NEXT IAS

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NEXT IAS Roll No.: GSPM23B13025 Date of Examination : 23/08/23

Exam Centre : Old Rajinder Nagar ☑ Bhopal ☐ Online ☐

Test Code : TC057

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MAIN TEST SERIES 2023
(TEST-11)

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.....

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

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Evaluator's response

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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				
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1. उपभोक्ता मूल्य सूचकांक (CPI) एवं थोक मूल्य सूचकांक (WPI) के बीच अंतर स्पष्ट कीजिए। क्या आपको लगता है कि WPI की तुलना में CPI मुद्रास्फीति का बेहतर माप है? सिद्ध कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Differentiate between Consumer Price Index (CPI) and Wholesale Price Index (WPI). Do you think that CPI is a better measure of inflation as compared to WPI? Substantiate.

(Answer in 150 words) 10 Marks.

CPI and WPI are measures used to measure inflation in the economy.

CPI measure inflation by taking into consideration retail prices of commodities and services.

WPI measure inflation by taking basket of commodities in wholesale rate. It does not include services.

CPI can be a better measure of inflation because

→ It includes services in calculation

→ It is directly related to consumers who face the brunt of inflation.

Candidates must not write on this margin

However, WPI is not worse because

→ It tells the information about manufacturing sector and the level of industry including wages and cost of input etc.

Recent controversy between CPI and WPI occurred due to their divergence.

However, with the global shocks and disruption of supply chain, it can be seen that although their values diverge, that was due to inclusion of services in CPI. But the direction of increase and decrease was same.

Thus both CPI and WPI plays important role in giving a whole picture of different sector of the economy.

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2. रोजगारविहीन संवृद्धि भारत के विकास पथ का एक अंतर्निहित लक्षण है। भारत में उच्च बेरोजगारी दर के पीछे प्रमुख कारण क्या हैं? भारत में समग्र रोजगार वृद्धि दर में सुधार हेतु उपचारात्मक उपाय सुझाइए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Jobless growth is an inherent feature of India's growth trajectory. What are the major reasons behind the high unemployment rate in India? Suggest remedial measures to improve the overall employment growth rate in India.

(Answer in 150 words) 10 Marks

Jobless growth is the phenomenon where in an economy there is growth i.e. high GDP rate of growth however there also exist high unemployment.

Reason behind high unemployment rate

① Lack of Job opportunities : India's growth trend moved directly from agriculture to service sector. Thus there exist problem of missing middle.

② Job demand mismatch : Educated person do not want to do unskilled job available thus there exist high number of voluntary unemployment.

③ Lack of skills : With the growing service sector, job opportunities demand certain skills which are not available in everyone.

Candidates must not write on this margin

④ Dominant Agrarian Economy : This lead to prevalance of disguised unemployment.

Remedial Measures

① Filling the missing middle : More focus on manufacturing sector which can be a good linkage between various sectors.

② Upskilling workforce : Vocational training and upskilling workforce through various programmes like PM VIKAS.

③ Restructuring education system : Curriculum of education must be synchronised with demand of industry.

④ Ease of Doing Business : to encourage startups in various sectors majorly MSME with easy credit, open market etc.

Thus, there is need for structural ~~change~~ reform in the economy and also to implement the policies effectively to reduce the unemployment rate.

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3. यूरिया को NBS योजना के तहत लाया जाना भारत में उर्वरक सब्सिडी से संबंधित सभी मुद्दों के साथ-साथ कृषि की पर्यावरणीय समस्याओं के लिए रामबाण के रूप में देखा जा रहा है। यूरिया प्रबंधन से संबंधित मुद्दों पर प्रकाश डालते हुए भारत में टिकाऊ रूप से यूरिया के उपयोग में आवश्यक सुधारों हेतु सुझाव दीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Bringing urea under the NBS Scheme is seen as the panacea for all the issues related to fertiliser subsidies in India as well as for the environmental problems of agriculture. Highlighting the issues related to urea management, suggest reforms are required to improve the usage of urea in a sustainable manner in India.

(Answer in 150 words) 10 Marks.

One of the major issue in Agriculture in use of fertilisers in the crop. And a major factor of it is fertiliser subsidy.

Challenges related to Urea Management

→ There is high subsidy in urea while DAP and MOP does not have high subsidy. This lead to unwise and more usage of urea, against the required ratio of 4:2:1 (N:P:K).

→ The heavy use of urea lead to destabilising soil fertility decreasing productivity.

→ It also results in leaching of soil and soil degradation

→ The unused fertiliser drained into the water bodies causing bio accumulation

Candidates must not write on this margin

Some of the Reforms to improve the usage of Urea

(1) Use of Nano Urea to ensure there is less wastage and more judicious use.

(2) Use of Neem coated Urea to reduce overflow of ~~used~~ unused urea and decrease leaching. ~~and~~

(3) Soil Health Card : to determine the quality of soil and determine the requirement.

(4) Change in subsidy ~~formati~~ formulation to ensure balance of all fertilisers i.e. Urea, DAP and MOP.

Therefore to ensure higher productivity of crop and securing farmers income, it is essential to make policies and schemes that addresses the challenges. At the same time environmental conservation must also be taken care of to ensure achievement of SDG goals.

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4. भारत की खाद्य सुरक्षा को न केवल घरेलू कारकों बल्कि वैश्विक कारकों से भी चुनौतियों का सामना करना पड़ता है। टिप्पणी कीजिए। भारत की खाद्य सुरक्षा को सुदृढ़ बनाने वाले कुछ उपायों की चर्चा कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

India's food security faces challenges from not just domestic factors but also global factors. Comment. Discuss some ways to strengthen India's food security. (Answer in 150 words) 10 Marks.

From a backward economy at the time of independence to ensuring food security through Green Revolution, India has overcome various challenges. However with the challenges both in domestic and global side, it is again becoming challenging.

Some of the Domestic factors

→ **Erratic Climate change** : Sudden climate change harms the crops resulting in less harvest. Eg:- Rainfall at time of harvesting wheat.

→ **Lack of Storage** : Lack of proper post harvest storage and cold storage chain leads to inefficient capacity to create inventory.

→ **Open Procurement** on Rice and wheat only makes monotonic cropping pattern.

Candidates must not write on this margin

@ Global factors

- Covid Pandemic → disrupting the supply chain.
- Russia Ukraine war → impacting import of major essentials like wheat and oil as both are major exporting countries.

Ways to strengthen India's food security

→ Self Reliant → India must try to be self reliant under Atma Nirbhar Programme and • ensure high productivity through Various schemes like PM KISAN, PM KUSUM.

→ Easy Credit Availability to farmers and enhanced Primary Agricultural ~~Cooperatives~~ credit societies (PACS) can induce more productivity.

→ Focusing on diverse crops like millets through programmes like Shree Anna and other activities like Blue Revolution (PM Matsya Sampada Yojana) and Yellow Revolution (Oil seeds).

→ Insurance and Banking facilities to farmers through Schemes like PM Fasal Bima Yojana and JAM Trinity.

Thus, proper linkage of production process along with security of farmers is required to ensure food security.

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5. हाल ही में भारत नासा के नेतृत्व वाले आर्टेमिस समझौते पर हस्ताक्षर करने वाला 27वाँ देश बन गया है। भारत में अंतरिक्ष अन्वेषण कार्यक्रमों के संदर्भ में इस समझौते के निहितार्थों का आलोचनात्मक विश्लेषण कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Recently, India became the 27th signatory to the Artemis Accord led by NASA. Critically analyse its implications for the space exploration programmes in India. (Answer in 150 words) 10 Marks.

Artmeis Accord of NASA is a programme aiming to build a space station in Moon and also explore further ~~sss~~ outer space.

Implication of India joining Artemis Accord

→ Upgrading India's ~~st~~ status in Space Sector.

→ Possibilities to exchange knowledge and transfer of technologies

Eg:- technological advancement of Japan which is also a member.

→ All other members of QUAD and I2U2 are members, thus strengthening geopolitical relation

→ Help in funding ~~and~~ as Space station Mission is huge project and Budget of India in Space Sector is low. Thus, it can help learn from the group.

Candidates must not write on this margin

Challenges

→ Sharing of all benefits of any project among member countries.

USA is not a member of Moon Treaty. Thus, the findings of Chandrayaan 3 will be shared.

→ Hegemony of USA can hamper the coordination and sharing of technologies.

→ There is rising number of member countries in the Accord diminishing contribution and importance of other countries.

However, with the advancement in space sector, India needs support from country like USA which has technologies and funding. It can help in building experience for India to implement such mission at cheaper cost.

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6. मिट्टी में कार्बनिक पदार्थ का अपघटन कार्बन चक्र में किस प्रकार योगदान देता है, और इस प्रक्रिया को प्रभावित करने वाले प्रमुख कारक क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

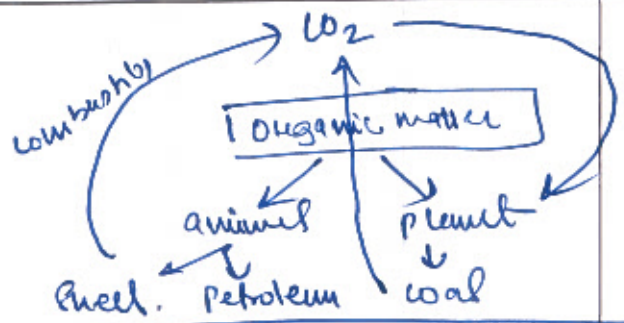
How does the decomposition of organic matter in the soil contribute to the carbon cycle, and what are the key factors that influence this process? (Answer in 150 words) 10 Marks.

Carbon cycle is one of the nutrient cycle that plays a major role in maintaining stable ecosystem.

Decomposition of organic matter in soil contribute in carbon cycle in following way

- ✓ Organic matter can be plant or Animals.
- ✓ Organic plants decomposes and form coal.
- ✓ Organic animals decomposes to form natural gas, petroleum and shell gases.
- ✓ When used as resource for energy production, they are combusted to release CO_2 in the atmosphere.
- ✓ Now the CO_2 are again used by plants for photosynthesis.

Candidates must not write on this margin



Key factors influencing the process are:

(1) Temperature → High temperature increases decomposition rate.

(2) Moisture → It also increases decomposition rate.

(3) Bacteria and Microorganism in the soil

(4) Types of soil

(5) Amount of vegetation in the area

Thus all natural phenomenon and climatic activities along with anthropogenic factors play a role in the process.

Candidates must not write on this margin

7. जलवायु परिवर्तन पर शमन और अनुकूलन रणनीति न केवल भविष्य के उत्सर्जन को कम करने से संबंधित है, बल्कि इसमें वायुमंडल में पहले से उत्सर्जित कार्बन को सक्रिय रूप से हटाना भी शामिल है। इस संदर्भ में आप कार्बन संकलन, उपयोग और भण्डारण (CCUS) की अवधारणा से क्या समझते हैं? इससे संबंधित अंतर्राष्ट्रीय समुदाय की प्रगति पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Climate change mitigation and adaptation strategy is not only about reducing future emissions but also involves active removal of already released carbon into the atmosphere. In this context what do you understand by the concept of Carbon Capture, Utilisation and Storage (CCUS) and discuss the progress of the international community in this regard. (Answer in 150 words) 10 Marks.

Climate change mitigation and adaptation may reduce carbon emission in the atmosphere. However the effect of climate change will not minimize until there is removal of active carbon present in atmosphere. One of the strategy is Carbon Capture, Utilization and Storage.

Carbon, Capture, Utilisation and Storage refers to not only capturing carbon and storing it, but also utilising the captured carbon.

This was adopted after Carbon capture and Storage as it can lead to ~~extre~~ unpredictable disaster like what happen in US, when captured carbon leaked leading to dead of many cattles.

Candidates must not write on this margin

Progress of International Community

→ Use of Carbon to generate power.

Using carbon by oxidising to produce syn gas and use the produced steam to move turbine.

→ Use in algae fuel : i.e. using the carbon for bioaccumulation and rapid growth of algae which can be further used to produce fuel.

→ In oil and petroleum industry to check the reserves in the ~~earth~~ tube wells.

Thus, many countries are involved in Research and development to further enhance the usage of carbon captured to ensure less carbon emission and sustainable environment.

Candidates must not write on this margin

8. इमारतों की घटिया डिजाइन, भवन संहिताओं और अग्नि सुरक्षा मानदंडों का घोर उल्लंघनय तथा बढ़ती भीड़भाड़ शहरी क्षेत्रों में आग के उभरते खतरे के लिए जिम्मेदार है। विवेचना कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Poor building design, flagrant violations of building codes and fire safety norms and overcrowding of spaces are responsible for the rising risk of fires in urban areas. Discuss.

(Answer in 150 words) 10 Marks.

Fires in urban areas are mainly caused due to negligence and violation of regulations and codes. The recent fire in Mundka, Delhi was such case.

Reasons for fire in Urban Areas

→ Poor infrastructure design → Not following the building code and completing the construction rapidly to reduce cost.

→ Not implementing fire safety like using fire alarm and sprinkler in every floor of building, not keeping emergency exit and poor electrification

→ With rise in population and urban migration, the availability of space is decreasing. Thus various activities tried to be run in small space not following the protocols.

Candidates must not write on this margin

Effects of such disasters

→ Physical Vulnerability → Loss of Asset- and building, infrastructure, fixed capital

→ Societal Vulnerability → Loss of people and endangering those in proximity.

→ Financial Vulnerability → Loss of property and those who work there looses jobs.

→ ~~Environment~~

Thus various stakeholders are effected by such disasters.

Solution to such disaster

Such disasters are preventable with proper preparedness and risk mitigation.

→ Inspection of building by certified architects

→ Regulation regarding construction in over crowded area

→ Safety Protocol and Awareness of mock drills to ensure less damage.

Thus proper Disaster management Plan with a strict procedure of Implementation can reduce such cases.

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9. भारत–म्यांमार तथा भारत–बांग्लादेश सीमाओं पर होने वाले नृजातीय संघर्ष और सीमा–पार प्रवासन भारत की आंतरिक सुरक्षा को प्रभावित करते हैं। टिप्पणी कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Ethnic conflicts and cross-border migration along India-Myanmar and India-Bangladesh borders impact India's internal security. Comment. (Answer in 150 words) 10 Marks.

India has large border with Myanmar and Bangladesh aligning with many states. However ~~the borders~~ there is internal security risk along such border. One such is Ethnic conflict and cross border migration.

ways in which such cases can impact internal security

→ Porous Border → This leads to easy migration of outsiders illegally. This has certain challenges

- → Hampering indigenous communities.
- → Flourishing drug cartel. (Golden triangle
- → supply of illegal arms and ammunition
- → Smuggling and trafficking of humans.

Candidates must not write on this margin

→ Ethnic conflict → This can cause ~~unstable~~ instability and enmity causing mistrust. Border country can take advantage of such situation to hamper the India's internal security.

→ It can also bring radicalised ideas and influence vulnerable sections which can enhance the conflict.

Thus there is need for proper redressal of such issues.

(1) Development of the areas through programmes like Vibrant Village Programme

(2) Use of ~~the~~ technology to strengthen border security CIBMS and drone technology

(3) Changing perception of vulnerable communities to make them feel inclusive

(4) Coordination among border forces.

With the rising intolerance level and crime, concept of proxy war, their is need to strengthen the border through developmental projects and efficient infrastructure.

Candidates must not write on this margin

10. धन–शोधन के मामलों की जाँच करने और अभियोग चलाने में कानून प्रवर्तन एजेंसियों के सामने कौन–कौन सी प्रमुख चुनौतियाँ आती हैं तथा उन चुनौतियों को कैसे दूर किया जा सकता है? (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the main challenges faced by law enforcement agencies in investigating and prosecuting cases of money laundering, and how can they be overcome? (Answer in 150 words) 10 Marks.

Money Laundering refers to ~~counterfeiting~~ making illegal money look legal through various ~~illegal~~ channels and make it look legitimate.

Challenges faced by law enforcement

→ Lack of coperation between centre and State : This lead to ~~litigation~~ lengthy process of investigation.

→ Delay in Prosecution : This is due to various red tapism and corruption among officials.

→ Rise in technology → Various technological advancement makes it hard to monitor the transactions.

→ Jurisdiction over foreign countries

Many money laundering takes place through round tripping and shell companies based in foreign countries.

Candidates must not write on this margin

Steps to overcome them

→ **Statutory framework** : formulation of PMLA Act and amending it to define the crime.

→ **Institutional framework** : Role of Enforcement Directorate must be strengthened and various training and upskilling of workforce.

- Enhancing technological capability of CERT-FIN to tackle & and tail the transactions

→ **Global cooperation** : Strengthening organisation such as FATF and increasing cooperation in various regional forums.

Only through ~~usage~~ cooperation of different stakeholders and upgradation of technology and skills can the issue of money laundering be tackled.

Candidates must not write on this margin

11. निम्न कर उत्प्लावकता प्रायः उच्च घाटे और ऋण में तब्दील हो जाती है। क्या उच्च प्रत्यक्ष कर दर लागू करके भारत में समग्र कर–जीडीपी अनुपात में सुधार किया जा सकता है? भारत की समग्र कर संरचना में सुधार के लिए अन्य कौन–कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Low tax buoyancy often translates into higher deficits and debt. Can a higher direct tax rate improve the overall tax-to-GDP ratio in India? What other steps can be undertaken to revamp the overall tax structure in India? (Answer in 250 words) 15 Marks.

Low tax buoyancy refers to less tax revenue rate in comparision to growth of economy. This can lead to higher deficit and debt with vulnerability of Government to borrow more.

A higher direct tax may improve overall tax to GDP ratio through

→ Imposition of high income tax

→ Imposition of high corporate tax etc.

However this can lead to instances of underreporting, lack of transparency, emergence of shell companies and reluctance to expand business

Candidates must not write on this margin

This all can hamper the growth of economy.

Thus, instead of higher direct tax, more focus must be on structural Reforms.

Some of the structural Reforms are:

→ Simplifying tax structure and tax slabs: This will ensure ease of tax filing and will lead to less under reporting.

→ Regulating tax rate to optimal rate which can induce firms to expand and thus produce more revenue which can benefit the government.

→ Decriminalising various offences under Companies Act: This will induce more business and activities to flourish and build confidence.

→ Incentives to startup through tax holidays for certain time so that they can enter the market.

Candidates must not write on this margin

→ Reforms like GST will reduces multiple taxes and slabs reducing cascading tax structure.

→ Reforming and reducing inverted tax duty to increase export of finished goods.

→ More incentives like input tax credit to ensure proper and regular tax filing.

Thus, steps like restructuring tax slabs like in recent budget and encouraging MSME industries to ease of business can help in revamping overall tax structure.

Candidates must not write on this margin

12. स्टार्टअप तेजी से बदलती आधुनिक अर्थव्यवस्था के प्रेरक इंजन हैं। भारतीय स्टार्टअप अपनी क्षमता का उपयोग करने में क्यों विफल रहे हैं? भारत में स्टार्टअप्स की लाभप्रदता और प्रदर्शन में सुधार हेतु कौन–कौन से कदम उठाए जा सकते हैं?
(250 शब्दों में उत्तर दीजिए) 15 अंक

Startups are the driving engines of the fast-changing modern economy. Why have Indian startups failed to realise their potential? What steps can be undertaken to improve the profitability and performance of startups in India?
(Answer in 250 words) 15 Marks.

The number of recognised startup in India increases to over 14000 in 2021-22 compared to 733 in 2016-17. They are driving engines to boost ~~country's~~ economy's growth. However ~~but~~ various startup's failed to realise their potential.

Reason for failure in realising potential.

→ Lack of investment : Many startup fails due to lack of investment to further the process.

→ Various steps to involved to approved the establishment : Many complex steps to verify a new startup discourages the youths to undertake it.

→ Lack of aims to credit : Difficulty in approaching banks for loans.

→ Market competition : Difficulty in competing with already existing huge market.

Candidates must not write on this margin

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→ Lack of proper skill set and entrepreneurial mindset. : ~~Lack~~ Lack in knowledge of implementing and setting up businesses plays a major hindrance.

Steps that can be taken are:

① **Ease of Credit Availability** : This will ensure credit are easily available to the startup. Eg:- loans at subsidized interest rate like PM SVANIDHI

② **Ease of doing Business** : Allowing the firms to grow with easy access to inputs, market and Govt can encourage them. Eg:- PM GATI SHAKTI, BHARATMALA.

③ **Logistics cost** : One of the high cost sectors. Reducing logistic cost through various schemes like National Logistics Policy and building infrastructure and cold storage chain.

Candidates must not write on this margin

④ **Manufacturing Sector** → It acts as a linkage to various sectors with many startups. Making new definitions of MSME and expanding its scope can help in enhancing its performance. Projects like PM MITRA and Multimodal Park can encourage the productivity.

⑤ **FDI** : Encouraging foreign investors to invest in new startups can boost the potential and transform the industry.
Eg:- Allowing 100% FDI through automatic route in Semiconductor sector.

⑥ **Upskilling workforce** → Upskilling workforce and enhancing their abilities. Eg:- PM VIKAS.

Thus, ensuring ease of doing business, building an atmosphere of inclusivity and simplifying complex procedure can help in improving the performance and profitability.

Candidates must not write on this margin

13. भारत के आयात बिल में खाद्य तेलों का आयात एक बड़ा हिस्सा है। इस संदर्भ में हाल ही में शुरू किए गए खाद्य तेल एवं तेल पाम पर राष्ट्रीय मिशन (NMEO-OP) के महत्त्व का मूल्यांकन कीजिए। भारत में बढ़ते पाम तेल उत्पादन से संबंधित पर्यावरणीय चिंताएँ क्या हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Import of edible oils forms a major part of India's import bill. In this context, evaluate the importance of the recently launched National Mission on Edible Oils and Oil Palm (NMEO-OP). What are the environmental concerns related to increasing palm oil production in India?
(Answer in 250 words) 15 Marks.

India started Yellow Revolution to become self sufficient in edible oil. However there was wide import demand even after that. This results in major ~~import~~ rise in import bill.

Importance of recently launched NMEO-OP

→ This plan aims at planting palm oil and incentivising farmers who plant with ₹20,000 per annum for cost of planting.

→ This step was taken to reduce oil import and ensure self reliance under Atma Nirbhar Program.

→ This will also help in diverting the bills used for oil imports in development projects.

→ It can even increase export of edible oil from India.

Candidates must not write on this margin

However, there are certain environmental challenge with the initiative.

→ Palm oil production leads to huge production of carbon which hampers the effort of mitigating climate change

→ Palm Oil production is very sensitive to soil type. Indian soil are not suitable for large plantation. This can degrade soil quality and quantity.

→ Huge use of irrigation can lead to the problem of water crisis in the area of which are drought prone

→ Use of heavy pesticides, insecticides and fertilizers can lead to bio magnification and leaching.

Therefore proper care must be taken to ensure such challenges are prevented

Candidates must not write on this margin

Some of mitigation strategy can be ~~use~~ :

→ Increasing mitigation strategy of Carbon Capture & Utilisation Storage.

→ Awareness of use of fertilisers through Soil Health Card.

→ Mapping of suitable zones for plantation

→ Research and Development to reduce risk and increase productivity.

~~Q. 8~~

Therefore, there is need for the project as palm oil is major share of oil import however mitigation strategy of environmental impact must be kept in mind.

Candidates must not write on this margin

14. एक सुदृढ़ पशुधन अर्थव्यवस्था कृषकों की आय के एक समानांतर स्रोत के रूप में कार्य कर सकती है। भारत के कृषि क्षेत्र में पशुधन अर्थव्यवस्था की भूमिका पर प्रकाश डालते हुए इसके समक्ष आने वाली चुनौतियों पर चर्चा कीजिए। ऐसे उपाय सुझाइए जो किसानों के समग्र कल्याण में योगदान देने के लिए पशुधन क्षेत्र को सशक्त कर सकें।
(250 शब्दों में उत्तर दीजिए) 15 अंक

A robust livestock economy can act as a parallel source of farmers' income. Highlighting the role of the livestock economy in the agriculture sector in India discuss the challenges faced by the livestock sector in India. Suggest interventions that can strengthen the livestock sector to contribute to the overall well-being of the farmers.
(Answer in 250 words) 15 Marks.

Livestock economy in agriculture consist of allied sectors such as cattle farming, bee keeping, poultry and fishing sector. This can act as a parallel source of farmer's income.

Role of livestock economy

(1) Doubling farmer's income : Security from vulnerability from crop failure and enhancing income.

(2) **Absence of seasonal Unemployment**

Farmers can dedicate themselves in the off season period to ensure continuity of work.

(3) **Diversification of cropping pattern** →

This will allow farmer to diversify their cropping pattern due to security and confidence because of reducing shocks.

Candidates must not write on this margin

Challenges in Livestock Economy

① Vulnerable to diff. unknown diseases

→ They are ~~was~~ vulnerable to diseases like Lumpy Skin Disease

~~They need~~

② More effort required → More labor hour required to ensure proper quality and productivity.

③ Huge Maintenance Cost → Their maintaining cost is high with lots of ~~the~~ capital invested on shelter and feeds.

④ Sudden death → can incur loss ~~loss~~ as they take time to grow.

⑤ Health Problem → Sick livestock has low productivity and are useless. Thus they incur ~~to to~~ huge loss.

↳ Eg:- Prevalance of Bird flu

→ Required to dump chickens in the ground.

Candidates must not write on this margin

Interventions to strengthen livestock sector

→ Proper establishment of Animal Husbandry and veterinary clinics to assure proper medical treatments.

→ Subsidies in livestock feeds and incentives like monetary benefits for adoption.

→ Various schemes to boost the sector by supplementing inputs and infrastructure.

Some of steps taken by government

→ PM Matsya Sampada Yojana and Neel Kranti (fishing).

→ Golden Revolution (Bee keeping)

→ Silver Revolution (Poultry)

→ Pink Revolution (Cattle).

Thus government intervention is required to nudge the farmers and incentivise them for their welfare with proper protection from loss.

Candidates must not write on this margin

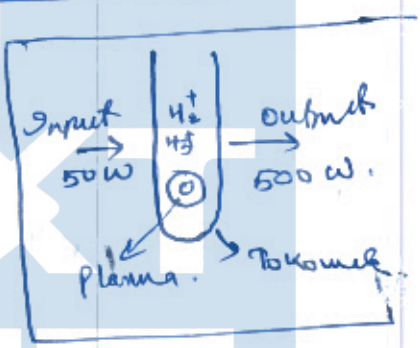
15. परमाणु संलयन को भविष्य का ऊर्जा स्रोत माना गया है, जिसमें स्वच्छ, सुरक्षित और वस्तुतः असीमित ऊर्जा प्रदान करने की क्षमता है। परमाणु संलयन के पीछे के वैज्ञानिक सिद्धांतों और व्यावहारिक अनुप्रयोगों के लिए इस तकनीक के उपयोग में आने वाली चुनौतियों और अवसरों पर चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Nuclear fusion has been hailed as the energy source of the future, with the potential to provide clean, safe, and virtually limitless energy. Discuss the scientific principles behind nuclear fusion and the challenges and opportunities in harnessing this technology for practical applications.
(Answer in 250 words) 15 Marks.

Nuclear fusion also known as thermonuclear reaction occurs at a very high temperature when hydrogen atoms combines to form helium.

Scientific principle behind nuclear fusion

→ ~~Deuterium~~ Isotope of Hydrogen i.e. Deutrium and Tritium is put in a Tokomak which is a magnetic cylinder.



→ Under a Tokomak, Hydrogen gas will be heated with charged particle to form a donut-shaped plasma which will produce more energy as output than the input.

Candidates must not write on this margin

~~The objective is~~

~~OPAQ~~ Recent contribution of various countries are:

ADITYA (India), K-Star (S. Korea),

JET (EU). LIFE (USA)

In LIFE, beam lasers is used to heat at a point to induce heat ~~optical~~ to transform hydrogen ~~atoms~~ ions to plasma.

Challenges

→ For it to be useful, it needs to maintain temperature that is 10 times of sun.

→ The technology is very expensive and it is not a viable for commercial use till now.

→ Success rate is very low to produce commercial energy.

Candidates must not write on this margin

Opportunities

→ It does not require Uranium. Thus no provisions of uranium enrichment or imports.

→ It will produce more output energy than input used.

→ It will help in phasing down of fossil fuel

However, further successful implementation depends on more research and development and stabilising of required temperature.

Candidates must not write on this margin

16. भारत में आईपीआर के प्रशासन में कौन–कौन सी कठिनाइयाँ रही हैं? भारत में नवाचार आधारित अर्थव्यवस्था को प्रोत्साहित करने के लिए आईपीआर के प्रशासन में सुधारात्मक उपाय सुझाइए। (250 शब्दों में उत्तर दीजिए) 15 अंक

What have been the difficulties in the administration of IPRs in India? Suggest measures to improve the administration of IPRs in order to encourage an innovation-led economy in India.
(Answer in 250 words) 15 Marks.

IPRs refers to protection of idea and new innovation made by someone, & in order to encourage them.

However, there have been difficulties in administration of IPRs in India. such as:

a) Patent Piracy : Using illegal methods to gain patent. Eg:- US company trying to patent Basmati Rice, medicinal use of tumeric etc.

b) Evergreening of Patent : When patent of a particular product is about to end, prolonging it by invention of subsidiary item through change of base or salts.

c) Lack of Proper Record keeping leading to lack of monitoring misuse and duplication.

d) Exploitation of communities by patenting traditional knowledge.

Candidates must not write on this margin

Measures to improve the administration

→ Formation of statutory regulations to protect the biodiversity.

Eg:- Biodiversity Act 2002.

→ Formation of administrative body at various levels

Eg:- Data base authority at national level, State level and local level.

→ Digitisation of local traditions to ensure easy monitoring and regulation.

Eg:- TKDL : Traditional knowledge Digital Library.

→ Access Benefit-sharing : Rules of Access Benefit-sharing with the local communities.

Eg:- Divya Pharmacy case.

Candidates must not write on this margin

Thus, proper implementation of rules and regulation, effective monitoring of process and ~~proc~~ procedure and proper grievance redressal mechanism is necessary.

Candidates must not write on this margin

17. वन्यजीव संरक्षण अधिनियम में हालिया संशोधन जंगली जानवरों और पौधों के अवैध व्यापार को रोकने के लिए एक रूपरेखा प्रदान करते हैं ताकि यह सुनिश्चित किया जा सके कि उनके अस्तित्व को खतरा न हो। इस संबंध में भारत में अवैध वन्यजीव व्यापार के निहितार्थों का उल्लेख कीजिए तथा इस मुद्दे को हल करने के लिए हाल के संशोधनों की प्रभावशीलता का विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

The recent amendments in the Wildlife Protection Act prpvide a framework to prevent illegal trade in wild animals and plants to ensure that their survival is not threatened. In this regard, mention the implications of illegal wildlife trade in India and analyse the effectiveness of the recent amendments to address the issue. (Answer in 250 words) 15 Marks.

Wildlife Protection (Amendment) Act provides Regulatory framework to enhance the illegal trade of wild life and plants by expanding the scope and empowering central government to regulate the activities.

Implication of illegal wildlife trade

→ **Endangering Bio diversity** : Illegal trade of wild life threaned the species and can lead to extinction.

Eg :- **Dodo**

→ **Disruption of Food web** → Nature as maintained a very subtle balance with various trophic levels in food chain. Disruption of one trophic level can hamper entire ecosystem.

Candidates must not write on this margin

→ ⑧ **Ecological Service** → They maintain ecological balance through regulation of nutrient cycles ~~and~~ like carbon cycle, nitrogen cycle etc. Happening it will induce catastrophic events.

→ Illegal trade also gives rise to illegal activities like organised crime, money laundering endangering internal security

Effectiveness of recent amendment

→ It gives more power to central government to regulate and monitor such activities

→ This can lead to more availability of resources and man power to tackle the threat

→ However ⑧ both ~~from~~ regulation is best tackled at grassroot level with local authorities in power. This it ~~may~~ can reduce efficiency.

Candidates must not write on this margin

2) It increases the severity of penalty from ₹25,000 to ₹1 lakh. ~~However~~ for general violations.

However certain limitations are there like:

→ lack of proper definition and clarity.

Eg:- Phrase of 'any other purpose'.

→ lack of inclusivity of botanist, zoologist and other experts etc.

~~However~~ However, it is a good step in moving towards tackling the illegal trade evolving with the time. But there needs to be consultation at all levels to ensure effective implementation.

Candidates must not write on this margin

18. उन कारकों का विश्लेषण कीजिए जो शहरी क्षेत्रों में बाढ़ की घटनाओं एवं विनाशकारिता को बढ़ाने में योगदान देते हैं तथा उन उपायों का भी विश्लेषण कीजिए जो जोखिम को कम करने और आबादी की सहनशीलता बढ़ाने के लिए अपनाए जा सकते हैं। (250 शब्दों में उत्तर दीजिए) 15 अंक

Analyse the factors that contribute to the increased incidence and severity of floods in urban areas and the measures that can be taken to reduce the risk and enhance the resilience of the population. (Answer in 250 words) 15 Marks.

The recent flood in Delhi, Bengaluru, Gujarat, Mumbai etc makes it necessary for government and people to inspect the reasons for such disaster in urban areas.

Some of the factor that contribute to the increased incidence and severity of floods in Urban Area:

→ Encroachment of wetlands → which acts as a sponge for absorbing excess water

→ ~~Encroachment~~ Settlement in floodplains leading to flood when river level rises.

→ Lack of drainage and proper sewerage in urban areas i.e. lack of proper urban planning.

→ Deforestation making settlement by cutting trees leading to loose soil reducing absorption capacity

Candidates must not write on this margin

Measures to reduce the risk and enhance the resilience

1. Protection of wetlands as they act as a buffer to sudden rise in water level
2. ~~Removing~~ Regulating settlements in floodplains
3. Proper Urban Planning with proper drainage and ~~flow~~ sewerage.
4. Afforestation to tackle climate change and erratic monsoon
5. Awareness among people to ensure such areas are conserved and protected and to not settle in flood plains.
6. Resilient infrastructure to mitigate risk during disaster such as relief camp and proper availability of essential facilities.

Candidates must not write on this margin

Thus, cooperation from all stakeholders is needed to ensure disaster risk is properly mitigated and if not reduced to minimise loss of life and property.

NEXT IAS

Candidates must not write on this margin

19. क्या आपको लगता है कि भारत में आसूचना विभाग तथा विधि प्रवर्तन एजेंसियों के पास संगठित अपराध और आतंकवाद के गठजोड़ से प्रभावी ढंग से निपटने के लिए आवश्यक संसाधन और क्षमताएँ हैं?

(250 शब्दों में उत्तर दीजिए) 15 अंक

Do you think that intelligence and law enforcement agencies in India have the necessary resources and capabilities to effectively tackle the link between organised crime and terrorism?

(Answer in 250 words) 15 Marks.

The link between organised crime and terrorism is growing with advancement in technologies and increase in radicalisation.

Link between Organised Crime and Terrorism

→ financing money for terrorist activities

→ Smuggling of drugs ~~and~~ to be bought by organised criminals.

→ supply chain of arms and ammunition.

Capabilities and Resource of intelligence and law enforcement agencies

→ Proper implementation of cyber security to control cyber threat.

Eg:- formation of CERT-IN.

Awareness Program like Cyber Surakshit Bharat.

Candidates must not write on this margin

→ Formation of special forces like NSG to be take control in case of terrorism.

→ Upgrading police force to tackle Organised crime

→ Awareness programs ~~that~~ to ensure there is no alone ground agent helping the organisations.

→ Development of Infrastructure in Vulnerable zones like Border Areas.

→ Formation of military theatre command to increase Coperation and ease of communication

→ Use of drone technologies and Scientific Border Security system like CIBMS.

However despite of such measures and capabilities there is need to build a resilient ecosystem to fight against such issues.

Candidates must not write on this margin

Some of the ways are:

(1) Resiliance to Brain washing of youth through proper education system, development reaching last mile and promoting inclusive growth.

(2) Support of public: Cooperation with public for information of such activities. and help monitor efficiently.

(3) ~~Effective action~~

(3) Stable economy with less conflict and violence so that such organisation cannot take advantage.

Thus role of intelligence and law enforcement agencies are important however, coordination among all can ensure effective curtailing of such activities.

Candidates must not write on this margin

20. भारत को उभरती आंतरिक एवं बाह्य संचार से संबंधित सुरक्षा चुनौतियों से निपटने और साइबर पारिस्थितिकी तंत्र को अधिक सुरक्षित और संरक्षित बनाने के लिए सूचना प्रौद्योगिकी अधिनियम, 2000 को अद्यतन करने की आवश्यकता है। विवेचना कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

India needs to update its Information Technology Act, of 2000 to deal with emerging internal and external communication security and to make the cyber ecosystem more safe and secure. Discuss. (Answer in 250 words) 15 Marks.

Cyber security Threat is one of the rising internal security issue around the world. This can be seen with recent hacking of AIIMS data base.

Some of such instances are:

- ✓ Attack on Power supply in Maharashtra
- ✓ Attack on Critical Pipeline in USA etc.

Information Technology Act 2000 deals with Regulations and protocols for cyber security. However in this two decades after the establishment of act there are further developments like:

→ Development of AI : Generative AI like Chat GPT, Lambda.

→ Digital currencies like cryptocurrency

→ IOT → Internet of Things ensure smart connect of various devices including home and smart watches.

Candidates must not write on this margin

→ Expansion of Internet with easy access increases instances of cyber terrorism

Some of the updates required are:

→ New regulation for money laundering with rise in various application of technology

→ Regulations regarding crypto assets or digital assets.

→ New definition of various cyber threats like cyber crime, cyber terrorism, cyber espionage etc.

→ Also IT Act 2000 need to cover broader areas which falls under cyber ecosystem to ensure complete protection including drone technology.

Some of initiative that can be adopted are:

→ Iron Dome of Israel is very effective. India can use its international relation for cooperation.

Candidates must not write on this margin

→ US, ~~EU~~ Japan are leading in technologies. Thus, cooperation with them can enhance our security system.

→ Global Alliance like SCO RATS and adoption of Delhi Declaration can help enhance the security and cooperation.

Thus, the IT Act 2000 needs updation with keeping in mind the global norms and ~~reg~~ regulations, ~~adoptions~~ adopting ~~effection~~ effective policies from around the world.

Candidates must not write on this margin

Space for Rough Work

NEXT IAS