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Medium Eng./Hindi	English	Registration Number	58223
Center	NA	Date	11-Sep-2018

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 ब्लैक में 20 प्रश्न अंग्रेजी और हिंदी में छपाए गए हैं।
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/भाग के अंक उसके सामने दिए 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 आपके 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 में किसी पृष्ठ या पृष्ठ का हिस्सा खाली छोड़ा जाना चाहिए।
8	10		
9	10		
10	10		
11	15		
12	15		
13	15		
14	15		
15	15		
16	15		
17	15		
18	15		
19	15		
20	15		
Total Marks Obtained:			
Remarks:			

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

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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.

All the Best

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

The government has set a target of generating 175 GW of renewable power by 2022, 100 GW from solar power, 60 GW from wind.

Challenges

- Transmission issues, the existing transmission infrastructure can't handle the renewable electricity nature.
- Supply and not demand driven.
- Inability to meet peak demand. ~~Conventional~~ Conventional sources can scale up and scale down as per demand but renewable sources like solar will generate depending only on the sun's intensity at a particular time.
- Low prices. ~~The~~ The cost of generating electricity is falling ~~up~~ down and is predicted to fall further in the future. This means DISCOM's don't want to get into long term contracts right now.

- Technological barriers with concerns related to panel quality and lifespan especially in tropical Indian conditions.
- Low private investment.

How to Tackle Challenges

- Better Regulation - Develop expertise among policy makers, coordinate decision making, and develop long term strategy.
- Enhance Grid Capacity - Focus on smart grids and improve grid tech.
- Technological Aids - Batteries can solve the problem of demand[↑] and supply and peak demand.
- Improve Transmission - Set up renewable energy sources near demand areas to reduce transmission losses. Cross state energy supply to be made easier. Green Energy corridors and Ultra Mega Solar Parks to be linked.

Thus an ecosystem of govt, industry and utilities is to be created to facilitate renewable energy.

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।

India's Urban population is estimated to grow from 32% at present to 50% by 2030. To manage this urbanisation we need to provide better facilities in cities.

The government has passed the 74th amendment to create Urban Local Bodies (ULB's) to manage urban areas. Recently it has also ~~passed~~ ^{implemented} many policies like Swachh Bharat, Smart Cities Mission, HRIDAY, Atal Rejuvenation, Pradhan Mantri Awas Yojana to tackle specific shortcomings like Housing or ~~the~~ Sanitary issues Sanitation.

The ULB's are key partners in this scheme but lack funding to properly implement this. So the govt. has come up with policies and indicators to finance urban development :-

- Value Capture Financing (VCF) - People who benefit from infrastructural or service upgradation pay for it. Eg. Land Value Tax.
 - Credit Rating of Cities - Based on revenue sources, population, fiscal performance of municipalities etc. Viable Cities can raise money from market.
 - Competitive Sub Federalism - Cities compete on indicators like Swachh Bharat rankings, fostering better performance amongst all.
 - Municipal Bonds - Municipalities can issue bonds to raise money for specific projects. These allow autonomy to municipalities and their tax free status attracts investors.
- The following steps can enhance their appeal :-
- Financial Audits of ULB's.
 - Disclosure of project details and enhancing viability.
 - Financial autonomy and competent project execution.
 - Better awareness amongst investors as well as ULB's about this option.

Such measures can enhance trust and cause bonds, like in developed countries, to be the financial instrument of choice.

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।

Financial Inclusion ~~to~~ implies easy accessibility to formal banking institutions and their products and services

Reasons for Rural Exclusion

- o Demand Side Constraints - Lack of awareness, financial illiteracy, lack of collateral, low income etc.
- o Supply Side Impediments - Lack of branches, human resources of banks uninterested in rural postings, lack of profit, agricultural NPA's, loan waivers etc.
- o Reliance on Informal Credit - Moneylenders have advantage of lending for marriages, health reasons etc; without collateral demands; to landless informal tenant etc.
- o Accessibility: Require documents pertaining to land rights, collateral etc; visits to

bank branches etc.

- Bank Accounts - Before Jan Dhan Yojana many farmers lacked bank accounts.

This issue can be addressed through improving bank, electricity, ICT related infrastructure; awareness generation campaigns; using SHG's and NGO's ^{to} microfinance institutions; doorstep delivery of banking services using POS cards and mobile banking etc.

The govt. and the RBI have taken steps :-

- JAM - Jan Dhan, Aadhar and Mobile.
- ~~RBI~~ Indian Postal Bank to leverage the reach of post office in the country.
- RBI has stipulated compulsory opening of rural branches for all banks.
- Priority Sector Lending Norms.
- MUDRA Bank to provide collateral free credit to rural entrepreneurs.
- Overall, significant improvement has been seen by effort of RRB, RBI, Govt, SHG's, Cooperatives, more initiatives are needed.

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 the practice of including the cost to the environment (pollution, deforestation, climate change, damage to rivers etc.) along with standard accounting costs when evaluating a project.

It allows people to see the cost to the environment of any organisational or national activity. It has come into prominence after environmental consciousness has grown.

RATIONALE

- Traditional accounting practices failed to account for the cost to the environment.

- This is more multidimensional, measures to cost to company for ~~the~~ impact on environment too.
- Ascertains the cost to clean up damaged sites, reduce pollution impact, waste mgmt. costs etc.
- Crucial in reducing impact on environment
- Encourages consumers to 'go green' and buy green.

Indian Scenario

- Fundamental duty of every citizen to protect the environment and citizens have a right to clean environment. This is an offshoot of these.
 - Various laws and regulations impose limits and rules on companies for environmentally hazardous activities like mining or waste treatment or disposal.
 - Environmental Impact Assessment is mandatory under Environment Protection Act before giving permission to start projects.
- Thus seeing the importance, environmental accounting has emerged as a fair method of accounting for true cost of development.

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।

India is largely an agrarian country with roughly 50% of the population working in farm or non farm rural activities contributing 17% of GDP. The nature of cropping differs from region to region, with some areas like Punjab having 99% of the land as irrigated land to other states where 90% of agri. land is rainfed.

Access to irrigation is crucial, it relieves farmers from the vagaries of a drought, low or late monsoon and gives freedom to plant a more water dependent crop than possible if reliant on monsoon (For eg Punjab, water deficient state has major soyabady yield).

Irrigation ~~to~~ was major factor behind green revolution, chemical fertilizers, intensive cropping and 2-3 cropping seasons leading to India becoming self sufficient in food.

Howeverⁱⁿ India farming accounts for 70% of total water use, with around 52% of total farm land unirrigated. So while access to irrigation is important, equally important is improving water use efficiency:-

- Reduce regional disparity in crop yields and income. (Primarily b/w western and eastern India)
- Industrialisation and Urbanisation will increase demands on scarce water resources. Efficiency in use can prevent squabbles like Cauvery Water issue where Bangalore's needs were contrasted with needs of Tamil farmers.
- Excess use of water can lead to salinity and wasteland.
- Excess dependence on industrialisation leads to coping pattern at variance with climatic conditions. Efficient water use dictates harmony with nature.

Recent initiatives like 'More Crop per Drop', 'Fasal Sinchayee Yojana'. 'Collaboration with Israel on sprinkler technology etc. show that the govt. too is recognising the need to achieve water efficiency along with increasing irrigation coverage.

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।

Disaster Risk Reduction refers to measures or policies taken in advance to reduce the possibility of a disaster occurring and to minimise its effects.

Disasters especially natural ones have been occurring since the dawn of human civilisation and every culture or people devise methods to deal with them which are then passed on to us. Integration of traditional technology, cultural heritage and modern methodology can result in a holistic approach to disaster risk reduction.

Examples

- Coastal disasters - During the 2004 tsunami many tribes in Andaman and Nicobar recognised the warning sign of extreme receding of water and rushed to a high area, saving themselves.
- River floods - Locals in flood prone areas like Assam create bunds by bamboo plantation along the bank.

- Desert related - The shrub/tree kain helps in providing shade, fodder, fuel, wood, building material and also protects against desertification of semi arid surrounding regions and thus is venerated by the locals.
- Mountain Ecosystem - In Leh/Ladakh locals living in higher reaches or upstream areas warn the ones living downstream of flash floods by monitoring the water level in 'Naldahs'.
- Water Resource Management - Creation of 'boudis' or their equivalent in dry regions like Rajasthan or G.M.P. or Gujarat. Source of water, conserves rainfall and helps in irrigation by bringing water table up.
We can mainstream these technologies by :-
 - Documentation of these practices and oral history.
 - Research about non mainstream practices.
 - Dissemination of learned information in easily accessible fashion.
 - Collaboration b/w researchers and technologists who can combine insight gained by these practices and modern technology to create new tool.

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 is a food processing technique where raw or processed food items are exposed to short wave radiation energy.

This helps in preservation. Other applications are extension of shelf life, disinfection, elimination of pathogens, sterilisation etc.

It has an advantage over other methods to achieve preservation :-

- Shape or texture of material doesn't matter
- Heat sensitive materials can also be irradiated.
- Product is proven to be sterile, can comply with phyto sanitary norms and can be exported.
- Irradiation has no harmful effects and can be used immediately.
consumed
- No alteration in size, shape, smell etc of food product.

Relevance for India

- Very effective in treating and preserving produce, helps in food and nutrition security.
- Hot and humid climate of India promotes spoilage and growth of pathogens. This treats that.
- Promotes exports as India can comply with WTO norms on Non Tariff Barriers.
- Promotes health as certain types of food like meat can otherwise spoil very easily.
- Better returns to farmers and mitigates effect over or under production. Increases time in hand that food can be stored.

Keeping the advantages in mind, in its push for increasing food processing sector govt. has also kept food irradiation in mind. It has budgeted for setting up irradiation facilities in Mega Food Parks and at APMC mandis.

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। मविस्तार वर्णन कीजिए।

Fake news is news reports or stories intentionally fabricated or misleading to push an agenda, deceive people or influence them. The purpose is usually to win elections, implant a political agenda, engender racism or communalism or to cause riots or other public mischief.

Misuse of Technology has abetted fake news :-

- Fake websites or reports that are fabricated to look like real legitimate sources of news are made and they disseminate fake news.
- Photoshop can morph and digitally alter photos to create misleading images of public figures, celebs, riots etc.
- Psychological advancements esp. in the field of Mass Psychology has led to development of sophisticated propaganda methods.
- AI based companies like Cambridge Analytica can illegally gain access to social media

profiles to disseminate targeted fake news.

Thus, we see misuse of technology has caused this phenomenon. However, tech aid can help target it :-

- Stronger data privacy laws limiting companies access to information and ability to sell it for profit. For eg EU's GDPR laws.
- Use of media to propagate information about fake news and the spread of legitimate news through official sources.
- Rise of fact checking websites and groups who proactively vet news.
- Limitation on Whatsapp where you can only forward with limits on no. of forward.
- A labelling feature to see original source of forwarded messages.
- Social media sites like Facebook have created machine learning tools to proactively recognise and flag potentially fake news and then vet it.

Ultimately technology is what humans make of it. The challenge is a human one as old as the first lie ever spoken. Encouraging rational thought, scepticism, reading with an unbiased mind through a holistic education system is the only lasting solution.

9. Explain the salient features of the recently established Defence Planning Committee. How can it help in credible defence preparedness?

(150 words) 10

हाल ही में गठित रक्षा नियोजन समिति (डिफेंस प्लानिंग कमेटी) की प्रमुख विशेषताओं की व्याख्या कीजिए। यह विश्वसनीय रक्षा तैयारी में कैसे सहायता कर सकता है?

The Defence Planning Committee is a permanent body set up under the chairmanship of the National Security Advisor (NSA) with members being the 3 service chiefs of the Army, Navy and Air force as well as Defence Secretary, Foreign Secretary and Secretary of Min. of Finance.

It is tasked to analyse and evaluate all relevant inputs with bearing on :-

- National Defence and Security.
- Foreign Policy Imperatives
- Defence Acquisitions and Infrastructure Development
- Relevant Strategic and Security Doctrines.
- Defence Technology and Development of Indian Defence Industry.
- Operational Directives and Associated Requirements

Its reports will be sent to the Defence Ministry and further action taken thereon.

This was required due to lacunae in the existing process :-

- Difficulty in prioritizing goals and allocating resources.
- Lack of integrated approach.
- Little focus on indigenisation of defence procurement and production.
- The operational and strategic difficulties created due to not having position of Chief of Defence Staff.
- Myopic focus on own needs by each wing of the armed forces rather than an integrated approach.
- Mistrust between army and govt. bureaucracy.

DPC would be an improvement by leveraging inter departmental cooperation to enhance India's defence strengths. Thus it is a timely step for India.

10. Recent reports of Maoist leaders having amassed huge assets in property and cash underlines the significance of probing the funding network as part of counter-terrorism efforts. Discuss. (150 words) 10

संपत्ति और नकदी के रूप में विशाल परिसंपत्तियां एकत्रित करने वाले माओवादी नेताओं की हालिया रिपोर्टों ने आतंकवाद-रोधी प्रयासों के भाग के रूप में वित्त पोषण नेटवर्क की जांच करने का महत्व रेखांकित किया है। चर्चा कीजिए।

Former PM Manmohan Singh called Left Wing Extremism (LWE) as the gravest threat facing India. The persistence and scale of the threat are in part due to its extensive and sophisticated funding network. The Enforcement Directorate (ED) has recently attached properties worth crores of Naxal leaders in Bihar.

Principal Sources of Funding

- Extortion of money from local farmers, factories etc. Kidnapping of govt. officials, businessmen etc. for ransom too.
- Mining industry, tendu leaves, PWD work etc. are money source via corruption or black mail.
- Sophisticated international network where either sympathisers overseas or hostile countries fund money and ^{and} arms through collaborators.

Methods to Combat Financial Terrorism

- Strengthening auditing of public schemes in LWE affected areas to stop leakage.
- Instead of auctioning to contractors projects in LWE areas, govt. dept. like BRO ^{or PWD} can undertake projects.
- Promoting industrialisation and entrepreneurship to wean tribals away from extremism.
- Updating security at industrial areas, mines and other vulnerable spots.
- Crack down on illegal mining, forest cutting etc.
- Strengthening international borders to combat smuggling drugs, arms etc.
- Verification of sources of income of suspicious persons, NCO's et al who can be source of funding.
- Encouraging extortion, kidnaping victims to report and cooperate with security forces.

Thus, if we can choke off the money supply to LWE by a proactive and multi dimensional strategy we will go a long way in ~~stop~~ stopping it.

11. Not only do services MSMEs contribute mightily to the overall GDP growth, they have a powerful, multiplier impact on the local economies as well. Elaborating on the statement, highlight the problems faced by service sector MSMEs. How can the government make it easier for MSMEs to start and grow a business? (250 words) 15

MSMEs से संबद्ध सेवा उद्यम न केवल समग्र GDP संवृद्धि में बहुत अधिक योगदान देती हैं, बल्कि उनका स्थानीय अर्थव्यवस्थाओं पर भी एक मशक्त और गुणक प्रभाव है। इस कथन का सविस्तर वर्णन करते हुए, MSMEs सेवा क्षेत्रक द्वारा सामना की जा रही समस्याओं पर प्रकाश डालिए। सरकार MSMEs के लिए किसी व्यवसाय को आरंभ करने और उसके विकास को कैसे आसान बना सकती है?

The service sector contributes to around 58% of annual Indian GDP. There are 10-50 million service MSME's in sectors as varied as accountancy, catering, yoga, software development, legal aid etc.

Significance of Service MSME

- Employment Generation - They absorb many of the better educated demographic.
- Minimising Regional Inequalities - Due to ICT tools, they can be set up in remoted location.
- Indigenous Innovation - Indian MSME's can aid in developing latest technology due to high quality human resource availability.
- Growing and Developing Economy - As an economy and people increase their income,

their need for services increase .

- Inclusive Growth : They are generally more gender equal and caste ~~sect~~ insensitive employers .
- Foreign Export : India earns foree currency by ~~exporting~~ service products .
- Sustainable Growth : Unlike manufacturing requiring land, raw materials, waste disposal etc.
 ◦ service sector is much less polluting .

Major Problems Faced

- Lack of Regular Work - Sometimes global scenarios like a recession can affect earning potential .
- Lack of Capital - Without hard asset as collateral banks are wary of lending money .
- Marketing Channels - Mainstream media and advertising is geared towards needs of bigger companies .
- Excessive regulations on Labour - If they wish to increase no. of employees then they have to comply with excessive

regulations inhibiting their growth.

- Lack of Quality Employees - Most employees prefer the stability of a govt. job or ~~the~~ a big corporation, further Indian education system has very few quality graduates.

Government Interventions

- Availability of uncollateralised credit - Create multiple streams of credit ~~and~~.
- Ease norms to promote entrepreneurship - Tax breaks, easing regulations on hiring and firing, quick exit, IBC regulations etc.
- Access to modern technology - Promote access to latest tech.
- Promote Start Ups and Venture Fund collaborations through setting up dedicated office space and inviting start ups to move there. For eg Telangana Govt. setting up T-Hubs in collaboration with IIIT Hyderabad and ISB.

Apt strategies should be evolved for creating an enabling ecosystem.

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 वृद्धि 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 agreements between farmers and corporates specifying production and supply of a particular crop and rate at which it will be bought.

It has benefit for farmers like insulating from low price in future, being provided quality seeds, fertilisers and other inputs etc. For the buyer it reduces volatility, ensures quality products and availability of raw material.

In India APMC regulates all sales of crops including contract farming. The agricultural marketing system in India causes failure to properly utilise contract farming :-

- APMC mandate that all contracts be registered with them causing undue interference.
- Most lands are tilled by informal tenants who cannot get into contracts.

- Land Fragmentation and small land holdings don't provide corporations with the economies of scale they need.
- Few firms participate so they have virtual monopoly.
- Asymmetry of Information where farmers can be exploited.
- Over taxation by APMC's.

Measures that can be taken
by Govt

- Reform the APMC (Most states should adopt Model APMC act) to take Contract Farming out of its ambit.
- Generate and spread awareness about contract farming among farmers and corporates.
- Maintain information repository so that farmers and buyers can evaluate each other.
- Encourage corporations to disseminate quality inputs and technical know how to their farming partners.
- Govt. should ~~facilitate~~ ensure that fair and accessible alternate dispute resolution mechanisms and payment standards are mentioned in contract.

In this context, the Model Contract Farming Act, 2018 is a step in the right direction.

It takes it out of the purview of APMC.

It ensures that farmers rights on land are protected. It also makes crop insurance mandatory. It also includes provisions for a dispute settlement mechanism.

However the act requires sponsors and farmers to register the contract with a registering committee increasing cost prohibitively.

It also uses concept of family farms which is irrelevant in India as 86% of landholdings are small or marginal. Also it being a

State Issue under 7th Schedule means indefinite delay or charges until its adopted by the States.

So, contract farming in India remains a work in progress while the output & requirements from Indian Agriculture keep on increasing.

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 (डिस्रप्टिव 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।

Automation, Machine Learning, AI are just some of the disruptive technologies which are heralding in what some call the Fourth Industrial Age. While profits and ~~production~~ productivity are rising it is predicted that there would be great fall in number of jobs.

The measures needed to combat this are:-

- o Increase in skill of workforce. Automation can render blue collar jobs obsolete but highly educated ^{workforce} jobs ^{is} still employable.
- o Collaboration between industry and academia to fuel jobs at cutting edge of technology
- o Skill upgradation of workers whose jobs are now obsolete.
- o ~~Gov~~ Government should attract FDI and foreign venture capitalists to fuel India's Start Ups.
- o Support Competitiveness Enhancing policies for Indian Companies.
- o Support labour intensive industries like Apparel.

- Ensure Equitable access to education.
- Expand MSME's growth related initiatives.
- Formulate life long learning initiatives among citizens like online courses, MOOC's, certification courses, career counselling centres etc.
- Encourage start ups that transform unorganised sector into formal sector.
- Industries should be encouraging employee training, on the job learning initiatives.
- Industry Govt. collaboration to ensure India is at the forefront of Industry 4.0.
- Embrace the Online Economy. Take advantage of connectivity and scaling related growth.
- Individuals can use the automation and productivity gains to start their own businesses which will have the scale to compete with anyone.

If we recall the Luddites during the 1st Industrial Revolution, they too were afraid of the changes wrought by technology. Yet we saw that technology can create jobs that we can't even imagine. It is important to use technology as a ~~threat and not~~ an opportunity and not a threat, because after all there's always communion.

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 से रोका है। इस कथन का परीक्षण कीजिए और सरकारी पहलों सहित कृषि निर्यात में सुधार लाने के तरीकों पर चर्चा कीजिए।

At the recent WTO inter ministerial meetings, one of the biggest stumbling blocks for India is its reluctance to allow free imports and exports in the agricultural sector. Even after 1991 liberalization, India's agri GDP is only 1/5th. Its share in global agricultural trade is only 2% despite containing nearly 7% of global land.

ICRIER reports show Indian govt. often resorting to export controlling measures like export bans or high minimum export prices to prevent inflation, causing the farmers to not grow exportable crops and hindering the growth of agricultural export market in India.

The harmful effects of this are imbalance in Indian prices and world prices, harming

potential income of farmers, cropping distortions and instability in Agro Processing acts. Such ad hocism is unsustainable and undesirable. The sole reason for this is protecting the consumers from high prices by preventing export at a time of potential shortage.

To double farmers income by 2022 and generate gainful employment the govt. needs to rethink its export policy :-

- Food and Agriculture Ministry should work in tandem to ensure low prices and high production.
- Better coordination b/w centre and states to usher farming reform.
- Eliminate restrictions like Export Ban and Minimum Export Price unless in state of drought or famine.
- Govt. should ensure private sector participation in farming and keep global competitiveness in mind while deciding on MSP.

- Create a Predictable and Stable Policy
- o Overhaul Essential Commodities Act and APMC Act to enable farmers to be competitive and in tune with market realities.
- o Overhaul Food Processing industry to make it world class and export worthy.

Overall the policy should balance needs of farmers and consumers on this issue.

Farmers should not bear the brunt of keeping food prices low and not getting a fair price.

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 (समष्टि-आर्थिक आधारों) में सुधार के बावजूद, भारत में व्यापार घाटा निरंतर बढ़ा है। इस स्थिति के लिए उत्तरदायी कारकों को प्रस्तुत कीजिए।

The exchange rate is not directly related to the economic performance of a country but it's certainly correlated. However there is no direct link, a strong ~~sect~~ ^{currency} disfavours exports which causes the currency to fall, which again makes exports competitive and causes currency demand to rise.

However, this situation doesn't occur because of other trends like inflation, artificially low currencies, domestic consumption etc.

Most countries and central banks like RBI consider volatility to be the biggest threat. RBI manages the volatility of currency with help of large foreign reserves.

India has good performance on certain indicators →

- Low and reducing fiscal deficit (2.2% of GDP)
- Huge foreign currency reserves with RBI.
- Stable Economy with a stable government.
- High rate of GDP growth (above 7%.)
- Huge domestic market with increase in exports too.
- Low oil prices globally, (Historically India's biggest and most expensive import).

Yet, we see an year on year weakening of Indian Currency due to :-

- High Current Account Deficit largely due to import of Gold and Petroleum products.
- Recent increase in commodity prices, oil prices are now almost 50% higher than last year.
- Subdued External Demand for India's exports due to rising trend of protectionism.
- India's inability to join trade blocs like RCEP, revive SAARC FTA idea, per EU-India FTA etc.

- No great increase in export value, India largely exports raw or intermediate goods and imports more expensive finished goods due to inverted duty structure.
- Impact of GST and demonitisation. It disrupted MSME and many export oriented sectors and stalled growth and momentum.

The global recovery from 2008 crisis hasn't reached India yet. India should take advantage of its weak rupee and ensure robust credit growth, capture new export markets and contracts, and increase investor confidence to boost its growth.

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।

Sugar Industry faces annual crises causing anguish to 50 million sugarcane farmers and 7% of the rural population involved in various facets of the industry.

The problems are manifold :-

PRICING

- Due to record sugarcane growth the price of sugarcane ^{crashed} leading to demands of high Fair and Remunerative Price.
- High FRP cannot be adhered to by mills causing huge arrears.

POLICY

- High regulatory burden on mills with relation to prices, compulsory purchase of sugarcane.
- Ill thought out policies like minimum distance between mills, packing in jute bags etc. causes losses.

MISCELLANEOUS

- Most sugar mills are outdated, not efficient and have high cost of production reducing profit.
- Competition for produce by Guar and other industries causes losses to mills.
- Monoculture growth of sugarcane with drop in yield after 3 years cycle.
- Short Crushing Season with rapid loss of produce or delays in crushing.
- Regional imbalance in distribution and location of mills.
- High arrears and subsequent need for bailout by mills where unions often prevent proper functioning.

These issues have prompted a relief package of 7000 crore ^{to} deal with the crisis. However, a long term solution is needed. Reduction in GST on ethanol, sugar cess, subsidy on production, contract farming, stable export regime, reform in labour laws, allowing mills to own land for production, rationalisation of FRP in line with sugar prices and avoiding unscientific SAP.

Further, govt. should provide tax incentives to entrepreneurs for incorporation of new tech in the mills and create a conducive environment for ~~or~~ reforming and de-regulating this industry.

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।

In 2008, the global environmental movement was at its peak. With regular UNFCCC meetings, implementation of Kyoto Protocol etc. India was well aware of the threats posed by anthropogenic climate change.

In that environment the govt. formulated the National Action Plan on Climate Change.

It had various missions under it :-

- National Solar Mission
- National Water Mission.
- National Mission for Green India .
- National Mission for Sustainable Agriculture .
- National Mission for Enhanced Energy Efficiency .
- National Mission for Himalaya Ecosystem Conservation .
- National Mission on Sustainable Habitat .
- National Mission on Strategic Knowledge on Climate Change .

Successes

- Mainstreamed mitigation and adaptation measures across govt. policy
- Success in certain mission like Green India, Solar mission and sustainable habitat.
- Programs like Swachh Bharat and Nirmal Ganga are derived from objectives of this.
- India has committed to even ^{more} stringent objectives as part of Paris Protocol.
- Development of International Coalitions against Climate Change like Int. Solar Alliance.

Criticisms

- Not missions have failed to meet their objectives.
- Some mission are too broad like Green India and lack quantifiable targets.
- Delay in project clearance, conflicting policies etc.
- Absence of monitoring mechanism.
- Lack of external unbiased auditing or verification of claims.

- Lack of market investment or involvement
- Low R&D, lack of skilled manpower and expertise slowed mission.
- Umbrella scheme lacking convergence with each other and other govt. initiatives like AMRUT.

Keeping these flaws in mind the govt. has brought out NAPCC 2.0 with 4 new missions - Waste to Energy; Health ~~and~~ Wind and Coastal Mission. This provides an opportunity to pool indigenous ~~targets~~ and global capabilities to cope with climate change.

Don't write anything this margin (इस मरज में लिखें)

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 विजया है, इसके लिए वर्तमान अंतर्राष्ट्रीय व्यवस्था अप्रभावी प्रतीत होती है। विपणी कीजिए। साथ ही, इस संदर्भ में भारत की नीति की प्रमुख विशेषताओं को चिन्हित कीजिए तथा बता कीजिए कि क्या भारत को वर्तमान प्राकृत NPT में सम्मिलित होना चाहिए।

Recent reports like North Korea testing ballistic missiles over Japan and S. Korea on Iran's sanctions by USA show the seriousness of the caused by proliferation of nuclear weapons.

The global treaty concerned with stopping proliferation in the Non Proliferation Treaty, 1975 and the group is Nuclear Suppliers Group. Though the treaty is voluntary, countries are coerced to sign it by a carrot and stick policy, with carrot being access to civilian use nuclear fuel and being stick being threat of sanctions and being excluded from the global nuclear fuel market.

Limitations of the Current Non Proliferation Architecture

Shortcomings with the NPT -
- Underlying reasons 5 Nuclear Weapon States who

went nuclear before 1974.

- Excludes nuclear weapon states like India, Israel or Pakistan who in theory are free to proliferate.
 - Not designed to address non state actors.
 - Failed in stopping Iran or N Korea from pursuing a nuclear program.
 - Discriminatory between 'nuclear haves' and 'have nots'.
- Limited Progress on Disarmaments, nuclear powers continue to stockpile weapons.
 - Testing ban treaties like CTBT or Fissile material control treaty haven't come in force.
 - Over emphasis on horizontal proliferation fails to address vertical proliferation.
 - No movement towards universal de nuclearisation.

India's policy towards its nuclear weapons has always been that of a mature and responsible power. India has emphasised its support for global, non discriminatory, comprehensive and verifiable disarmamentations. Its nuclear doctrine is :-

- No first use against a non nuclear weapon state.
- Maintenance of Credible Minimum Deterrence
- Nuclear Triad.
- Unilateral moratorium on tests and no technology transfer.

Reasons for joining NPT

- Access to technology and nuclear material.
- Guaranteed Access to NSG and nuclear fuel.
- If joined by Pakistan world lead to denuclearisation.
- Lead to nuclear exports through Moka in India.

However NSG waiver has already granted many of these benefits to India. The disadvantages of joining NPT are manifold. No check on vertical proliferation; Threat from China and Pakistan; No actual timeframe for universal disarmament etc.

India already abides by NPT norms and is recognized by the world as doing so. Joining NPT in its present form would not be to its advantage.

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 संहिता में हालिया संशोधन के संदर्भ में चर्चा कीजिए।

Around 90% of global trade by mass goes through the oceans making maritime security of paramount importance. It subsumes infrastructure, naval deployment, policing, open sea lanes of communication, disaster mitigation etc.

In recent times non-traditional threats have plagued maritime shipping in the Western Indian Ocean (Extending from Arabian Sea to Horn of Africa):

- Piracy esp. ~~off~~ the Coast of Somalia.
- Illegal migration in unsafe conditions.
- Terrorism and ethnic conflict in Yemen, Somalia, Syria etc.
- Smuggling of Arms, Narcotics etc.
- Illegal fishing, smuggling etc.

Addressing these concerns requires collective multilateral action and regional cooperation.

Initiatives like visit of Indian PM to Indian Ocean Littoral States like Oman have focused on bilateral as well as multilateral initiatives like IORA. Programmes like IONS point at India's efforts to ensure maritime security.

Djibouti Code of Conduct (DCoC) was adopted in 2009 agreed to cooperate on suppressing piracy and armed robbery on ships in the region. It has been instrumental in piracy cases and has broadened its scope to illegal fishing and human trafficking.

~~Yaddash~~ Amendment is a revised code :-

- Expands scope of DCoC - aims to build national and regional capacity to address wider maritime security issues. ~~such as~~ It recognises important role of 'Blue Economy'.
- It bring together countries in the region and covers important crisis like :-
 - Trafficking in arms and narcotics
 - Illegal Wildlife Trade
 - Illegal Oil theft and bunkering.
 - Human Trafficking and smuggling.

Thus, the DE@OC and Jeddah agreement recognise the role of institutionalised and regular procedural cooperation towards addressing non conventional threats and also issues of environmental significance.

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।

President Trump of USA has recently announced the creation of a Space Force as the 5th branch of US Armed Forces. This shows the important strategic dimension of Space. Indian Space

Programme was perceived as a quest for scientific exploration as well as an aid to its development.

ISRO focussed on satellites to facilitate communication, information gathering, weather forecasting, prior information about disasters, finding resources etc.

However we need to focus on the security implications of our ~~our~~ space missions.

Internal Security Challenges

- Weather satellite can provide critical information about when to launch operations.
- Mapping satellite can help create proper authentic maps to help perfect defence plans.
- Radar Satellites with IR or Heatmap tech can identify enemy combatants, ships, submarines or planes.
- Remote Sensing Satellites can extend reach of operational intelligence especially related to insurgent.

External Security Challenges

- Cartosat satellites can provide enhanced visuals and mapping precision which reportedly helped in the recent surgical strikes in Pakistan.
- The NAVIC programme with IRNSS would provide military service helping in Aerial, Marine and Terrestrial Navigation.
- Radar Imaging Satellites can provide radar information helping India spy on the activities of its hostile neighbours.

- Communication Satellites help in providing 24/7 connection b/w forces and HQ. Very helpful in dynamic conflict scenarios.

Furthermore following steps can be taken :-

- Develop a comprehensive National Space Policy, keeping strategic imperative in mind.
- Armed forces should create a Space Corps of professional skilled in exploiting the myriad capabilities.
- International Collaborations for enhancing capability and technology development.
- Developing ICBM variants which can target enemy satellites.
- Increasing private participation and stimulating research in the field by collaboration with academia.
- Institutionalising a Defence Space Agency to optimise resource utilisation and synergy of efforts.

India should recognise that Space is indeed the next frontier of warfare.