रुकावट डालते हैं। इन बाधाओं पर काबू पाने में प्रौद्योगिकी की भूमिका पर चर्चा कीजिए।

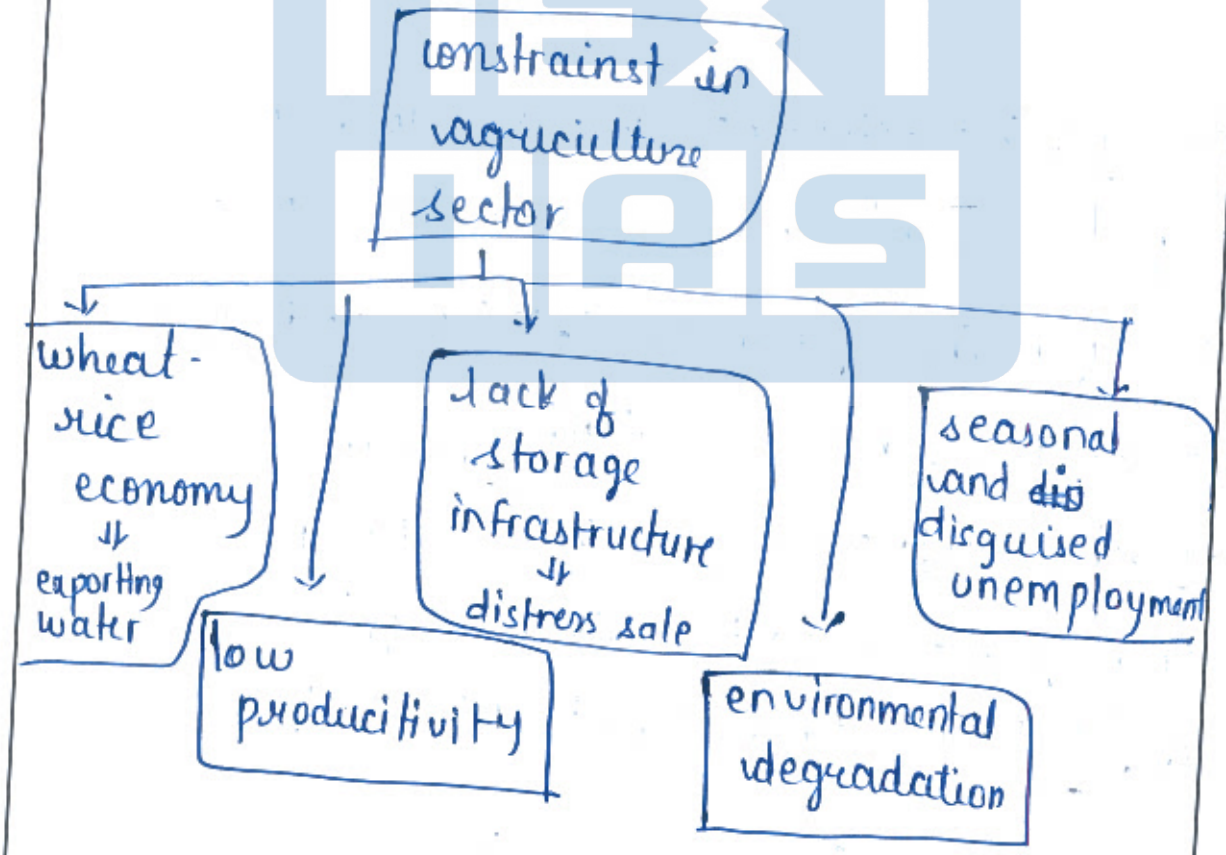
(250 शब्दों में उत्तर दीजिए) 15 अंक

Despite being a major contributor to the Indian economy, the agriculture sector is plagued by several constraints that impede its growth and development. Discuss the role of technology in overcoming these constraints.

(Answer in 250 words) 15 Marks

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Agriculture sector contributes 17-18% (approx) to Indian GDP and provides employment to 45% (approx) of population and also ensures food security of the country.



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Role of technology :-

(1) **Seed technology** : It involves producing High yielding variety (HYV) and genetically modified seeds to increase productivity. It also includes development of seed storage technology

(2) **Land quality** : It involves informing farmer about water and nutrient content and production capacity of the soil. Soil health cards assess the soil quality.

(3) **Land mapping.** : Land mapping through satellite will assess the ~~aba~~ availability of water in the ground and also the use of drones is beneficial.

Ex: SWAMITVA for land records.

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④ Irrigation technology :-

It focuses on both supply side as well as demand side of irrigation.

Supply side involves maintanence of proper canals and technology to utilize local water resources and technology for rain water harvesting

Demand side includes more precision irrigation like drip and sprinkler irrigation.

⑤ Food processing technology to convert ~~Along~~ ~~as~~ agricultural product into value added products and increase farm income levels by providing cold storage facility.

Along with these all, Indian agriculture also needs marketing and institutional reforms like credit availability to make it [precision agriculture] and usher an era of [evergreen revolution]

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16. पर्यावरण एवं प्राकृतिक संसाधनों पर सिंचाई के प्रभाव का मूल्यांकन कीजिए, और कृषि में सिंचाई पद्धतियों की संधारणीयता और समता सुनिश्चित करने के लिए उपाय सुझाएँ। (250 शब्दों में उत्तर दीजिए) 15 अंक

Evaluate the impact of irrigation on the environment and natural resources, and suggest measures to ensure the sustainability and equity of irrigation practices in agriculture.

(Answer in 250 words) 15 Marks

Irrigation means 'watering the crops' is an essential aspect of Indian agriculture because monsoons are not reliable source for crop production especially after fluctuations due to climate change.

Impact of irrigation on environment

(1) It reduces the ground water table.

(2) Electricity for irrigation leads to carbon emissions

(3) Drying up of wells, and regional disparity in terms of water.

(4) Irrigation subsidies facilitated even water-intensive crops like

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rice to be cultivated in the drier regions. Making of dams for irrigation can lead to earthquakes

However, irrigation leads to increase in productivity and refills the top soil with moisture.

Steps to ensures sustainable irrigation practices :-

(1) Supply side :-

(a) Proper maintainence of canals as canal irrigation is 18% of total irrigation and disiltation to reduce wastage of water.

(b) Explore options for using local water resources like local ponds and reservoirs.

(c) Revision of irrigation and electricity subsidies.

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Demand side :-

(a) Proper selection of crop type and irrigation method.

Ex: Drip and sprinkler irrigation

(b) Rain water harvesting will help in drier seasons

(c) Organic farming.

Indian agriculture, after green revolution has growth with 3-3.5% rate per annum but today "evergreen revolution" is the need of the hours and irrigation reforms should be at its centre.

17. 'जीनोम एडिटिंग (जीनोम संपादन) में फसल सुधार की अपार संभावनाएँ हैं, लेकिन यह नैतिक और सुरक्षा संबंधी चिंताओं को भी जन्म देती है।' भारत में जीनोम-संपादित पादपों के सुरक्षा मूल्यांकन के लिए नए दिशा-निर्देश आनुवंशिक रूप से संशोधित फसलों की सुरक्षा को कितना सुनिश्चित करते हैं?
(250 शब्दों में उत्तर दीजिए) 15 अंक

'Genome editing holds immense potential for crop improvement, but it also raises ethical and safety concerns'. How far do the new guidelines for the safety assessment of genome-edited plants in India, ensure the safety of genetically modified crops?
(Answer in 250 words) 15 Marks

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Genome editing of crops means addition, removal or altering a part of crop gene in order to achieve desired traits in the crops.

potential for crop improvement
- → Higher productivity
- → Pest resistance
- → protection from weeds
  Ex: HT cotton
- → increasing nutritional level
  Ex: Golden rice
- → Requirement of less input.

Ethical concerns involved

① challenging the nature : Laws of nature stats that if nature has not given us something, it means nature

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does not think it fit for humankind.

② IPR of native/endemic crops to foreign companies

Ex: IPR of GM mustard is with Bayer, a german company.

③ **Corporate tactics** :- The IPR of the suited herbicide and weedicide is also with the same ~~compay~~ company.

Ex: Ht cotton and gluphorinate IPP with Bayer.

Safety concerns involved:

① Study of health impacts is not up to satisfaction

Ex European studies and ICCR suggest GM edible crops cause cancer

② Organ deformities in cattles after feeding on GM crops.

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New guidelines ensuring safety

① FSSAI :- products having even 0.1% GM input should have a compulsory logo (Δ).

② Supreme court of India in 2010 put a complete ban on edible GM crops for 10 years

③ Proper-trial : It requires trial data for 2 years before commercial release

But there are certain loopholes like :-

(i) Compulsory logo and packaging increases input cost and informal nature of food processing.

(ii) Availability of terminator seeds even after complete ban.

(iii) Lack of proper studies on pollinators before environmental release of GM Mustard.

GM crops are very important for food security and farmers income but it should follow the objective scruitny before environmental release

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18. भारत में कृषि क्षेत्र पर प्रत्यक्ष और अप्रत्यक्ष कृषि सब्सिडी के प्रभाव की चर्चा कीजिए। न्यूनतम समर्थन मूल्य (एमएसपी) ने कृषि अर्थव्यवस्था को किस प्रकार प्रभावित किया है? (250 शब्दों में उत्तर दीजिए) 15 अंक

Discuss the impact of direct and indirect farm subsidies on the agriculture sector in India. How have Minimum Support Prices (MSP) affected the agricultural economy? (Answer in 250 words) 15 Marks

Government of India provide various direct and indirect farm subsidies in the form of either direct Benefit transfers or interest subvention scheme to convert a Indian agriculture into entrepreneurial agriculture

Direct subsidy: MSP, seed subsidy etc

Indirect subsidy: electricity subsidy, interest subvention etc.

Impact on Indian agriculture

Favourable impacts:

1. Reduces farm input cost
2. Provides shock absorbing capacity to farmers
   Ex: PM Fasal Bima Yojna
3. Increases productivity.
   Ex: Fertilizer subsidy.

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write on this

Unfavourable impacts:

① Increases land degradation in absence of knowledge and diversion.

Ex:- ① excessive use of urea.

② Urea to be diverted for industrial purpose.

② Increases budgetary burden and hinders R&D in agriculture

Minimum support Price (MSP) is a guaranteed price at which GOI buys the produce from peasants for its PDS programme.

Affects of MSP:

① Positive

(a) It saves the farmer from distress sale.

(b) It can be referred as base price for agricultural commodity in market.

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(c) It reduces speculation and controls inflation

Negative :

(a) It has led to wheat-rice ~~econo~~ monotony in Indian agriculture.

(b) It is sometimes referred as non-WTO complaint.

(c) Economic survey of 2017-18 says that MSP is not reaching the real beneficiary as 43% small and marginal farmers do not know about MSP

Indian agriculture in order to be sustainable agriculture with high crop productivity requires efforts like neem coated urea, revision of subsidies, cold storage, soil health card etc

19. वैश्विक मीथेन प्रतिज्ञा क्या है? क्या आपको लगता है कि वैश्विक मीथेन प्रतिज्ञा मीथेन उत्सर्जन को कम करने की दिशा में एक सकारात्मक कदम है? इस मुद्दे पर भारत का रुख स्पष्ट कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

What is Global Methane Pledge? Do you think the Global Methane Pledge is a positive step toward mitigating methane emissions? Explain India's stance on this issue. (Answer in 250 words) 15 Marks

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"Global Methane Pledge" is a set of commitments done by the countries to reduce methane emissions by 30% till 2030.

Towards mitigating methane emissions.

(1) Methane is a low hanging fruit with small atmospheric life time, so it is easy to monitor reductions.

(2) It involves the participation of private sector also like (3) methane emission reduction by industries.

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③ It focus on anthropogenic sources of methane emission like Agriculture (biggest) and oil exploration

④ Binding pledge

However, certain impediments are :-

① ~~It is a~~ Natural emissions of methane from ~~the~~ wetlands, cattles are still a large contributor.

② It can pose a challenge on industrial sector development.

India's stand

① India is not a part of Global Methane pledge

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② It needs to develop its oil exploration industries and fertilizer industries.

③ Indian GDP has 17-18% of agricultural contribution

④ India has other plans to tackle emissions like Green Hydrogen Mission, Biofuel policy etc.

Methane which is a green house gas has seen 250% rise in its concentration since pre industrial times needs a focus strategy for lowering the emissions

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20. हानि और क्षति (L&D) कोष के क्रमिक विकास को चिह्नित कीजिए। COP 27 में हानि और क्षति कोष से संबंधित कौन-से प्रमुख घटनाक्रम हुए हैं? इस सम्मेलन में भारत ने क्या प्रतिबद्धताएँ व्यक्त की हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Trace the evolution of the Loss and Damage fund. What are the major development related to loss and damage funds in COP 27?, What are the commitments made by India in this conference? (Answer in 250 words) 15 Marks

"loss and Damage funds" is a fund of $100 bn created by the donations of the developed and industrialized nations for providing mitigation and adaptation technologies to the developing countries.

Evolution

- **2015 Paris conference** → introducing the concept of loss and damage
- ↓
- **Copenhagen 2019** → voluntary contribution
- ↓
- **Sharm-Al Shiekh, 2022** → Framework of loss and damage to be formalized.

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Developments in COP 27

1. Framework of L&D funds to be finalized
2. Global stocktake to increase the donations.
3. Encouraging donations from private sector.
4. NCQM puts the guidelinesss

However, certain challenges are

1. Definition of developing countries (Ex China)
2. What will be the horizontal mechanism for distributing the funds.

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Commitments made by India

1. Reaffirming the NDs and panchamrit.
2. Efforts as per relative capabilities
3. encouraging Biofuel policy and Green hydrogen mission
4. LiFE = Life style for Environment.
5. 3 - 3.5 tonne carbon storage

Climate change is a hanging sword on whole world and the survival of island nations depends on early completion of framework on L&D — pact, pathway and platform

NEXT IAS

Space for Rough Work

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