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GENERAL STUDIES (TEST CODE : 1068)

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Medium Eng./Hindi	ENGLISH	Registration Number	110468
Center	HOME	Date	02/09/18

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	
1	10		1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code). उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
2	10		2. There are TWENTY questions printed in ENGLISH & HINDI बिंदु चिह्नित 'u' g v x t h v k j f g l n n e N i g A
3	10		3. All questions are compulsory. सभी प्रश्न अनिवार्य हैं।
4	10		4. The number of marks carried by a question/part is indicated against it. प्रश्न, अंश या भाग के विरुद्ध दिये गए अंक संकेतित किए गए हैं।
5	10		5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one. प्रश्नों के उत्तर उसी माध्यम में लिखे जायेंगे, जो प्रवेश पत्र में उल्लेखित है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं दिया जाएगा।
6	10		6. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7	10		7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off. उत्तर पुस्तिका के किसी पृष्ठ या भाग को खाली छोड़ना स्पष्ट रूप से अस्वीकार्य है।
8	10		
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20	15		
Total Marks Obtained:			
Remarks:			

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

1. There are many challenges in sustainably scaling up renewable energy in India. Analyse. Also, discuss what can be done to address these challenges.

(150 words) 10

भारत में नवीकरणीय ऊर्जा को संधारणीय रूप में बढ़ाने में कई चुनौतियां हैं। विश्लेषण कीजिए। साथ ही, चर्चा कीजिए कि इन चुनौतियों से निपटने के लिए क्या किया जा सकता है।

India has promised to increase the renewables to 40% of the total electricity capacity by 2030 in Paris Climate Treaty. However, the sector faces several challenges:-

1) Solar Energy

→ While the grid based solar has picked up, the rooftop solar ~~is~~ has been slow due to reluctance of DISCOMs, high initial costs etc.

2) Wind Energy

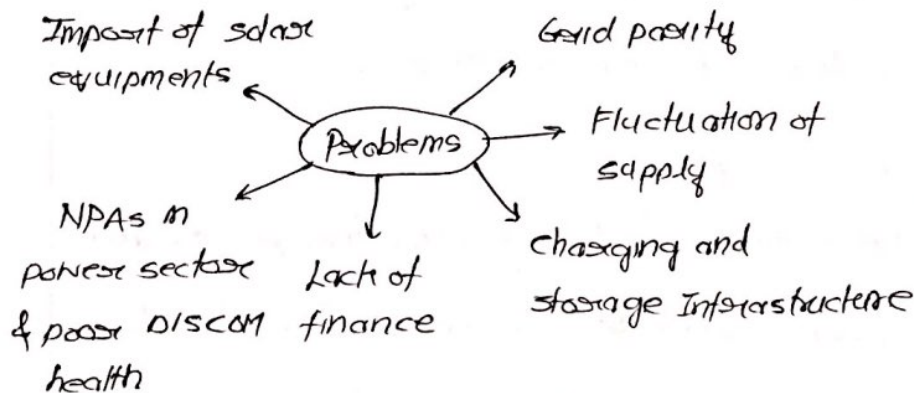
→ The problem of land acquisition for solar farms.

→ The ~~cost have~~ price in the recent power purchase agreements (PPAs) have gone down leading to demand for renegotiation by earlier PPAs by discom.

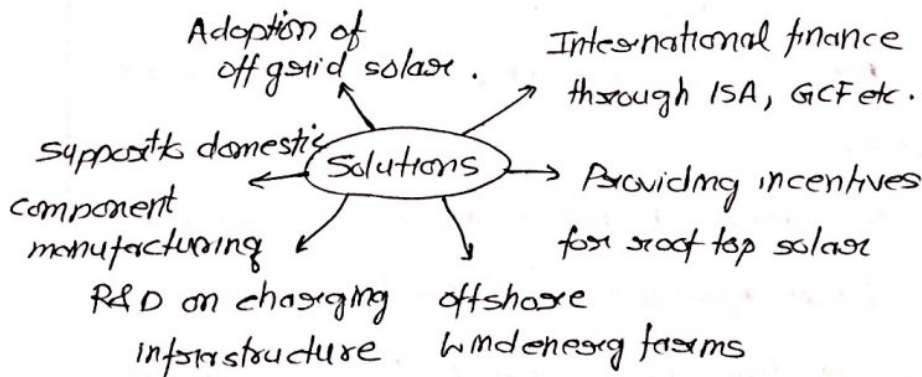
3) Bio-energy

→ The National Biofuel policy calls for focus on I, II generation fuel but the cost of setting waste to energy plants is high in rural areas.

Overall problems



Hence, following steps can be taken:-



Hence, we need to focus on finance for the sector to scale up production.

2. The policies and indicators introduced by the government, in recent times, to finance urban development in India are key in addressing the existing challenges. Discuss with special reference to municipal bonds.

(150 words) 10

हाल ही में, भारत में शहरी विकास का वित्त पोषण करने के लिए सरकार द्वारा आरंभ की गई नीतियां और संकेतक वर्तमान चुनौतियों से निपटने हेतु महत्वपूर्ण हैं। नगरपालिका बंधपत्रों (म्युनिसिपल बॉण्ड) के विशेष संदर्भ के साथ चर्चा कीजिए।

While 31% of India lives in cities, the ^{urban} population is expected to reach 900 million by 2050 according to UN report. Thus, finance for urban development is key in addressing challenges like pollution, housing, sewage etc.

Policies and Indicators Introduced by Govt :-

- 1) Smart City Program (to develop 100 smart cities with area based solutions)
- 2) AMRUT (for provision of services like transport, parks, livelihood etc. in urban areas).
- 3) Indicators → Smart City Rankings.
 - Credit rating of municipal bodies.
 - GRIHA rating for smart homes
 - surveys like 'Janagraha' on capacity of urban bodies.

Municipal bonds are bonds to raise money from market by municipal bodies based on their financial standings. It will solve the solution of finance in following manner:-

- 1) Reduce pressure on state / central govt. to finance municipal bodies. $\therefore$ Improve fiscal deficit.
- 2) Bring more accountability to local level finance as market punish inefficiency.
- 3) They can be used to raise money from international investors and markets via GIFT city etc.
- 4) Innovative financing like Green bond, Development Impact Bonds etc.

However, the success will depend of proper auditing standards and implementation of programs.

3. With a number of issues continuing to be a roadblock, a large section of India's rural population is still 'financially excluded'. Discuss. Analyse how these issues can be addressed and the measures taken by the government and RBI recently in this regard. (150 words) 10

कई मुद्दों के लगातार अवरोध बने रहने से भारत की ग्रामीण जनसंख्या का एक बड़ा हिस्सा अभी भी 'वित्तीय रूप से अपवर्जित' है। चर्चा कीजिए। इन मुद्दों से कैसे निपटा जा सकता है और हाल ही में सरकार तथा RBI द्वारा इस संबंध में उठाए गए कदमों का विश्लेषण कीजिए।

The PM Jan Dhan Yojna has entered Guinness book of records by opening 30 crore bank accounts in 3 years. However, a large section still remain excluded as:-

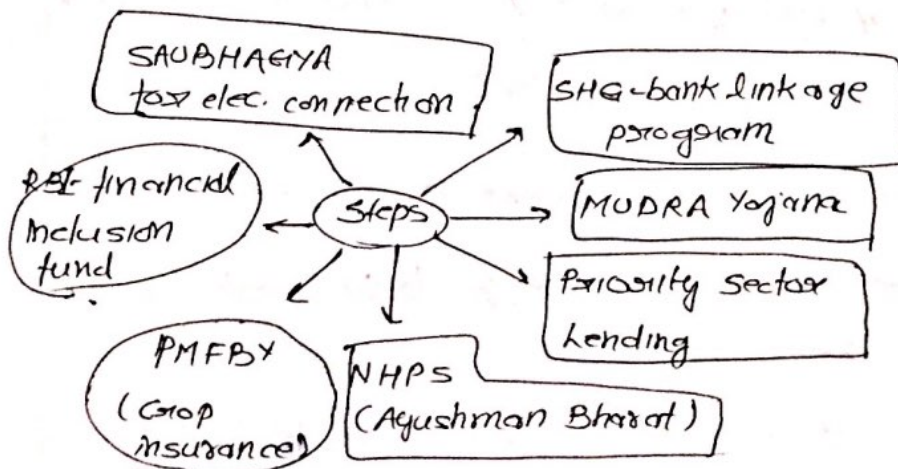
- 1) No activity accounts :- According to Economic survey 2018, around 50% of the accounts show limited to no activity.
- 2) Digital divide :- Digital illiteracy hampers the capability to use new services of financial inclusion like UPI, BBPS.
- 3) Banking Infrastructure is limited in rural areas leading to high travel costs for consumers.
- 4) Lack of collateral to get access to credit.

5) Women and disadvantaged groups still lack access to formal financial channels.

These issues can be addressed by following measures:-

- 1) Door to door banking using correspondents.
- 2) Universal health insurance program.
- 3) Encouraging DBT in various sectors with Aadhaar based authentication.
- 4) Using SHGs to include women, disadvantaged sections.
- 5) Improving digital literacy & connectivity.

Steps taken by govt & RBI.



4. What do you understand by the term 'Environmental Accounting'?
Discussing the rationale behind introducing environmental accounting,
highlight its status in India. (150 words) 10

'पर्यावरणीय लेखांकन' पद से आप क्या समझते हैं? पर्यावरणीय लेखांकन आरंभ करने के औचित्य की चर्चा करते हुए, भारत में इसकी स्थिति पर प्रकाश डालिए।

Environmental accounting refers to ~~also~~ including the cost of environmental damage in development projects and policies. It has following rationale

- 1) Sustainable development :- inter-generational equity in terms of benefits.
- 2) Limited resources :- Non-renewable resources like coal, iron ore etc. must be used judiciously.
- 3) Climate change risks :- By increasing emissions, deforestation during mining etc.
- 4) Health hazards :- Eg :- coal based power plants cause air pollution and increase risk of cancer.

5) Social equity :- Environment impact rich & poor, urban and rural population differently.

Hence, environment accounting is key to ensure that policy achieves its desired outcomes with limited damage. Its status in India can be gauged from following:-

1) Ministry of Environment, Forest & Climate change is formed to monitor adverse impact on environment by various activities.

2) Environment Impact Assessment for all projects above a threshold is mandatory.

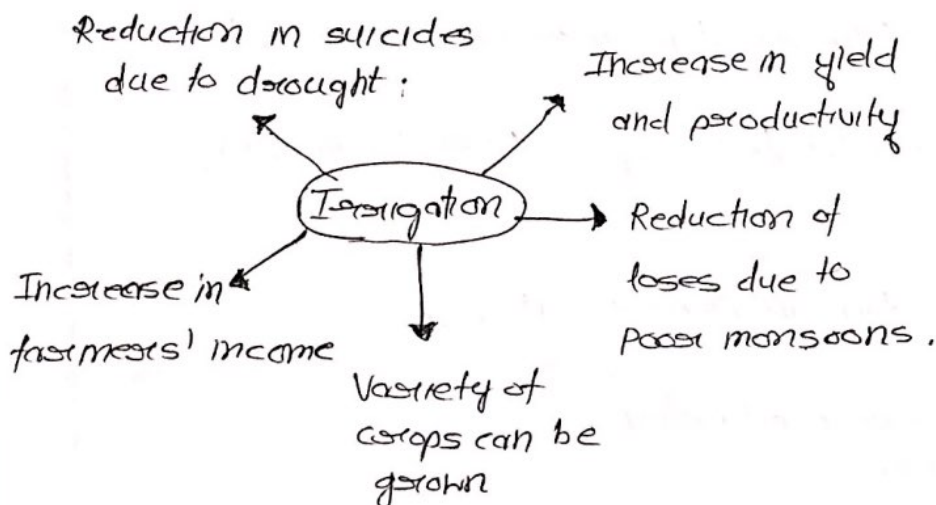
3) CAMPA funds which includes cost in terms of Net present value as well as afforestation in lieu of transferred forest land.

However, environment cost is not included while calculating GDP. A separate GDP series including this aspect can be tried.

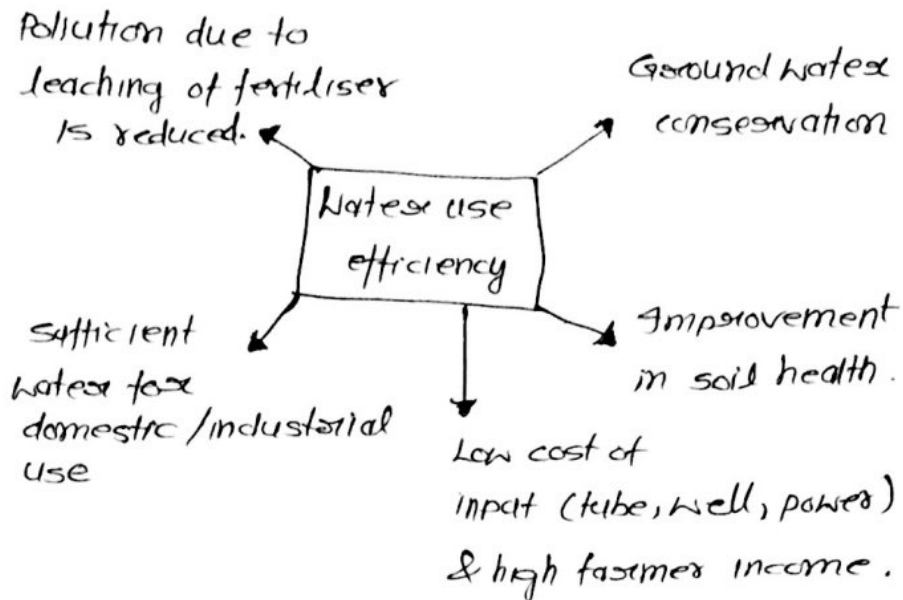
5. While access to irrigation is important, efficiency of water use is equally, if not more, crucial. Examine. (150 words) 10

जहाँ सिंचाई तक पहुँच महत्वपूर्ण है, वहीं जल उपयोग दक्षता भी यदि अधिक नहीं तो उतनी ही महत्वपूर्ण है। परीक्षण कीजिए।

According to Economic Survey only 37% of net sown area has access to irrigation while at the same time. Over irrigation in Green revolution zone has led to ~~water~~ ground water depletion, soil salinity etc. Thus, irrigation is important as:-



However, water use efficiency that is the amount of crop production per quantity of water is equally important as:-



Thus, following steps are way forward:-

- 1) Precision farming → Drip, sprinkler irrigation.
- 2) Reduction in power subsidy.
- 3) Farmer education.

Water is a ubiquitous yet scarce resource and need to be conserved to ensure sustainable development and SDG 6: Water for All.

6. For a holistic approach to disaster risk reduction, there is a need to mainstream indigenous traditional knowledge and link it with modern technologies. Analyse. (150 words) 10

आपदा जोखिम न्यूनीकरण के एक समग्र दृष्टिकोण के लिए, देशज पारंपरिक ज्ञान को मुख्यधारा में लाने और उसे आधुनिक तकनीकों से जोड़ने की आवश्यकता है। विश्लेषण कीजिए।

The importance of traditional knowledge in disaster risk reduction can be gauged from following facts :-

- 1) Machan (elevated) type houses in North East reduce damage due to floods.
- 2) Tribals in Andaman suffered less during 2004 Tsunami as they gauged the animal behaviour and moved to highest location.
- 3) Traditional housing structures (wood based) etc. reduced earthquake damage.
- 4) Water conservation practices in Rajasthan (formation of tanks, man made lakes) to mitigate droughts.
- 5) Use of cattle as a bank for flood, drought mitigation.

Thus, traditional knowledge needs to be linked with modern technologies in following ways:-

1) Sendai Framework on Disaster Risk

Reduction calls for building back better post disaster with community participation.

2) Cataloguing best traditional practices for disaster mgmt. and including it in education curriculum.

3) Using social capital during relief and rehabilitation measures.

4) Limiting interference in community practices in ecologically fragile areas.

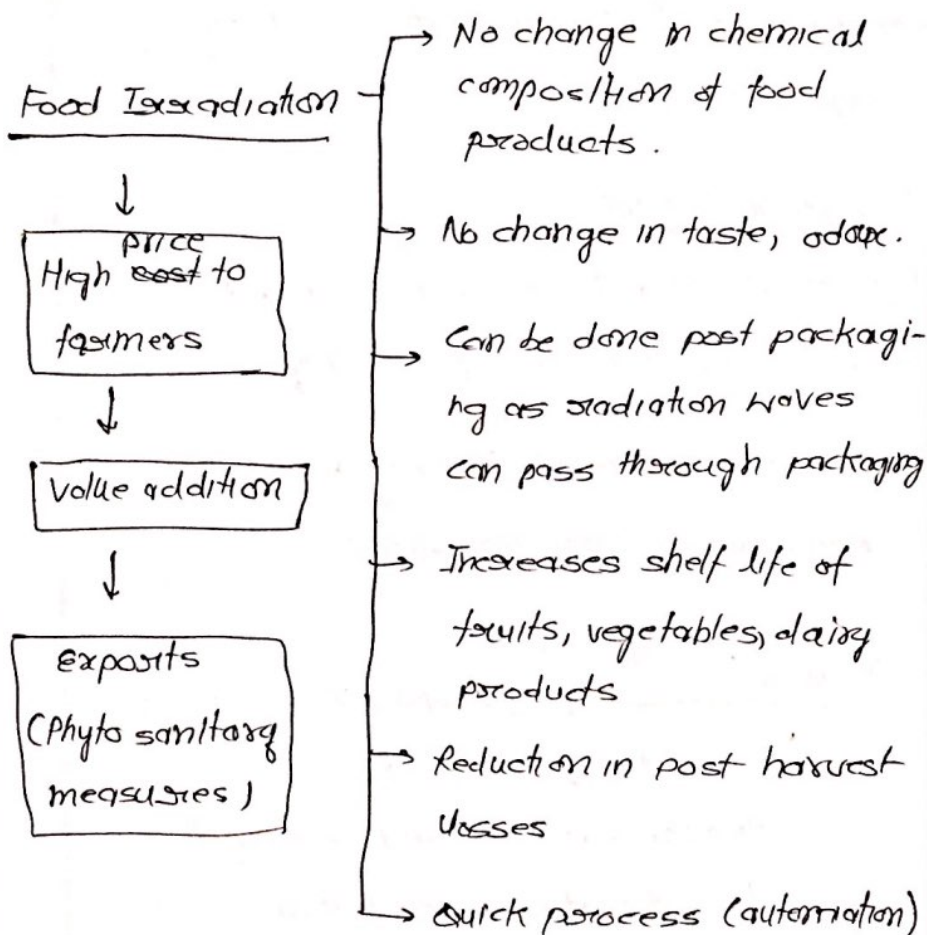
5) Use fishermen knowledge of sea waves for early warning of storms, tsunami etc.

Hence, a collaborative bottom up approach is way forward.

7. What do you understand by food irradiation? Highlighting some of its unique applications, examine its relevance for India. (150 words) 10

खाद्य विकिरण (food irradiation) से आप क्या समझते हैं? इसके कुछ विशिष्ट अनुप्रयोगों पर प्रकाश डालते हुए, भारत के लिए इसकी प्रासंगिकता का परीक्षण कीजिए।

Food irradiation refers to increasing the life of food by using radiation techniques.



With high post harvest losses, it is relevant to India due to following reasons:-

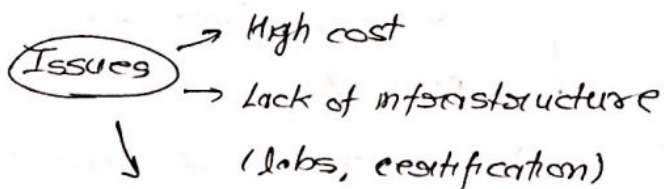
1) Agriculture exports

We can get through the phytosanitary measures if food irradiation and certification is performed.

2) Consumer Benefit.

High shelf life and low risks to health due to contamination and food poisoning.

3) Increase in farmers' income and profit of agro-processing industries.



Precision is required in term of time duration of radiation.

Hence, it is a promising technology of future to increase life of packaged foods.

8. Whereas misuse of technology has abetted the spread of fake news, it is with the aid of technology that this menace can be curbed. Elaborate.

(150 words) 10

जहां प्रौद्योगिकी के दुरुपयोग ने फेक न्यूज़ (झूठे समाचारों) के प्रसार को बढ़ावा दिया है, वहीं प्रौद्योगिकी की सहायता से ही इस खतरे पर अंकुश भी लगाया जा सकता है। सविस्तार वर्णन कीजिए।

Fake news is the news with deliberate twisting of facts, morphing of images, videos to misguide consumers. It has proliferated in the recent time as:-

- 1) Internet → Democratic medium with no regulation. Provides anonymity to creator.
- 2) Social Media → Whatsapp, facebook etc. ~~use~~ help in fast spread of news. Eg:- Muzzafar-nagar riots (2013) due to fake videos.
- 3) Gullible users → Many of the users are not fully aware of nature of medium and believe everything they see on net.
- 4) Traditional media → It has lost credibility due to bipartisan reporting.

Thus, while technology has facilitated the spread, it can also be used to curb it:-

1) Fact checking websites

To provide true facts and counter misspread of information. Eg:- Alt news.

2) Social Media Labs. (SML)

Eg:- Mumbai Police has established SML to monitor trends in social media.

3) Awareness & Education.

It can be used for public outreach to guide people against fake news.

4) Whatsapp has announced a tick mark to identify forwarded messages.

5) Non-partisan reporting by traditional media can bring public to trusted sources for news.

Hence, an effective strategy to counter fake news is to employ the similar tactics against it.

12. Contract Farming has many advantages, however it suffers from market failures. Elaborate. What can the government do to correct problems that lead to contract failures? Also, discuss whether the Model Contract Farming Act, 2018 is a step in the right direction. (250 words) 15

संविदा कृषि (कॉन्ट्रैक्ट फार्मिंग) के कई लाभ हैं, हालांकि यह बाजार की विफलताओं से ग्रस्त है। संविदा वर्णन कीजिए। सरकार, संविदा विफलताओं का कारण बनने वाली समस्याओं को ठीक करने हेतु क्या कर सकती है? साथ ही, चर्चा कीजिए कि क्या मॉडल संविदा कृषि अधिनियम, 2018 सही दिशा में उठाया गया एक कदम है।

Contract farming refers to method of agriculture where farmers enter into advanced selling contracts with the buyers. It has many advantages like :-

- 1) Elimination of middle men between farmers and buyers.
- 2) Increase in farmers' income.
- 3) Reliability of supply to the agro based industries.
- 4) Access to credit, technology etc. With the active involvement of industry in farming.
- 5) Reduction in post-harvest losses.
- 6) Value addition and increase in agri-exports.

However, it suffers from various constraints related to market such as :-

- 1) Only few states have laws recognizing the contracts. Hence, enforcement becomes difficult.
- 2) Lack of effective dispute resolution process at the local level leads to loss of time and money in litigation.
- 3) Essential Commodities Act puts limit on stocks by private sector.
- 4) Lack of infrastructure facilities at village level for grading, assaying and procurement.
- 5) Monopsony → one buyer but many sellers lead to poor outcomes for farmers.
- 6) Farmers use the advance payment for non-agri. purposes leading to contract failure.

Hence, the govt. can take following steps:-

- 1) Removing stockpiling limits in Essential Commodity Act for contract farming.
- 2) Providing marketing infrastructure at village level.

- 3) Encouraging formation of Farmers' Producers Organization for effective bargaining.
- 4) Improving logistics → cold chain
→ rural roads & transport
→ Mega food parks.
- 5) Encouraging Food processing industries in rural areas through tax concessions, micro-entrepreneurship etc.

Model Contract Farming Act is step in right direction with following provisions.

- 1) Contract enforcement through village level committees and panchayats.
- 2) Dispute Resolution Mechanism at local level.
- 3) Enlisting rights of farmers in case of post harvest losses, disaster etc.
- 4) Contractors can reject to buy produce, if it is not of the desired quality.

Hence, all states need to be encouraged to adopt the Act to bring consistency in the markets.

13. Suggest the measures needed to improve the employability of labour force as well as increasing number of employment opportunities in light of structural changes being brought by disruptive technologies.

(250 words) 15

विघटनकारी प्रौद्योगिकियों (डिस्ट्रिप्टिव टेक्नोलॉजी) द्वारा लाए जा रहे संरचनात्मक परिवर्तनों के प्रकाश में श्रम बल की नियोजनीयता में सुधार लाने के साथ-साथ रोजगार अवसरों की संख्या बढ़ाने के लिए आवश्यक उपायों का सुझाव दीजिए।

Creating sufficient employment opportunities is essential to prevent India's demographic dividend from becoming demographic disaster.

The Indian economy is going through following structural changes:-

- 1) Agriculture :- The contribution of allied sectors ^{अग्र} in GVA has increased from 20% to 25% in last 5 years.
- 2) Industry :- Automation leading to job losses.
- 3) Services :- With the advent of Artificial Intelligence low skilled jobs like BPO etc. will reduce.
→ Protectionism in the West will reduce service exports.

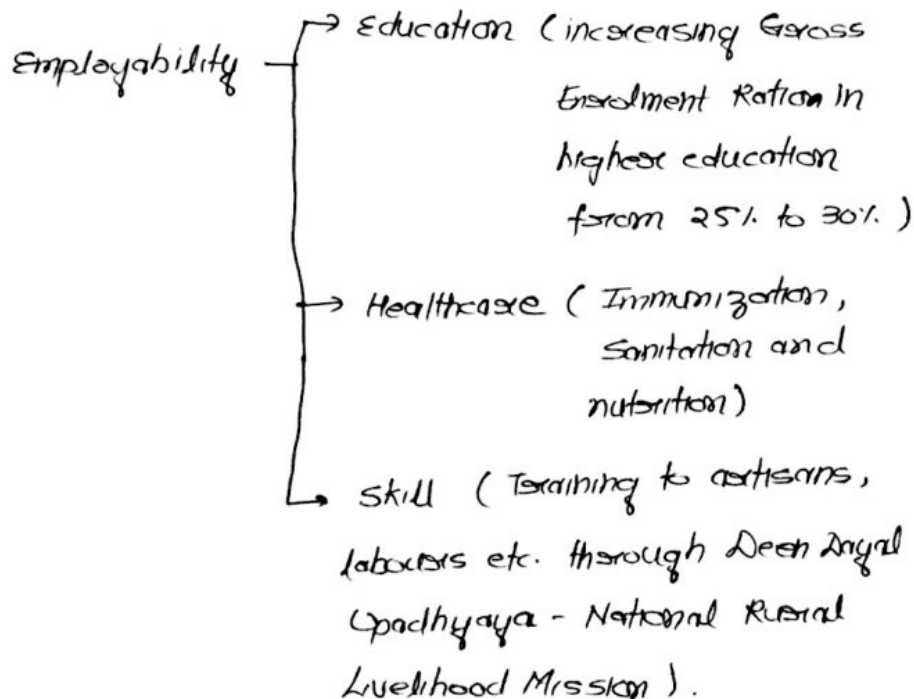
In light of these changes following steps are needed to improve employability:-

1) Agriculture

→ Need to encourage micro-entrepreneurship in rural areas through skill training and provision of credit.

Eg:- NABARD-SHG linkage program

Anand dairy model can be extended to fishery, poultry and horticulture.

2) Industry:-

→ Increase GVA of industry to 25% in line with target of Make in India by 2025.

→ MSME clusters, Coastal Economic Zones.

→ Focus on labour intensive industries like textile, leather, gems and jewellery, ~~tourism~~ etc.

Employability → Restructure the National Skill Development Corporation according to recommendation of Sharada Puriad Committee.

→ Participation of industry in skill training.

→ Vocational skills at highest school level.

→ Focus on STEM and Computer skills in youth.

g) Services

→ Encourage R&D in new areas like AI, Big data, IoT, Blockchain etc.

→ FTAs with foreign nation on services like RCEP.

→ Encourage service sector MSMEs in small towns (eg:- Rural BPO program)

Employability :- Higher education reforms.

Hence, two pronged approach with focus on skills and demand creation is way forward.

14. India's trade policy in agriculture, marred by ad-hocism and pro-consumer bias, has constrained realization of export potential, and prevented the farmers from reaping the benefits. Examine the statement and discuss ways, including government initiatives, to improve agricultural exports.

(250 words) 15

तदर्थता और उपभोक्ता समर्थक पक्षपात से प्रभावित, कृषि में भारत की व्यापार नीति ने निर्यात सामर्थ्य की प्राप्ति को बाधित किया है तथा किसानों को लाभ उठाने में रोका है। इस कथन का परीक्षण कीजिए और सरकारी पहलों सहित कृषि निर्यात में सुधार लाने के तरीकों पर चर्चा कीजिए।

According to the Economic Survey 2017, India's export in agriculture sector has declined by 70% in the last 5 years. The realization of export potential is constrained by following factors :-

1) Ad-hocism

- Frequency policy changes based on situation of domestic market. Eg:- Minimum Export Price on pulses during supply shortages.
- Lack of national contract farming law hampers development of food processing industries.
- No dedicated ports and logistics network like cold chain etc. for agriculture.

Q) Pro-consumer bias.

- GoI allows import at cheapest prices whenever there is shortage of supply. Eg:- Sugarcane imports.
- Prices are kept artificially low by lower MSPs etc.
- Focus on cereal crops with neglect of cash crops. Eg:- Green Revolution was wheat, rice based.
- Essential Commodities Act puts stockholding limits on industry.
- Fragmented markets and huge no. of middlemen in current APMC structure.

There are other factors like phytosanitary measures, lack of value addition etc. which hamper exports. The situation can be reversed by following ways:-

1) Support to Food processing Industries (FPI)

- 100% FDI in FPI is announced by GoI.
- Model Contract Farming Act need to be adopted.
- Improving logistics with PPP model.

2) Policy measures

The draft agri-export policy has suggested following measures :-

- 1) Limit the use of Minimum export prices.
- 2) Improving pre and post harvest linkages.
- 3) APEDA needs to create cooperatives of farmers and better marketing of produce in foreign markets.
- 4) Quality testing and certification labs to deal with phytosanitary measures in foreign markets.

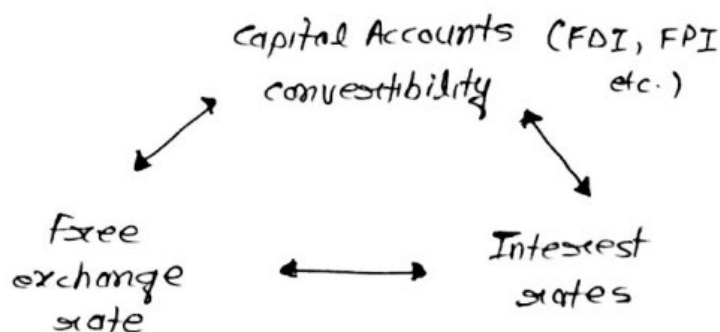
Hence, with a focus on increasing exports of the objective of doubling farmers income can be realised.

15. Is currency exchange rate a suitable measure of relative economic performance of countries? Despite improving macro-economic fundamentals, trade deficit in India continues to widen. Bring out the factors responsible for this situation. (250 words) 15

क्या मुद्रा विनिमय दर देशों के सापेक्ष आर्थिक प्रदर्शन की एक उपयुक्त माप है? मैक्रो इकॉनॉमिक फंडामेंटल्स (मकरो-आर्थिक आधारों) में सुधार के बावजूद, भारत में व्यापार घाटा निरंतर बढ़ा है। इस स्थिति के लिए उत्तरदायी कारकों को प्रस्तुत कीजिए।

Currency exchange rate depicts the relative value of currencies of different countries. It is a ~~factor~~ result of number of factors like :-

1) Monetary Policy Trilemma



All three cannot be regulated at the same time as fluctuation in one affects others.

2) Inflation

Highest inflation in a country will mean relative lowering of purchasing power of its currency compared to others.

3) Trade deficit

It will mean higher demand of foreign currency to buy more goods and hence loss of domestic currency value.

The Indian rupee has lost 10% of its value relative to US \$ in 2018 due to factors like increasing trade deficit, monetary policy tightening by US, ~~and~~ trade sanction on Turkey by US.

The trade deficit has widened in last few years with current Account deficit at 1.9% of GDP in 2017-18 and expectation of about 2.3% - 2.5% in 2018-19 due to following factors:-

1) Rising oil prices

Have gone upto \$76 from \$40 leading to high import bill.

2) Demonetisation and GST

Lead to short time shock to the economy with GDP growth ~~year~~ 5.7% in first

quarter of 2017-18.

3) Trade War between US and China will lead to increase in dumping of goods by both countries to Indian market.

4) NPA crisis

Despite strong macro-economic conditions with respect to Fiscal Deficit Debt etc. the credit growth to industry is only 5%.

5) Make in India

The progress has been slow with industry contributing only 18% of GVA in 2017-18.

6) Agriculture

Due to 2 subsequent years of droughts and fall in global commodity prices the exports have declined.

Thus, we need to focus on export intensive sectors like textile, leather, value added food products to reduce trade deficit.

16. It will take much more than relief packages to address the problems being faced by the sugar industry in India. Discuss.

(250 words) 15

भारत में चीनी उद्योग द्वारा सामना की जा रही समस्याओं को दूर करने के लिए राहत पैकेज से आगे और कुछ करने की आवश्यकता है। चर्चा कीजिए।

The govt. has recently announce a relief package to sugar industry to help them to pay their arrears to sugarcane farmers.

The problem has arisen due to following factors :-

1) Over-production

With the new pest resistance high yielding variety of sugarcane the yield has increased.

2) State issue Price

Sugarcane industry is compelled to buy at a fixed price from farmers leading to market inflexibility.

3) Obsolete Machinery

Most of the industry is 40 years old, leading to low productivity and loss of competitiveness.

4) Import curbs

The industry is not free to access cheaper raw material from international markets

5) Nature of sugarcane crop

It needs to be crushed within weeks of harvest otherwise it loses its juice leading to losses for industry.

Hence, the package is just a piecemeal solution as it targets the problems but not its causes. A holistic reform for the industry should include following :-

1) Crop diversification

Encouraging farmers to grow other crops like horticulture products.

2) Market intervention

The state issue price should be fixed for 5 years in advance so the industry can plan accordingly.

3) Package for modernization

similar to textile sector a package to replace obsolete industry with capital link subsidy etc. can be thought out.

4) Value addition and exports

Using sugar to create candies, sweets etc. for exports.

5) Primary processing at farm level to reduce post harvest losses.

Hence, a holistic solution would aim at reducing market rigidities to improve health of industry and guarantee better return to farmers.

17. NAPCC, almost 10 years old and formulated with lofty objectives, has not served as the best answer to cope with the impacts of climate change. Critically discuss. (250 words) 15

लगभग 10 वर्ष पुराने और उत्कृष्ट लक्ष्यों के साथ सूत्रबद्ध, NAPCC ने जलवायु परिवर्तन के प्रभावों का सामना करने संबंधी सर्वोत्तम अनुक्रिया के रूप में कार्य नहीं किया है। आलोचनात्मक चर्चा कीजिए।

National Action Plan for Climate Change is

• the nodal program to make intervention related to adaptation, mitigation of risks related to climate change.

It had following objectives :-

- 1) Improving the resilience of various sectors like agriculture, forestry to climate change.
- 2) Safeguarding critical ecosystems like Himalayan.
- 3) Mitigate the risks related to climate change by reducing emissions through energy efficient solutions.
- 4) Encouraging R & D related to climate change.
- 5) Making environmental accounting a key part of all policy measures.

In 10 years of its implementation, it has shown following successes and failures.

Success

Failures.

- | | |
|--|--|
| 1) Programs like SECURE HIMALAYA to safeguard Himalayan ecosystem. | 1) The forest cover has been stagnant to around 22%. |
| 2) Energy efficient solutions like LED program (UJALA), UJJWALA LPG program. | 2) According to draft energy policy the use of coal is expected to increase in future. |
| 3) Solar energy → MW installed capacity. ISA. | 3) The problem of air pollution has aggravated in cities like Delhi. |
| 4) National Innovations for Climate Resilient Agriculture to focus on adaptations. | 4) The focus of scheme like CAMPA, CRZ etc. is tilted towards development. |
| 5) PMKSY has a component of per drop more crop to enhance water use efficiency. | 5) Increasing incidents of floods, droughts etc. |

Hence, we need to speed up its implementation to reach the NDC of Paris Treaty through following measures:-

- 1) State Action Plan for climate change need to be formulated and included in policy at state level.
- 2) Community based adaptation solution. Eg:- Mission Kakatiya in Telangana for water harvesting.
- 3) Faster adoption of energy efficient, low emission technologies like E-vehicles, rooftop solar.
- 4) Innovative ways to finance climate change mitigation initiatives like Green Bonds, ISA etc.

Hence, we need to engender climate change solutions in policy making for sustainable growth.

18. Proliferation of nuclear weapons and the threat of their use are key concerns for global security nonetheless existing international arrangements seem to be ineffective. Comment. Also, identify the salient features of India's policy in this context and discuss whether India should join the NPT in the current form. (250 words) 15

परमाणु हथियारों का प्रसार और उनके उपयोग का खतरा वैश्विक सुरक्षा की प्रमुख चिंताएं हैं, इसके बिना वर्तमान अंतराष्ट्रीय व्यवस्था अप्रभावी प्रतीत होती है। टिप्पणी कीजिए। साथ ही, इस संदर्भ में भारत की नीति की प्रमुख विशेषताओं को चिन्हित कीजिए तथा चर्चा कीजिए कि क्या भारत को वर्तमान प्रारूप वाले NPT में सम्मिलित होना चाहिए।

Proliferation of nuclear weapons is a threat to international security and human existence due to following factors:-

- 1) Many countries in conflict zone like North Korea, Israel, Iran are in process of acquiring nuclear weapons.
- 2) Threat of passing of nuclear weapons to non-state actors.
- 3) The current international arrangements like NSG, NPT and CTBT have failed to check the proliferation.
- 4) Countries like Russia / US are developing mini-nuclear weapons that can be used in near fields.

5) The ~~non~~ partial nature of current arrangements have deterred countries like India to join them.

In this regard India developed nuclear capabilities with operation shakti in 1998 and its policy has following features:-

1) No first use policy.

→ Hence, they will be used as a last resort against the aggressor.

2) Credible Minimum Deterrence.

→ Without joining CTBT, India has declared moratorium of further testing as its aim was only to develop deterrence.

3) NPT

India has declined to join NPT as it acknowledges only 5 states as nuclear power and hence partisan in nature.

4) Destruction

India has agreed to destruction of its nuclear

or arsenal, provided all nations agree to do so in a verifiable, transparent manner.

§ NSG

India has demanded for its membership to NSG based on its legacy of being a responsible nuclear power.

Hence, NPT in current form is not in India's interest and India should stick to its current policy to maintain strategic autonomy.

19. The maritime security domain requires collective multilateral and regional cooperation to combat non traditional threats. Discuss in the context of threats in the Western Indian Ocean and the recent amendments in the Djibouti Code of Conduct.

(250 words) 15

समुद्री सुरक्षा प्रक्षेत्र (डोमेन) गैर-परंपरागत खतरों का सामना करने हेतु सामूहिक बहुपक्षीय और क्षेत्रीय सहयोग की मांग करता है। पश्चिमी हिंद महासागर में खतरों और जिवृती आचरण महिता में हालिया मशोधन के संदर्भ में चर्चा कीजिए।

According to International law of sea, high sea are common resource of humanity and hence open for all. Hence, maritime security requires multilateral cooperation. The Western Indian Ocean has following threats to maritime security:-

1) Pirates

Along the somalian coast, many merchant ships have been the target of sea pirates.

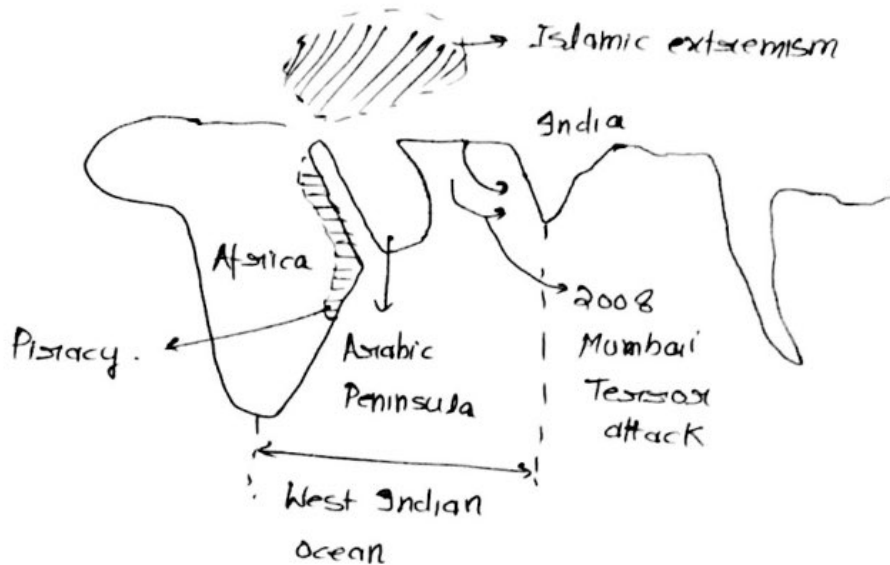
2) Organized crime

Smuggling of weapon, drugs and human trafficking.

3) Terrorism

The West Indian ocean is bordered by countries suffering from Islamic extrem-

ism and there is collusion between terrorism, organized crime and money laundering.



4) Proliferation of state actors.

China's string of pearls policy with bases in Sri Lanka, Maldives, Djibouti etc. and presence of France, USA in the region can be threat to peace.

5) Disaster related risks

Tsunami, Oil spills etc.

Hence, all these risks require international collaboration like:-

- 1) ~~Enter~~ Djibouti Code of Conduct calls for rules related to peaceful merchant ships and collaboration on piracy related risks.
- 2) Asia-Africa growth corridor, Maritime silk road for economic integration.
- 3) Indian Ocean Symposium for collaboration between littoral states.

Hence, India needs to play the role of regional security provider in line with its policy of SAGAR (Security & Growth For All in the Region).

20. India's space programme was initiated with the vision of utilising outer space for peaceful purposes, however with changing times it has the potential to play a significant role in strengthening security capabilities of India. Discuss with adequate examples. (250 words) 15

भारत का अंतरिक्ष कार्यक्रम, शांतिपूर्ण उद्देश्यों हेतु बाह्य अंतरिक्ष का उपयोग करने के दृष्टिकोण के साथ आरंभ किया गया था, हालांकि बदलते समय के साथ इसमें भारत की सुरक्षा क्षमताओं को मजबूत बनाने में महत्वपूर्ण भूमिका निभाने की क्षमता है। यथोचित उदाहरणों के साथ चर्चा कीजिए।

With the Outer Space Treaty of 1967 in United Nation, all countries agreed to limit the use of outer space to peaceful civilian purposes. However, in the changing technological environment it can play role in strengthening security as in following manner:-

1) Traditional security.

(A) Border Management

By remote monitoring of border and facilitating communication and control.

Eg:- Comprehensive Integrated Border Management systems.

(i) Security of defense establishment.

It can be helpful to prevent attacks like Pathankot, Surjawan by remote sensing.

(ii) GPS (Navic IRNSS system)

Builds domestic GPS capability and can be used in case of US denies services like Kasigil conflict.

(iv) Maritime Security

Coast Guard communication, identification of threats etc.

(2) Non-traditional domain

(i) Cyber-security

Provides an alternative method of communication in case of attack of land based communication networks.

(ii) Monitoring of enemy territory

For Eg:- Intelligence technology was used to understand targets during Surgical strikes.

(ii) offensive capabilities

By building space related weapons to destroy enemy satellite in case of war.

Hence, we need to develop a dedicated defense space command in army and a National Space Security Agency to identify the risks and make future strategy.