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NEXT IAS

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(To be filled by candidate)

Name of Candidate : ARUSHI BABBAR

NEXT IAS Roll No.: MT23AVEN011 Date of Examination : 30/08/2023

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

Test Code : TC118 Time Taken : 3 hrs

MAIN TEST SERIES 2023
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.....

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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			
			Grand Total	

Signature

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NEXT IAS
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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.

Consumer Price Index (CPI) and Wholesale Price Index (WPI) are measures of inflation in the consumer and wholesale sectors, respectively.

Differences

1. CPI is released by Ministry of Statistics and Program Implementation whereas WPI is released by the Office of Economic Advisor.

2. CPI measures inflation from 8 categories of goods and services whereas WPI only looks at manufactured goods, wholesale products and does not take into services

3. RBI uses measures of CPI to target national inflation rates

4. Government determines wages of MGNREGA and MSP rates based

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on CPI.

CPI as a better measurement

1. It does not include headline inflation as food and fuel has much lower weightage than WPI.

2. It is a better measurement when analyzing downstream processes of the economy.

However, depending on the context of utilization, WPI can also serve as a better measurement.
↳ eg → in understanding supply side shocks.

Overall, a one size fits all approach cannot be followed.
NITI Aayog has recommended further subcategorizing CPI into various branches. The better measure of inflation is variable upon the type of inflation being measured.

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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

Indian economy, despite being among the fastest growing economies, has an unemployment rate of an all time high of 8.2%. Thus, reflecting the jobless growth phenomenon.

Reasons behind high unemployment

1. Lack of skilling
   - ↳ only 2% of our workforce is formally skilled
   - ↳ compared to 96% in South Korea and 80% in Japan

2. Growth in population is surpassing creation of jobs
   - ↳ India to have a population of 1.5 billion by 2030

3. Poor literacy rate and persisting digital divide

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↳ 73% literacy in India

4. Disguised unemployment is maximum in India as families are working on farms
   ↳ 43% force in agriculture but contributes only 20% to GDP

Measures

1. Pradhan Mantri Kaushal Vikas Yojana and Skill: India 2.0
2. Skills database
   ↳ mapping skillset with jobs available — initiative of India at ILO
3. NEP 2020 to improve education outcomes
4. Integration of technology to create jobs and understand issues
   ↳ eg → use of big data to map MGNREGA demand and correlation with unemployment
5. Ensure inclusive growth —
   ↳ alleviate poverty (SDG 1)
   ↳ address inequalities (SDG 5 and 10)

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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.

The use of fertilizers in India has caused the ideal ratio of 4:2:1 of Nitrogen, Phosporous and Potassium (NPK) to change to 8:3:1.

Urea under the NBS scheme will not only solve the problem of excess urea, but also ensure the condition of soil is not worsened.

Issues in urea management

1. excess usage of urea
2. soil runoff is facilitated
3. increases input costs for farmers
4. increases concentration of NPK to beyond safety levels — which leads to phyto sanitary concerns at WTO

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Reforms

1. Neem coated urea — will ensure that funds for urea subsidy are not diverted.
2. One Nation One Fertilizer Scheme → Bharat brand will cover 2/3 of the page to ensure uniformity.
3. ~~Use~~ NITI Aayog recommendation of linking Soil Health Card Scheme with Kisan Credit Card
4. Integration of technology to aid farmers in application of adequate quantities of urea
   → through apps like Uke Krishi Samvaad

The above measures can be followed along with recommendations of the Dalwai Panel committe to ensure usage of area is done in a sustainable manner.

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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.

Recent ban on exports of onions and rice have brought India's food security challenges to the forefront.

Domestic and global factors

1. Distorted crop production because excess crops on MSP coverage are grown
   - ↳ 86% of agriculture in Punjab — rice and wheat
2. Lack of cold storage facilities
   - ↳ FCI only has storage facilities for 50% of the crops it procures
3. Fragmented growing of crops
   - ↳ 86% farmers are small and medium farmers
4. 52% of agriculture is dependent on rain → adds to variabilities in supply

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5. Supply chain distortions in global market due to shocks like COVID-19
   ↳ eg- Russia's unilateral withdrawal from the Black Sea grain initiative.

6. High tariffs and phytosanitary disputes at WTO lead to minimizing support given by government to farmers.

Ways to strengthen food security

1. Intercropping- like banana and coffee intercropping in Longo.

2. Meghdoot app to assist farmers in weather variability.

3. Increase storage facilities by involving Farmer Producer Organizations (FPOs)
   ↳ along the vision of Sahakar se Samridhi

4. e-NAM and APMCs must be implemented properly.

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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.

India's signatory to the Artemis Accord can revolutionize the exploration of moon and outer space.

Implications for space exploration in India:

1. Collaboration with global agencies can transform the "space war" to an area of synergy
2. Transfer of technology can aid India in transforming its own space mission
3. Augmenting capacities and existing infrastructure
4. Information sharing
   ↳ eg- via the James Webb Space Telescope

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However, there can be certain challenges too:

1. Kessler syndrome → excessive satellites in space is leading to accumulation of space junk.
2. High costs of space missions by NASA
3. Restrictions for the opening up of private sector in India.

The way forward is to move in accordance with the UN Treaties on Outer Space and ensure sustainable exploration of space which yields positive results for humanity.

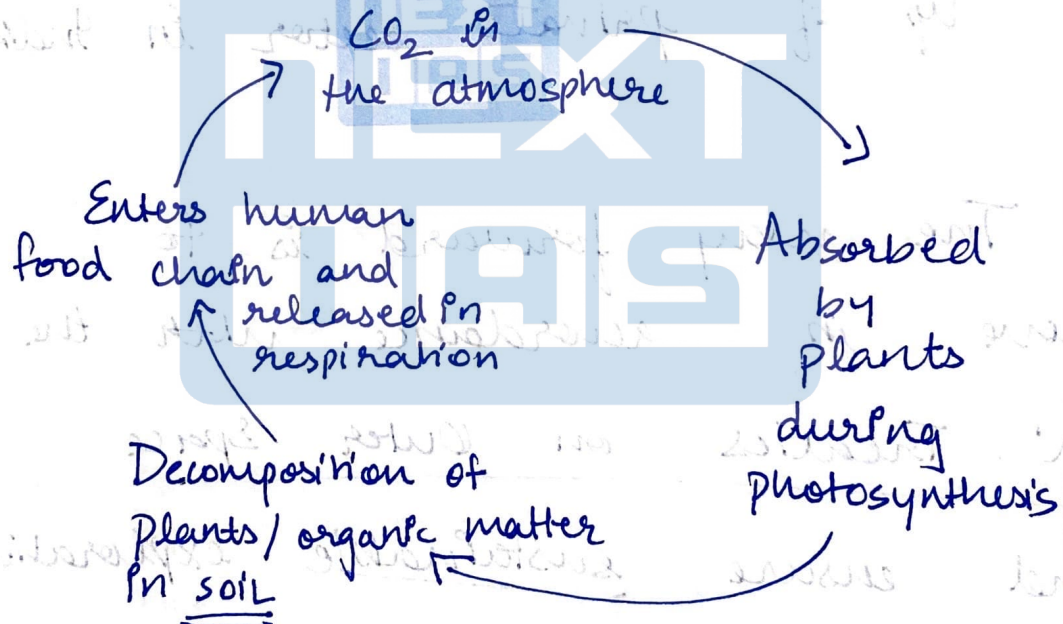
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6. मिट्टी में कार्बनिक पदार्थ का अपघटन कार्बन चक्र में किस प्रकार योगदान देता है, और इस प्रक्रिया को प्रभावित करने वाले प्रमुख कारक क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

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 refers to the path of carbon formation and decomposition on Earth.

Role of decomposition of organic matter:



Key factors that influence decomposition of organic matter:

1. Quality of soil
2. Presence of detrivores and decomposers like earthworms

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3. Type of biome where the decomposition is taking place.
4. Amount of time for decomposition.
5. Biodiversity of the region.

Each element of the carbon cycle and other geochemical cycles are essential for the habitation of living organisms on Earth.

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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 strategy has the following components:

- Mitigating the amount of carbon emissions in the atmosphere
- Adapting to the change in climate through measures like Disaster Resilient Infrastructure
- Active removal of released carbon emissions through Carbon capture, utilization and storage (CCUS).

CCUS

- Process of capturing carbon from the atmosphere
- This is done by capturing CO_2 from the air

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- 3 possibilities of filtering the CO_2 from air
  - before capture
  - filter while capture
  - Segregation after capture

(depending on placement of electrostatic filter)

- The carbon is then stored underground or can be used in applications like creating dry ice, carbonated drinks, etc.
- CCUS can also be an effective method of storing green hydrogen

Progress of international community

1. India's National Green Hydrogen Mission
2. UN COP 27 — Loss and Damage Fund — Santiago Network
3. CCUS technology transfer by developed countries

CCUS is a step in the right direction towards achieving SDG 13 climate action

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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.

Incidents of fires in urban areas have become increasingly common as was seen in the fire in Delhi's Mukherjee nagar area.

Causes of higher risks of fire in urban areas:

1. Poor building designs → not sufficient ventilation, NDMA guidelines not adhered to, and lack of proper exit facilities

2. Violations of building codes → buildings are constructed in illegal areas, encroachments, multi storey buildings without adequate authorization.

3. Overcrowding of spaces
   ↳ 600 million people to live in Indian cities by 2030

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4. Lack of implementation of fire safety norms like:
   - ↳ fire extinguisher not present in buildings.
   - ↳ materials are not fire proof.

5. Low awareness on adaptation of hazards

Way Forward

1. Mitigating risk by following NDMA — National Disaster Management Authority guidelines

2. Prevention of fires —
   - ↳ adequate ventilation
   - ↳ prevent overcrowding
   - ↳ follow building code.

3. Preparedness in case of fire
   - ↳ proper exit mechanism

4. Rescue operations must be immediate in case of hazard
   - ↳ treatment in golden hour.

5. Resilient infrastructure.

The above measures can be followed to reduce the risk of fires.

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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.

90% of the borders of the North East are porous. This is coupled with the presence of over 200 tribes in only 8% of the country's geographical area with varying demands. This causes issue of ethnic conflicts and cross border migration.

Impact on India's Internal security

1. Role of non state actors like China to create disturbances and conflicts through Myanmar
   ↳ China calls Myanmar as "blood brother"

2. Threat to military and rise in insurgent activities like Left wing Extremism

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3. Threat to political security as cross border migrants create fake voter ID cards

4. Geopolitical security threats as India's North East is further secluded from the mainland
   ↳ thin Siliguri corridor.

5. Food security challenges as cross border smuggling to Bangladesh of cattle is prevalent.

6. Ethnic conflicts like the Kuki° Meith° Conflict ~~is~~ creates a volatile security situation.

Way Forward

1. One border, one guarding force.
   ↳ Border security Force → along Bangladesh
   ↳ Assam rifles along Myanmar.

2. Prevent cross border migration by training army with technological assets [Recommended by Parliamentary Committee on security]

3. follow SAMADHAN approach of GoI

Candidate write on this

Name: IAS ID: M123AVEN011, TC118, 30-08-2023 1:59 PM

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 has cost the world upto 2 trillion dollars

Challenges faced by law enforcement agencies

1. Anonymity leads to issues of investigation.
2. Complex nature of money laundering
   - ↳ Placement
   - ↳ layering
   - ↳ integration
3. Money laundering is a borderless crime
   - ↳ tax havens like Cayman islands
4. Use of cryptocurrency for money laundering has increased by 30% since 2021
   - ↳ unregulated by central banks
   - ↳ provides anonymity
5. Difficult to establish evidence in cases of money laundering.

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Overcome challenges:

1. Recent amendments to the Prevention of Money Laundering Act (PMLA)
   - ↳ Section 24 → retrospective application
   - ↳ widens the ambit to include those committing the crime unknowingly
   - ↳ reverse burden of proof
   - ↳ twin conditions for bail
2. FATF guidelines on money laundering must be followed.
3. Wolfsberg principles
4. Delhi Declaration
5. Empowering agencies like the Enforcement Directorate
   - ↳ eg → ECIR is not mandatory
   - ↳ statements made to ED can be used in court.

Money laundering gives oxygen to organized crime and the above steps must be implemented to prevent this.

Candidate write on this

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 a lower increase in tax revenue collected, despite higher growth rate.

This translates to higher deficits and widening of government debt as the total revenues of the government fall along with increasing expenditures

Higher direct tax rate can address the issue of low tax to GDP ratio as it would ensure that the tax buoyancy remains high.

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However, progressive taxation must be ensured so that the already existing inequality does not worsen — as India presently has a Gini coefficient of 0.7.

Steps to revamp tax structure in India.

1. Proper implementation of GST with uniform rates to prevent any leakages
2. Higher tax slabs for the top 1% who own 40% of the country's wealth.
3. Automate tax collection using technological platforms like 'Honouring the Honest'

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4. Faceless taxation scheme

5. Curbing black money by ensuring proper implementation

The above steps can help India achieve the dream of a 5 trillion dollar economy by 2025.

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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 pandemic saw a large number of Indian startups transforming into unicorns (with 1 billion dollar valuations) which helped in the V-shaped recovery of the Indian economy.

However, the more recent collapse of Indian startups — like Byjus — has raised concerns.

Causes of Indian startups not realizing potential:

1. Lack of orientation towards innovation
   - ↳ only 0.69% of our GDP is spent on innovation

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2. Not sufficient skilled workforce
   - 13% of Indians are trained in total
     - 11% Informally trained
     - 2% formally trained

3. Lack of an adequate ecosystem for startups.

4. Insufficient funding and resource crunch

5. Lengthy processes of administration create hurdles

6. Insufficient upscaling of startups
   - 99% of MSMEs in India belong to the micro category

7. Not enough profitability

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Steps to improve profitability and performance:

1. Startup India scheme — to promote culture of entrepreneurship.

2. Improving ease of doing business
   ↳ India's rank has improved to 40 in 2022

3. Atal Innovation Mission and Atal Tinkering labs and Incubation hubs can be provided to startups.

4. Tax benefits and reimbursements to provide support in initial stages.

5. Proper monitoring and evaluating
   ↳ regular audit by firms like Deloitte.

The above steps will ensure that India retains and even surpasses its position as 3rd largest startup ecosystem.

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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 is heavily reliant on the import of edible oils like Palm Oil like Indonesia and Malaysia.

Importance of National Mission on Edible Oils and Oil Palm:

1. Promotes self reliance in palm oil production along the vision of Aatmanirbhar Bharat.

2. Reduces India's current account deficit with the ASEAN nations

3. Generate employment in oil production industries in India

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4. Promote food processing Industries in India
   - ↳ India currently exports only 16% of processed food
   - ↳ China → 49%.

5. Improve farmers' incomes and create a positive feedback loop
   - ↳ address the grim situation of 13,000 farmer suicides since 2013

Environmental concerns of palm oil production:

1. Lead to depletion of the nutrients of soil
2. Excess water consumption
   - ↳ India is already a water stressed country with 1500 m³/water available per person per year.
3. Use of excessive fertilizers

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4. Palm oil requires large areas of land
   ↳ India only has 2% of the world's land.

Way Forward:

1. Promote self sufficiency in oil production, while also focussing on sustainable agriculture.
2. National Mission on Sustainable Agriculture.
3. Pani panchayat model of Odisha can be replicated.
4. PM Fasal Bima Yojana can be expanded to include oil seeds.

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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.

The Ashok Dalwai committee has shown that livestock can increase farmers' income by 40%.

Role of livestock economy

1. Provide additional source of income to farmers.
2. Reduce variability in income as 52% of agricultural land is dependent on rainfed
3. Promote integrated farming
4. Allow farmers to invest more in agriculture and address the problem of fragmented land holdings from better income.

→ 86% are small & marginal

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farmers.

Challenges faced by livestock sector

1. cattle smuggling on the Bangladesh border
2. farmers do not have sufficient capital or access to credit for initial investment.
3. contributes to methane emissions with environmental consequences
4. Insufficient awareness on public schemes for livestock rearing

Way Forward – Interventions

1. Learn from case study of Bihar — wherein fisheries have added to 40% of income

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2. Creation of farmer producer organizations
   - ↳ Proposal to create 10,000 PA Budget 2023
   - ↳ promote cooperative model — along the lines of Amul

3. Border Security Force to Prevent cattle smuggling

4. "Blue revolution" - approach

5. Spread awareness on the significance of the livestock industry.

The above steps can ensure Proper implementation of Article 48 → Animal husbandry.

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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.

Recent tests in the United States have successfully shown that on a small scale, nuclear fusion has the potential of providing clean energy.

Nuclear fusion — energy of the future :

1. clean energy → as there is no emission of hydrocarbons and other greenhouse gases (CO_2, NO_x, CH_4, etc)

2. safe energy → as unlike fission, there are not as many free radicals

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3. Virtually limitless as the source is not present in finite quantity (like fossil fuels)

Scientific principles

In nuclear fusion, two atoms of very high energy as fused together i.e they come together to create a bigger source of energy.

The conditions under which this can happen are very high temperatures and pressures and is being experimented in Tokomaks across the globe.

Challenges

1. Yet to be harnessed at a large scale.

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2. Extreme conditions of very high temperatures and pressure

3. Strong force of repulsion of particles has to be overcome.

4. Expensive technology.

Opportunities

1. If harnessed, it can lead to a switch towards nuclear technology.

2. Evident in China's artificial sun

3. Contribution of India to the International Tokomak Experimental Reactor in France.

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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.

There has been a 13.03% year on year growth rate in the number of patents filed in India. However, India still faces in administration of IPRs, when compared with developed nations.

Difficulties in administration

1. Traditional knowledge is not documented in books and rather passed down to generations
   - ↳ eg → medicinal values of Neem
   - → healing properties of Haldi
2. Low spending on innovation
   - ↳ only 0.69% of GDP is

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spent on innovation

3. Lack of awareness of patent regime

4. Lengthy process of patent filing and approvals.

5. Incorrect patents awarded to foreign nationals for Indian knowledge
   ↳ eg → Neem, haldi and Yoga

6. "compulsory licensing" and "parallel import" have reduced incentives of private sector to innovate

Measures to improve

1. Traditional Knowledge digital library — compilation of all traditional knowledge

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↳ cannot be patented by foreigners

↳ available in English, French, Spanish.

2. Centre for Traditional Knowledge set up in Jamnagar in Gujarat

↳ collaboration of WHO and Government of India

3. Implementation of KAPILA scheme.

4. National IPR Policy

5. Reward innovation by creating a culture of innovation

6. Spread awareness on methods of filing patents.

The above will encourage an innovation led economy in the ongoing Amrit Kaal.

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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 provide 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.

Recent amendments to the WPA have changed the number of schedules from 6 to 3. Additionally, further safeguarding measures have been added to prevent illegal trade.

Implications

1. IWT costs India 23 billion dollars.
2. loses biodiversity
3. has negative environmental

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impact — as invasive species are introduced

↳ eg — Prosopis juliflora is harmful for mangroves.

4. disrupts social harmony.

Effectiveness of amendments

1. Centralizing nature of act gives more power to centre and hence increases deterrance

2. simplifies the previous complex act by reducing number of schedules.

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3. Amendment increases the penalty for committing crimes

This is a step in the right direction in ensuring conservation of biodiversity. Way forward must be aligned with the Cartegena protocol of the convention on Biological Diversity.

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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.

Recent floods in Delhi NCR have brought the issue of urban flooding to the forefront.

Factors contributing to urban floods:

1. Urbanisation is causing a rising stress on dams
2. climate change leading to variabilities in monsoon patterns
3. clogging of drainage systems due to poor solid waste management
4. improper maintainence of dams
5. insufficient "bio shields" as present in rural areas

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6. topography of urban areas leads to accumulation of water

7. urban areas have transformed into "concrete jungles"

8. changing course of rivers like the Brahmaputra

Measures to reduce risk and enhance resilience

1. urban planning
2. follow NDMA guidelines on flooding
3. follow Miyawaki method for tree plantation
4. Implementation of Nagar Van scheme

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5. ensuring infrastructure is resilient

6. early warning methodologies

7. to ensure proper rehabilitation of victims

↳ eg- Delhi government allowed students to attend schools without school uniform

8. recovery, resilience and rehabilitation of victims should be prioritized.

The above methods can ensure that the risk and vulnerability is minimized.

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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.

Organized crime provides funding to various stages of terrorism.

Intelligence and law enforcement agencies have the necessary resources to tackle the linkages:

1. National Investigation Agency (NIA) has powers to arrest terrorists
2. Enforcement Directorate can arrest without warrant if case involves money laundering
   - ↳ money laundering by criminals to sponsor terrorism

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3. CERT-In has collaborated with Singapore in exercise Synergy in order to tackle cybersecurity threats
   - eg → threat by terrorist organizations like Al Qaida who conduct online bomb training

4. Laws like Armed Forces Special Powers Act (AFSPA) provide police with sufficient aid to shoot in self defence
   - address the root cause of organized crime.

Challenges for Intelligence and law enforcement agencies

1. Modern technology training is needed.

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2. rising attacks like SQL injections

3. terrorists and organized crime integrates using technology at a faster pace than laws are updated.

4. Issues of inefficiency
   - ↳ pendancy
   - ↳ vacancies
   - ↳ political influence.

Way forward is to adopt FATF recommendations when dealing with organized crime and terrorism.

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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.

There were more than 53,000 cyber attacks in India in 2021.

Emerging internal and external threats

1. Cyber attacks by state actors
   - ↳ eg → China's involvement in Mumbai power grid attacks

2. 60% of India's power sector uses imports from CHINA
   - ↳ huge internal security threats.

3. KPMG has shown that

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86% of Indian companies have been hacked at least once.

4. cyber bullying → vulnerable sections need to be protected

5. Scams and phishing
   ↳ WHO faces emails during COVID-19 leading to an "infodemic"

Update IT Act 2000

1. Include fact checking unit to curb fake news.

2. Prevent hate speech by filtering sensitive words

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3. Involve social media intermediaries
   - ↳ eg- Whatsapp limited forwarding texts

4. Impart awareness on use of IT
   - ↳ only 47% Indians use VPN
   - ↳ 80% give sensitive Information of public wifi

5. Ensure compliance of pro-security behaviour along lines of Budapest Convention