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GENERAL STUDIES (TEST CODE : 2087)

Name of Candidate	Rishabh choudhary		
Medium Eng./Hindi	English	Registration Number	1091282
Center	online	Date	23/08/23

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 HINDI & ENGLISH. इसमें बीस प्रश्न हैं हिन्दी और अंग्रेजी में छपे 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. प्रत्येक 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 जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।	
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 खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।	
8	10			
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18	15			
19	15			
20	15			
Total Marks Obtained:				
Remarks:				
			Is student recommended for One-to-One mentoring?	
			Recommended	Strongly Recommended

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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

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1. भारत में पशुपालन में महिलाएं किस प्रकार योगदान देती हैं? भारत में पशुधन क्षेत्रक में महिलाओं को वर्तमान में किन समस्याओं का सामना करना पड़ रहा है?

How do women contribute to livestock rearing in India? What are the issues currently faced by women in the livestock sector in India? (Answer in 150 words) 10

Livestock rearing contributes to 4.11% of GDP and 25% of Agricultural GDP of the Country.

Contribution of women

- ① employment at rearing plants and agricultural farms.
- ② conduct veterinary services for livestock.
- ③ collection of milk, rearing of Poultry at households etc. and common facilities.
- ④ SHGs of women - work collectively to promote livestock sector.

Issues faced by women

- ① Social issues - like patriarchy,

dual burden, social discrimination.

② wage gap and unpaid work

↳ ~~but still~~ wage gap in India.

③ Lack of financial inclusion and
access to credit (institutional).

④ issues with literacy, awareness about
best practices and standards required.

way forward

① formation of women SHGs
working in livestock rearing.

② PM-JDY and MUDRA loans to women

③ Developing online courses for training
↳ National Skill Mission.

④ National policy for livestock sector.

⑤ one health approach

sustainable livestock can diversify incomes

and reduce poverty along with gender/women
empowerment.

2. वन नेशन वन राशन कार्ड (ONORC) योजना कैसे और किस सीमा तक प्रवासी मजदूरों, शहरी गरीबों और दिहाड़ी मजदूरों के लिए उल्लेखनीय संभावित लाभ प्रदान कर सकती है?

How and to what extent can the One Nation One Ration Card (ONORC) scheme provide significant potential benefits for migrant labourers, urban poor, and daily wagers? (Answer in 150 words) 10

One Nation one Ration card scheme envisaged to integrate all PDS and link Ration to Aadhar for National implementation.

Potential benefit to Migrant labourers

↳ Access to provisions of NFSA, 2013 outside across country.

↳ Ensured food security and income security.

TO Urban poor

↳ Empowered them for inclusion in PDS rolls.

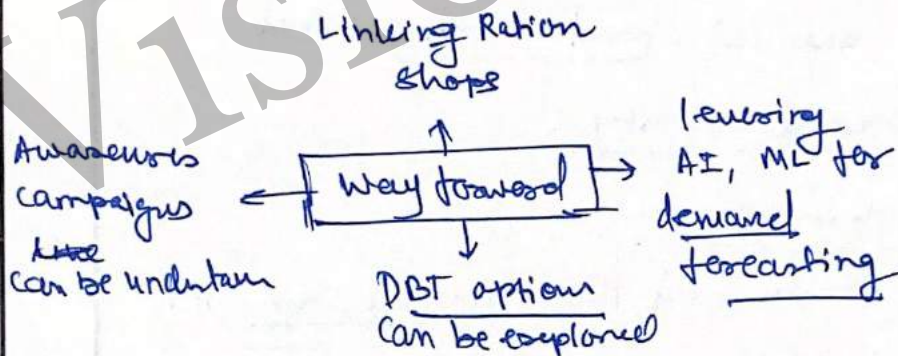
↳ helped in fighting hunger, malnutrition.

TO daily wagers

↳ health security, access to basic resources

Various issues remains

- 1) Exclusion problem due to poor data - last census - 2011.
- 2) Poor implementation and rejection cases are observed.
- 3) logistical challenges such as availability, quality of food.
- 4) Lack of awareness among stakeholders.
- 5) issues of spoilage, pilferage and administrative grift



with 16.4 % people below poverty (MPI)

Food security through PDS and ONOR

is crucial for social justice and

Public Welfare.

3. जलवायु परिवर्तन ने भारत में कृषि उत्पादन और उत्पादकता को कैसे प्रभावित किया है? क्या आपको लगता है कि जलवायु स्मार्ट जल बचत कृषि-प्रौद्योगिकियां समय की मांग बन गई हैं?
How has climate change affected agricultural production and productivity in India? Do you think climate smart water saving agri-technologies have become the need of the hour? (Answer in 150 words) 10

Climate change refers to long term change in climate patterns like rising temperature, extreme weather events, changing precipitation and wind patterns.

Affected Agricultural Production & Productivity

- ① Crop damage due to extreme weather — Floods, Droughts, Frost, coldwaves etc.
- ② Reduced production yields due to low soil productivity, land use change.
- ③ Reduced nutritional profile of produce, changed cropping patterns (early ripening of rice).
- ④ Reduced farm biodiversity due to invasive species attack, fertilizers etc.

Need for climate smart water saving technology

- ① To prevent excessive groundwaters extraction (67% water-ground in irrigation)
- ② ~~to~~ using micro irrigation to reduce salinisation, alkalinisation of soil
- ③ Precision agriculture to schedule irrigation for water saving.

Other measures

- ① Adopting to climate smart crops - millets
 - ② Natural farming - PKVY
 - ③ using Biotechnology - Bt cotton, GM mustard,
 - ④ Nano-urea for minimal fertilizer use
- Climate smart agriculture is need of the hour for dealing with Climate change

4. संधारणीय फसल उत्पादन के लिए नैनो-उर्वरकों के आर्थिक और पर्यावरणीय लाभ क्या हैं? भारतीय किसानों द्वारा नैनो-उर्वरकों को अपनाने में आने वाली समस्याओं का उल्लेख कीजिए।

What are the economic and environmental benefits of nanofertilizers for sustainable crop production? State the concerns in the adoption of nanofertilizers by Indian farmers. (Answer in 150 words) 10

Nanofertilizers refers to liquid fertilizers with high concentration of Nitrogen created by leveraging biotechnology and nanotechnology.

Economic benefits

- ↳ Reduced input cost
- ↳ Improve the crop productivity, quality and nutrition profile.
- ↳ Less leakages and graft in administration (e.g.) UREA subsidies

Environmental benefits

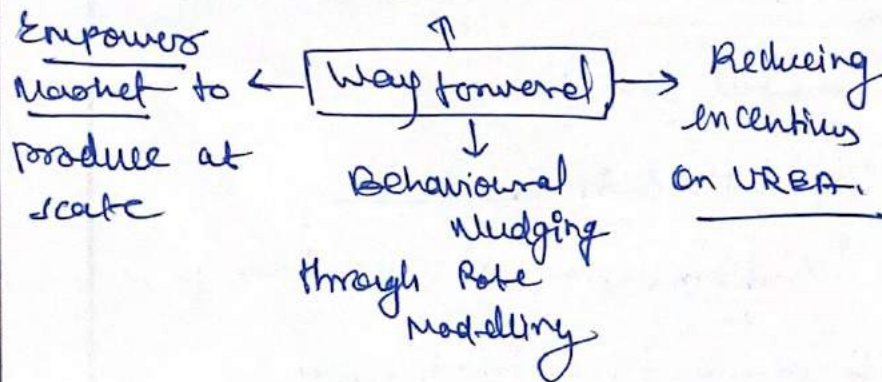
- ↳ Prevent soil runoff → eutrophication of water bodies
- ↳ Improve farm biodiversity

↳ Reduce biological magnification
due to Excessive fertilizers use.

Concerns of Indian farmers

- ↳ Lack of availability and knowhow about application
- ↳ Apprehensions about output
- ↳ Lack of tools for application
- ↳ Lack of farm mechanisation
(50% - NABARD)
- ↳ Poor and Marginal farmers -
cannot afford without subsidies

DBT for Nanojets



5. देश के सभी हिस्सों में प्राकृतिक गैस के पर्याप्त और समान वितरण की उपलब्धता एक समान आर्थिक एवं सामाजिक प्रगति हासिल करने में कैसे मदद कर सकती है? इस संदर्भ में भारत को किन चुनौतियों का सामना करना पड़ रहा है?

How can the availability of adequate and equitable distribution of natural gas in all parts of the country help in achieving uniform economic and social progress? What challenges India faces in this regard? (Answer in 150 words) 10

Natural gas refers to Methane and composition of other petroleum gases.

According to IRENA, Natural gas will be 12% of global energy basket by 2030.

Availability helping economic and social progress

① Improve prospects of employment opportunity
↳ eg Natural gas station, transport.

② Uniform price for energy across Country → fair and equitable distribution (Article 39)

⑧ women empowerment - Natural gas based cooking fuel
↳ Khwala Yojna

⑨ Reduce disease due to indoor pollution - asthama, cardiovascular etc.

⑩ Challenges

① Lack of infrastructure for transportation, storage etc.

② Import dependency.

③ Price fluctuation due to global crisis - eg Russia-Ukraine war

④ market speculation practices -
increased risk of loss and vulnerable

Hence Natural gas availability is critical however, ~~for~~ transitioning to renewable energy for long term energy security is needed.

6. भारत में बढ़ते मानव-वन्यजीव संघर्ष के कारणों की व्याख्या कीजिए। मानव-वन्यजीव संघर्ष को कम करने के लिए सरकार द्वारा किए गए उपायों पर चर्चा कीजिए।
Explain the reasons behind increasing human-wildlife conflict in India.
Discuss the measures taken by the Government to mitigate the human-wildlife conflict. (Answer in 150 words) 10

Human - wildlife conflict occurs when the limited ~~geograph~~ geographical space and Natural resources becomes cause for confrontation.

Reasons behind increase

- ① Deforestation and expansion of Agriculture.
- ② Global warming - depletion of grasslands, wetlands and mangroves.
- ③ Overexploitation of resources for economic greed.
↳ (eg) stump pulling trees for palm oil cultivation in Indonesia.
- ④ growing human footprint and reduced productivity.

- ⑤ organised crime by trafficking
of endangered species
↳ Rhino's horn, tortoise, snakes
etc.
- ⑥ Capturing critically endangered
animals.

Measures taken by government

- ① wildlife protection Act, 1974
↳ regulate/protect wildlife.
- ② Environment Protection Act, 1986
↳ for protection
- ③ National Green Tribunal
- ④ National Forest Policy
↳ 33% forest target
- ⑤ Implementation of Forest Rights Act
and Forest Protection measures
Sustainable exploitation and restoration
by Afforestation (CAMPA fund) should be
way to resolve Animal-wildlife conflict.

7. भारत में बढ़ते शहरीकरण और ध्वनि प्रदूषण के बीच संबंधों पर चर्चा कीजिए। मानव स्वास्थ्य पर ध्वनि प्रदूषण के प्रभावों का वर्णन कीजिए।

Discuss the linkages between growing urbanization and noise pollution in India. Describe the effects of noise pollution on human health. (Answer in 150 words) 10

According to Supreme Court, Right to noise free environment is part of right to life under Article 21.

Linkage between Urbanisation and noise pollution

- 1) Construction Activities → noise pollution due to machinery use.
- 2) Traffic Congestion → Horn and Honking
- 3) Festivals / Rallies / processions → use of loudspeakers
- 4) Reduced distance due to Urban canyons → Echo chambers in cities

Effect of noise pollution

- ① ~~Reduce~~ - impair hearing ability
(> 80db of ~~the~~ noise is harmful)
- ② mental stress, anxiety, trauma
- ③ reduce working productivity
- ④ reduce attention span ~~and time~~

Way forward

- ① Strict implementation of Air
(Pollution) Act. (Noise - part of
this act)
- ② Sensitization of people against
use of loudspeakers.
- ③ Reducing congestion → Public transport
like metro.
- ④ Strict adheres to no noise zone
policy and timelines.

8. भारतीय अंतरिक्ष नीति, 2023 भारत में एक मशक्त, नवाचारी और विश्व स्तर पर प्रतिस्पर्धी अंतरिक्ष पारितंत्र के विकास के लिए एक उत्प्रेरक के रूप में कैसे कार्य कर सकती है?
How can the Indian Space Policy, 2023 act as a catalyst for the development of a robust, innovative and globally competitive space ecosystem in India?
(Answer in 150 words) 10

India has one of the most vibrant and advanced space program which ~~had~~ reached MARS on first attempt.

~~Catalyst~~

Indian Space Policy, 2023 - catalyst for robust, competitive and innovative ecosystem

- ① Emphasize private sector participation to improve efficiency, reduce cost
↳ eg - Vikram I launched by ISRO company
- ② ISRO to act in supporting role in developing domestic capabilities
↳ eg Aerospace, Avionics.

② Target to develop newer
industries

L eg Material Science

Nano technology

Artificial intelligence

① Indeginisation of technology

③ using space for social

welfare and justice

L eg GIS, GPS for farm

sector

④ Improving the Youth Participation
in STEM → better future potential.

⑦ Innovation, R & D infrastructure in
Country

Space sector can become a
driver for growth in 21st century

9. स्पेशल फ्रंटियर फोर्स के अधिदेश पर चर्चा कीजिए। भारत की सुरक्षा सुनिश्चित करने में इसकी क्या उपलब्धियां रही हैं?

Discuss the mandate of the Special Frontier Force. What have been its achievements in ensuring the security of India? (Answer in 150 words) 10

Special Frontier Force (SFF) was
constituted with a view of securing
borders of the country in
integrated way.

Mandate

- ① Borders Security and checkpoints
at integrated check Post
- ② Preventing illegal crossborder
migration
- ③ Reducing the organised
crime, smuggling and trafficking
at borders.

- ④ Preventing trafficking of arms,
ammunition, drugs, human etc
borderless.

achievements of SFF

- ① Creation of laser fence and
barbed wire fencing across border
in northeast
- ② Improved coordination b/w agencies
- ③ conducting border haats for
economic developments
- ④ Infrastructure work at borders
- ⑤ improved employment opportunities
for locals
- SFF need to be further strengthened to
make border areas frontier for development

10. समुद्री सुरक्षा सुनिश्चित करना भारत के रणनीतिक और आर्थिक हितों की सुरक्षा का मूलभूत आधार क्यों माना जाता है? इस संदर्भ में समुद्री जलदस्युता रोधी अधिनियम (मेरीटाइम एंटी-पायरेसी एक्ट) का क्या महत्व है?

Why is ensuring maritime security considered the key to safeguarding India's strategic and economic well-being? What is the significance of the Maritime Anti-Piracy Act in this regard? (Answer in 150 words) 10

India has about 7500 kms of maritime sea borders, hence security of them is essential for sovereignty and unity of country.

Safeguarding strategic and economic well being

- ① Protect ensuring open sea lines by communications

↳ Malacca Strait, Hormuz, Bab-al Mandeb.

- ② Free and open trade and shipping

↳ IFC - IOR by India Army.

- ③ Protection against piracy, terrorism.

- ④ Preventing ~~anti~~ denial capacity
by some states
↳ South China sea - claimed by
China.
- ⑤ Safeguarding coastal communities
and fisherman.

Significance of Maritime Anti-Piracy Act

- ① empowering legislat jurisdiction of
India on seas - As per UNCLOS.
- ② Criminalisation of crimes on
seas.
- ③ protecting national security through
holistic development and coordination
- ④ development of local capacity and
Information dissemination
maritime security is crucial for safe,
secure and prosperous Indo-Pacific.

11. 2023-24 के बजट में सूचीबद्ध सात प्राथमिकता वाले क्षेत्र (सप्तर्षि) कौन-से हैं? उनसे किस प्रकार भारत में समावेशी विकास को बढ़ावा देने की अपेक्षा की गई है?

What are the seven priority areas (the Saptarishis) listed in the Budget of 2023-24? How are they expected to promote inclusive development in India? (Answer in 250 words) 15

Budget 2023-2024 outlines 7 Broad targets (Saptarishi targets) for vision of Developed India by 2047.

Saptarishi Targets

① Youth potential

→ Harnessing demographic dividend
(65% Population 16-59 yrs)

Schemes

↳ National apprenticeship scheme.

② Reaching the last mile

↳ with schemes like

↳ Balika model schools

↳ Aspirational Blocks program

③ Reforms in Financial sectors

such as -

- ↳ Reduction of Personal income tax (No tax upto 7 Lakh)
- ↳ Decriminalisation of redundant Colonial Laws
 - ↳ Jan Vishwas Bill, 2023

④ Unlocking the growth

- ↳ PM SHRI schools as model schools
- ↳ Digital public infrastructure in Agriculture.

⑤ Green growth target

- ↳ MISTIE Scheme
- ↳ Green growth fund - 35000 cr outlay
- ↳ PM - HOBBARDHAN
- ↳ PM - BRANAM

⑥ Investment and Infrastructure

- ↳ 4.5% GDP on capital expenditure
- ↳ Relaxation of FDI norms

⑦ Inclusive growth

- ↳ PM Mahila samman Bechhat patra

Promote Inclusive development with —

- 1) Empowerment of women with promoting savings. (7.5% interest on saving accounts)
- 2) Tribal welfare with target intervention through Aspirational Blocks Program by NITI Aayog.
- 3) Inclusive healthcare — with 30 crore enrollment in PM Suraksha Bima Yojna.
- 4) Agri Accelerator fund for bringing innovation and growth to primary sector and Rural Areas
- 5) E-governance initiatives to make go including reach — 700mn active users (NITI Aayog)

Sartrishi targets are benchmark plan for making a developed India reality. There is need for multi-stakeholder participation for aligning them.

12. ब्लॉकचेन तकनीक भारत में भूमि रिकॉर्ड के डिजिटलीकरण की दिशा में कैसे महत्वपूर्ण भूमिका निभा सकती है?

How can blockchain technology play a pivotal role towards digitization of land records in India? (Answer in 250 words) 15

Blockchain Technology refers to using modern computer application like cryptography, big data to create a chain of blocks ~~steps~~ for continued storage.

Issues with Land Records

- ① Fragmented Land holding
 - ↳ 50% of bottom farmers own 3% land. while top 10% own 54% land.
- ② Poor record management
 - ↳ Lack of indexing, cataloging and segregation of records.
- ③ Lack of Technological adaptation
 - ↳ in record storage, maintenance and upgradation

- ④ Dual records on single piece of land.
- ⑤ Lack of capacity to conduct land survey and verification exercise.
- ⑥ Lack of topographical mapping and designation of land on digital maps.

Blockchain Technology will help with

- ① Preventing duplication of land records
↳ one block can be assigned only ones.
- ② Tracing of land ownership
↳ will help in quick settlement of land disputes.
- ③ Quick updation, ~~no~~ easier maintenance and easier access to land records.
- ④ Developing digital records
↳ SWAMITVA scheme

However external challenges are

- 1) Highly technical nature — lack of skills in staff.
- 2) High initial cost for development
- 3) Bureaucratic resistance.
- 4) Lack of awareness and low literacy may lead to frauds.

Way forward

- (1) Clear plan and policy outlining
 - (2) Decentralised planning with Gram panchayats.
 - (3) Developing capacity and training personnel
↳ iGOT platform
 - (4) Bringing international best practices.
- Digitisation of land records can help in better land reforms and sustainable, inclusive growth.

13. सार्वजनिक-निजी भागीदारी (PPPs) भारत में कृषि उपज के भंडारण, परिवहन और विपणन को बेहतर बनाने में कितनी सहायक हो सकती है?

How far can public-private partnerships (PPPs) help in improving the storage, transportation, and marketing of agricultural produce in India?
(Answer in 250 words) 15

Public-private partnership envisage
Private sector to be an equal stakeholder
in the national development.

Issues with storage transportation and
marketing of agricultural produce

- ① Lack of warehousing capacity
 - ↳ cold chain infrastructure
 - ↳ grain silos.
- ② Lack of rural infrastructure and
Poor maintenance of roads,
 - ↳ high logistic cost - 14%
(USA - 9%)
- ③ monopoly of APMC's in marketing
 - ↳ preventing realisation of true price for farmers

- ① Lack of awareness in farmers about e-NAM portal, National Warehousing Receipt (NWR) Schemes;

Public-private partnership can help with

- ② Development of Rural Infrastructure
 (eg) Roads, energy, irrigation, Marketing Committees
- ③ Cooperative farming and private finances in agriculture
 ↳ only 1.4% of total investment in agriculture can be improved
- ④ Developing standard and quality frameworks.
- ⑤ Bulk Procurement and Marketing
 ↳ better prices and income security for farmers

- ② Promote export of Agriculture produce
↳ Swajit Shalle committee
Recommendation.
- ③ Encourage organisation of farmers
Producers Organisation (FPOs)
- ④ Diversification of produce
↳ poultry, horticulture, fisheries
etc.
- ⑤ value addition with food processing.
direct to consumer model of e-commerce
can lead to doubling farmers income
- ⑥ Transformation of Agriculture sector
↳ standing disguised unemployment
problem
- ⑦ Bringing innovation, research and
development to agriculture.
- Vibrant agriculture is key to sustainable
growth and achieving target of SDG's.

14. सार्वजनिक वितरण प्रणाली में प्रौद्योगिकी के माध्यम से आधुनिकीकरण और सुधार योजना (SMART-PDS) में भारत हेतु खाद्य सुरक्षा से परे जाते हुए वृहद् परिवर्तनकारी क्षमता विद्यमान है। विवेचना कीजिए।

The Scheme for Modernization and Reforms through Technology in Public Distribution System (SMART-PDS) has transformative potential beyond food security for India. Discuss. (Answer in 250 words) 15

According to study in mature, technology can become enabler for achieving 79% of targets related to agriculture in SDG goals.

~~SMART PD~~

Issues with PDS system of country

① Storage

↳ low capacity of infrastructure
like warehousing, cold chains etc.

② Procurement

↳ highly central nature
↳ majority procurement of Rice and wheat.

↳ distorts market dynamics of demand and supply

③ Transportation

↳ Infrastructure like Roads,
Railways, waterways are underdeveloped

↳ high travel time → reduces
market opportunity for perishable goods

④ Distribution

↳ Lack of modernisation in

linking of fair price shops

↳ issues of spoilage, pilferage

of grains

↳ Inclusion and exclusion error
due to poor data quality

↳ Last census 2011

Transformative potential of SMART PDS

① In food security

↳ tracking and monitoring of
food supplies → prevent spoilage

- ① ensure the accurate reporting
management of food supplies
- ② better price realization for farmers
- ③ linking sadhar - with ration card
↳ real time monitoring of benefits
- ④ Data-driven governance
↳ by leveraging big data, ML,
AI to make targeted interventions
- ⑤ Reduce cost of implementation.
- ⑥ Reduce corruption, graft in
administration.
- ⑦ Benefit to small and marginal
farmers

Shanta Kumar committee recommendation
for digitization of POS and bringing
private expertise should be considered.

15. समुद्री हीटवेव की उत्पत्ति के लिए उत्तरदायी कारणों की व्याख्या कीजिए। उन तरीकों पर चर्चा कीजिए जिनसे वे समुद्री पारितंत्र को प्रभावित कर सकती हैं और आर्थिक नुकसान पहुंचा सकती हैं।
Explain the causes behind the occurrence of marine heat waves. Discuss the ways in which they can affect the marine ecosystems and cause economic losses. (Answer in 250 words) 15

Marine heat wave refers to consistently hot temperature greater than 4.5°C - 6.4°C above an area, when temperature rises above 6.4°C then turn as severe marine heat wave.

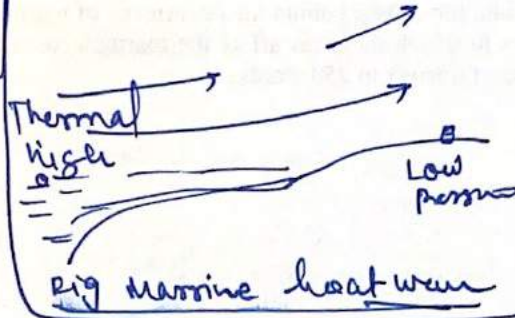
Causes behind occurrence of marine heat wave

- ① high temperature of ocean surface
↳ creating hot air mass.
- ② strong global winds in the region
↳ eq easterlies at tropics
- ③ low low pressure system
↳ crowding in of hot air.

Ways they affect
Marine ecosystem

① Ocean acidification

↳ Increase in concentration of carbonates → coral bleaching, loss of marine life.



② Change ocean currents and movements.

↳ regional imbalance and stress to marine life.

③ Reduce the dissolved oxygen in Ocean

↳ Loss of marine biodiversity

cause economic losses)

① Impact coastal community livelihood
↳ dependent on fisheries

② Natural disasters like tropical

cyclones, high tides etc.

↳ destroy infrastructure.

③ affect health of community
↳ increase in healthcare related
deaths.

④ Reduce the productive working hours.

⑤ ecosystem losses
↳ eg mangroves, seagrass.

Way forward

① Developing sustainable infrastructure
↳ eg CDRI by India

② Mitigation and adaption measures
against climate change

③ Development of mangroves and wetlands
↳ MISHRI and Amrit Dhaschar scheme

Following PM 10 point agenda for
Prepare and Mitigation should have
Sustainable coastal lifestyle.

16. ग्लेशियल लेक आउटबर्स्ट फ्लड (GLOFs) के कारणों और प्रभाव की व्याख्या कीजिए। इस संदर्भ में सरकार द्वारा कौन-से उपाय किए गए हैं?

Explain the causes and impact of Glacial Lake Outburst Floods (GLOFs). What are the measures taken by the government in this context? (Answer in 250 words)

15

According to IMD, Glacial lake outburst floods occurs due to failure of moraine walled glaciers. Since last decade Himalayan glacial lakes increased from 9% - 14%.

Causes of GLOF

① Natural causes

- ↳ melting of glaciers due to Solar insolation, climate phenomenon
- ↳ downslope accumulation of glaciers

② Anthropogenic factors

- ↳ global warming due to emission of NO₂, SO₂, CO, PM_{2.5}, PM₁₀.
- ↳ Construction on flood plains
 - ↳ eg 2013 Uttarakhand floods

- ↳ using unsuitable material for construction eg - concrete
- ↳ Joshimath issue
- ↳ Infrastructure development like Dams, Roads, tunnels etc.
- ↳ changes in land use pattern - Agriculture on slopes

Impact of ~~the~~ GLOF

- ① ~~the~~ Loss of biodiversity, natural
- ② soil erosion, removal of top soil
- ③ Loss of lives and livelihoods
due to flooding
↳ eg Chamoli, 2019
- ④ destruction of infrastructure
↳ 2023 → Himachal and Uttarakhand
- ⑤ threatens the economic potentials
including tourism, transport etc.

Measures that are taken

- ① 15th FC recommendation for NDM funds are undertaken.
- ② Development of infrastructure as per National Building code and GRHA Samhita
- ③ Environment impact assessment framework
- ④ Disaster mgmt framework under NDM

Way forward

- ① NCRWE recommendation for Creating National authority.
- ② Placing disaster mgmt in Concurrent list
- ③ Implementation of NDMT guidelines
- ④ Training and local capacity devp.
↳ Ushahidi framework.

~~Disaster~~ GLOR mgmt require participation of all stakeholders for success

17. रेडियोमेट्रिक डेटिंग कैसे काम करती है? इससे जुड़ी सीमाएं क्या हैं? रेडियोमेट्रिक डेटिंग में कैल्शियम-41 का उपयोग करने के संभावित लाभ क्या हैं?

How does radiometric dating work? What are the limitations associated with it? What are the potential advantages of using Calcium-41 in radiometric dating? (Answer in 250 words) 15

Radiometric dating refers to using radiography to date age of fossil fuels based on presence/concentration of radioactive isotope
eg - ~~etc~~, Calcium-41, Carbon-14.

Working of radiometric dating

- ① half life of the radio active isotope is calculated
- ② Concentration in the living being / present entity is measured.
- ③ Using the information of half life present age is estimated considering constant decay of radioactive isotope.

limitations associated

- ① High skills and expertise is required
- ② Need for complex machines and
investment in infrastructure
- ③ Problem of disfigurement of fossils
- ④ estimation of accuracy.
- ⑤ Data inconsistency may be present.

Potential advantages of Calcium-41

- ① ~~It~~ very high half life compared
to Carbon-14
↳ dating can be done for very
old (3.5 billion yrs) fossils.
- ② Presence in adequate concentration
for measurement

- ③ Already-existing infrastructure can be leveraged.
- ④ Scientific advantages of broadening the scope of research
- ⑤ Attract talent and youth towards STEM sectors

Way forward

- ① Confluence of technology — AI, Bigdata with calcium-41 dating.
- ② Improve research funding
↳ V Kamath Committee recommends 2% of GDP
- ③ Better environment and legislative framework.
calcium-41 dating can help in unraveling the origin of species and secrets of evolution.

18. सरकार द्वारा डिजिटल स्वास्थ्य पर बल दिए जाने के बावजूद भारत में ई-फार्मसी के संदर्भ में चिंता क्यों बढ़ रही है? इस द्वंद के समाधान के लिए क्या उपाय किए जाने चाहिए?

Why is there a growing concern over e-pharmacy in India despite the government's push for digital health? What measures are needed to resolve this dichotomy? (Answer in 250 words) 15

e-pharmacy refers to delivery of pharmaceutical services like medicine, consultation etc. via leveraging ICT technology.

Advantages of e-pharmacy

- ① bridging the rural-urban divide in health infrastructure and services
- ② Reducing the cost of drugs and competitive pricing.
- ③ Encouraging private investment and startups.
- ④ Preventing monopoly of pharmacy trade unions. (Constitutional mandate - Article 39)

② Beneficence of vulnerable sections
in PwD, women. etc

② Privacy in buying

- ↳ better family planning
- ↳ break taboo against mental disorders

Growing concerns

① Anti-competitive practices of monopolistic
by few players

② Unfair pricing policies → detrimental
to the pharmacies store.

③ Issue of sending expired drugs

④ consumer grievance redressal issue

⑤ data privacy issue

↳ leveraging data for market
practices without consent

Measures needed

- ① Empowering competition commission of India to look into Matters related.
- ② Monitoring and oversight mechanism for fair pricing
- ③ Policy measure like OWDC for creating equal ground for all.
- ④ Legislative and regulatory measure for compensation and grievance redressal
- ⑤ Adherence to privacy principles outlined by AP Shah committee, BV Srikrishna committee.
- ⑥ Organising pharmacies for better fair competition.

Technology can help in improving access however mechanism for addressing concerns should be put in place.

19. भारत में वामपंथी उग्रवाद (LWE) में हुई कमी में किन कारकों ने योगदान दिया है? क्या आपको लगता है कि यह कमी निकट भविष्य में LWE की समस्या के संभावित अंत का संकेत देती है?

What factors have contributed to the decline of Left Wing Extremism (LWE) in India? Do you think this decline signifies the likely end of the LWE problem in the near future? (Answer in 250 words) 15

Left wing extremism is promoting
marxist / leftist ideologies with use of
violence, they aim to overthrow state
for communist government.

Reasons for
LWE in India

- ① Land related
↳ Land alienation
↳ displacement of
tribal due to
dam construction

↳ exorbitant interest rates by money lenders

② corporate exploitation with mining

③ Non-implementation of PESA with in
letter and spirit.

LWE : Affected areas
(major)



- ④ Lack of connectivity, isolation and integration with mainstream.
- ⑤ poor social infrastructure like schools, hospitals etc.

Factors contributed to decline

- ① Developmental initiatives like Aspirational district program
- ② skill development — Tribal youth exchange program, PM, KVVY 9.0.
- ③ Education — Ekanya model schools.
- ④ healthcare facilities — Ayushman Bharat health infra. mission.
- ⑤ 73rd and 74th amendment and PESA → empowered gram sabha
↳ blocking mining projects.
- ⑥ Forest rights Act, 2006 —

② ~~Mobile towers~~ LTE - Mobile tower
development program for connectivity

③ Globalisation — interconnectedness
with outside world.

④ Media campaigns to break propaganda.

Signify likely end

yes

measures needed

1) Significant
reversal
↳ only concentrated
in few districts

2) Reduction in
incidence of violence

3) Tribal development
and land rights with
records
↳ Swamintra scheme

1) Gradual devolution
of power — 5th
and 6th schedule.

2) Proportional application
of AFSPA.

3) Bringing in
employment opportunities
↳ DPV - CRT.

4) Consistent effort
to curb funding,
arms and ammunition.

20. मनी लॉन्ड्रिंग और कर अपराधों के बीच समानताएं तथा तालमेल होने के बावजूद, कर अपराधों से निपटने के लिए एंटी-मनी लॉन्ड्रिंग (AML) उपायों का प्रयोग राजनीतिक, कानूनी एवं साथ ही परिचालन संबंधी चुनौतियां प्रस्तुत करता है। विवेचना कीजिए।

Despite commonalities and synergies between money laundering and tax crimes, leveraging anti-money laundering (AML) measures for tackling tax crimes presents political, legal as well as operational challenges. Discuss. (Answer in 250 words) 15

Money laundering is illicit transaction of money to make illegal money appear legitimate

- ④ Hawala transaction
- ⑤ ~~in~~ over invoicing / under invoicing

Commonalities and similarities

- ① work from tax heavens
 - ↳ Singapore, Mauritius
- ② involvement in bypassing taxation laws
 - ↳ ④ shell companies
 - ↳ shell NGOs
- ③ tax evasion techniques
 - ↳ non reporting, under reporting
 - ↳ over reporting of transactions

Political challenges in AML measures

- ① Presence of P-B-C Nexus
- Nehra Committee
- ② Criminalisation of politics
- 43% legislators are charged
(PRS Research)
- ③ Election funding and routing of funds in administrative graft.

Legal challenges

- ① Transnational nature of crime
- ② Lack of holistic legal provisions
- ③ Lack of regulatory frameworks
↳ ④ general consent of CBI
is withheld by states.

Operational challenges

- ① Inter-agency coordination - ED, NIA, NTR, CBI. is lacking.
- ② Blockchain and cryptographic techniques

① Bitecoin and cryptocurrency - difficult
to trace

↳ Measures need to be taken

- ① Creating single nodal agency
for AML efforts.
- ② Centralised database - NETGRID
- ③ International coordination
↳ UNODC, FATF, SCO,
INTERPOL
- ④ Cybersecurity capacity development
- ⑤ Public awareness and reporting
↳ Agataka diwas by cert-in
- ⑥ Improving interagency efforts - granting
general consent to CBI.
- ⑦ Global standards under BAP BASAL -
Committee, etc.