

NEXT IAS

GS MAINS ADVANCED COURSE 2024

(To be filled by candidate)

TEST CODE: GSMAC2411**TESTING DATE**Name of Candidate: Sanchit Sharma Mobile NoRoll No. : PTP220200/GS Mains 24/150 Start Time : 3:00 PM End Time : 7:00 PMDate of Examination: 16/09/2024 Medium : English ☒ Hindi ☐

Q. No.	Maximum Marks	Marks Obtained
1.	10	
2.	10	
3.	10	
4.	10	
5.	10	
6.	10	
7.	10	
8.	10	
9.	10	
10.	10	
TOTAL MARKS - 100		

Q. No.	Maximum Marks	Marks Obtained
11.	15	
12.	15	
13.	15	
14.	15	
15.	15	
16.	15	
17.	15	
18.	15	
19.	15	
20.	15	
TOTAL MARKS - 150		

GRAND TOTAL -/ 250

EVAL CODE: EVAL DATE:

GENERAL INSTRUCTIONS

1. Immediately on receipt of the QCA booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet.
2. Candidates must mention all relevant details like Name, Email, Roll No, Mobile, etc. in the space allocated.
3. Candidate is expected to attempt all 20 questions within the given timeline.
4. Answers must be written in the medium authorized at the time of admission.
5. Candidates must write answers for the specific question under the respective question itself. Any answer written outside the space allotted may not be given credit.
6. Please write neatly. Avoid illegible writing.
7. Do not write/mark irrelevant matters in the QCAB.

सामान्य निर्देश

1. QCA पुस्तिका प्राप्त होने पर कृपया तुरंत जांच लें कि इस QCA पुस्तिका में कोई पृष्ठ या सामग्री आदि गलत छपी हुई या फटी हुई या गायब तो नहीं है। यदि ऐसा है, तो इसे एक नई QCA पुस्तिका से बदल लें।
2. अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा।
3. अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 20 प्रश्नों के उत्तर-लेखन का प्रयास करें।
4. प्रत्येक उत्तर, प्रवेश के समय चुनी गयी भाषा के माध्यम में ही लिखे जाने चाहिए।
5. अभ्यर्थियों को विशिष्ट प्रश्न के उत्तर संबंधित प्रश्न के नीचे ही लिखने होंगे। आवंटित स्थान के बाहर लिखे गए किसी भी उत्तर को क्रेडिट नहीं दिया जाएगा।
6. कृपया साफ-सुथरा लिखें। अपठनीय लेखन से बचें।
7. QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:

FOR OFFICE USE ONLY

Student Concerns / Query

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Evaluator's Feedback / Response

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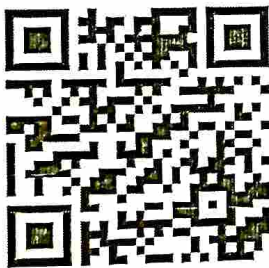
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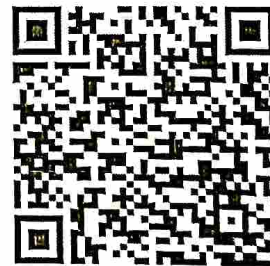
MARKING SCHEME *

Marks Per Ques	Below Average	Average	Above Average
10 Marks	Below 3.00	3.00 - 3.75	4.00 and above
15 Marks	Below 4.50	4.50 - 5.75	6.00 and above

* Subject to change without prior notice.

IMPORTANT QR CODES

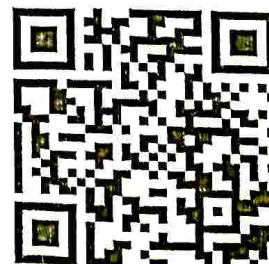
Topper's Copy



Common mistake and Correct Filled QCAB



Copy Scanner App



Next IAS Test Centre Location

MACRO COMMENTS

The Purpose of evaluation@nextias.com is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

STRENGTHS OF THE CANDIDATE

AREAS OF IMPROVEMENT



IMPROVEMENT SUGGESTIONS

1. घरेलू बचत भारतीय अर्थव्यवस्था की संवृद्धि में किस प्रकार योगदान देती है? क्या आपको लगता है कि घरेलू बचत दर में गिरावट भारतीय परिवारों में ऋणग्रस्तता और संकट में वृद्धि का संकेत देती है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

How do household savings contribute to the growth of the Indian economy? Do you think that the recent fall in household savings rate marks a rise in indebtedness and distress among Indian households?

(Answer in 150 words) 10 marks

Household savings are the amount saved by all households from their earnings as a proportion of total income of the economy. It is currently $\sim 28\%$ of GDP, fallen from $> 30\%$ in 2011.

Contribution of households savings to the growth are

- ① provides resources for investment in the economy
- ② Reduces interest rates in the economy, triggering a positive, investment cycle
- ③ Credit growth to small and medium market players increase
- ④ Reduces cost of govt borrowings from market

- ⑤ lowers the unemployment rates in long term, thus increasing incomes of people

Recent fall marks rise of indebtedness & distress as reflected:

- ① persistent high food and fuel inflation has created financial pressures on households
- ② Rise in ^{youth} unemployment is causing distress within households
- ③ lower investment rates, affected the growth of economy
- ④ Long standing rural and agrarian crisis, that has stagnated farming incomes

Counter-view by some experts:

- ① Falling savings reflect more purchasing tendency of middle class
- ② lower risk aversion of consumers, as more opportunities open up for middle class

Nevertheless, a higher savings rate is good for Indian economy. Govt's steps like PMKISAN, MUDRA, etc will help increase savings.

भारत के एफडीआई (FDI) क्षेत्र में उल्लेखनीय गिरावट देखी जा रही है। वे कौन से कारक हैं जो विदेशी निवेशकों के बीच भारत में निवेश करने के प्रति आशंका उत्पन्न कर रहे? सरकार द्वारा इस गिरावट की प्रवृत्ति को उलटने/रोकने के लिए कुछ सुधरात्मक उपाय सुझाइए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

India's FDI sector is seeing a significant downward trend. What factors are causing apprehensions among the foreign investors to invest in India? Suggest some corrective measures that must be taken by the Government to reverse the falling trend.

(Answer in 150 words) 10 marks

FDI in India is among of one of the largest compared to other developing countries (Vietnam, Mexico, Thailand). However, it has seen a decline in recent time.

Factors causing apprehension among the foreign investors

- ① Global supply chain disruptions post-covid (investors are more risk averse)
- ② Higher interest rates in the USA has reduced the capital inflow
- ③ Multiple international conflicts (Ukraine & West Africa), reducing confidence in stability of global economy.

④ Delayed implementation of key reforms in India (eg: withdrawal of farm bills, pending judicial reforms, slow logistics transformation)

⑤ Lower credibility of India's statistical framework (question over GDP data)

Corrective measures needed to reverse the falling FDI are

- ① Keeping the ^{domestic} inflation within the established range (4% - 6%)
- ② Having lower fiscal deficit
- ③ More reforms to ease regulatory controls of govt
- ④ Accelerated implementation of structural reforms (like judicial, civil service reforms)

Indian economy is on a strong growth trajectory, showing lot of resilience. Disciplined implementation of corrective measures will help boost FDI and rejuvenate the strong growth.

कृषि सब्सिडी भारत में फसल विविधता, फसल प्रतिरूप और कृषि संधारणीयता को किस प्रकार प्रभावित करती है?

(उत्तर 150 शब्दों में दीजिए) 10 अंक

How do farm subsidies impact crop diversity, cropping patterns and agricultural sustainability in India?

(Answer in 150 words) 10 marks

Farm subsidies are govt transfer payments to agricultural stakeholders (like farmers, fertilizer companies). Currently it includes power, fertilisers, insurance subsidies etc

Impact of farm subsidies on ~~crop diversity~~

① Crop diversity

① HYV seeds replaced indigenous varieties through seed subsidies

② monoculture farming replaced diverse farming methods (inter-cropping & mixed cropping)

③ Areas of millets (Jowar, Bajra, finger millet) were replaced by single commercial crops (e.g. sugarcane, cotton, rice)

B) Cropping pattern

- ① Wheat-rice pattern spread to north India (due to MSP)
- ② Distorted cropping pattern dominates large areas (eg: sugarcane in Maharashtra doesn't match with agro-ecology)
- ③ Sequential cropping has reduced soil fertility (due to irrigation subsidy)

C) Agricultural sustainability in India

- ① Increased soil acidity and salinity is causing infertility (due to over-irrigation)
- ② Declining ground water level (due to low electricity)
- ③ Soil & water pollution (due to fertiliser overuse)

Coming to ^{severe} negative impacts of subsidies, economist 'Ashoka Gulati' recommends liberalising agriculture and ending subsidy regime

“परिशुद्ध कृषि” के सिद्धांतों पर चर्चा करने हुए, परिशुद्ध कृषि में “इंटरनेट ऑफ थिंग्स” के उपयोग को विस्तार में समझाइये।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

While discussing the principles of “precision agriculture”, elaborate on the uses of “Internet of Things” in precision agriculture.
(Answer in 150 words) 10 marks

Precision agriculture refers to a set of farming methods that use technology for improving productivity substantially. It is heavily reliant on advanced technology like IoT, data analytics, drones, sensors etc.

Principles of precision agriculture

- ① Focus on precise application of agro-inputs (like irrigation based on ^{soil} moisture deficiency)
- ② Accurate measurement of farm & soil condition, including weather forecast
- ③ Data based decision making: using weather, soil, and market information to decide crop.

- ④ outsourcing work from human labour to technology : use of drones for pesticide spraying

Use of Internet of Things in precision agriculture

- ① Communication from ground sensors to computer : about soil moisture levels
- ② Inter-device communication: weather forecast sent to drone-based application of inputs
- ③ Local server to process data from multiple networked device
- ④ for communicating decisions to on-ground devices/equipments
- ⑤ computer based control of all farming operations: farmer can manage activity through his phone / laptop

Precision agriculture, however, is highly capital intensive. Govt funding with massive agri-extension will help in its promotion.

5.

लघु मॉड्यूलर नाभिकीय रिएक्टर (SMR) क्या हैं? लघु मॉड्यूलर नाभिकीय रिएक्टरों को पारंपरिक नाभिकीय ऊर्जा संयंत्रों का सुरक्षित विकल्प क्यों माना जाता है?

What are Small Modular Nuclear Reactors (SMRs)? Why are SMRs considered a safer alternative to conventional Nuclear Power Plants? (उत्तर 150 शब्दों में दीजिए) 10 अंक
(Answer in 150 words) 10 marks

Small modular nuclear reactors are small-scale energy generating devices through nuclear energy.

SMR are considered a safer alternatives to conventional nuclear power plants because:

- ① They allow controlled reactions with lesser risk of accidents
- ② Lesser investments needed to build it.
- ③ Amount of radioactive waste generated is minimal, so less environmental pollution

④ cannot be harmed/damaged by
natural disasters like earthquake
& Tsunami

⑤ Dependency on mined nuclear fuel
is lesser than conventional reactors

However, AMRs have its
own limitations too. They cannot generate
large energy and often have specialised
uses. Nevertheless, they offer a good
option for clean energy source at
variety of places.

विश्व भर में जूनोटिक रोगों की घटनाओं में अकस्मात वृद्धि में किन कारकों का योगदान है? जूनोटिक रोगजनकों के कारण होने वाली महामारियों के हालिया उदाहरणों पर प्रकाश डालिए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

What factors have contributed to the sudden rise in the incidences of zoonotic diseases across the globe? Highlight the recent examples of pandemics caused by zoonotic pathogens.

(Answer in 150 words) 10 marks

Zoonotic disease refers to those diseases that also spread through contact between animals and humans. eg: Zika virus

Factors contributing to the sudden rise of zoonotic diseases are

- ① widespread wildlife destruction that brought human settlements and animals closer
- ② Illegal wildlife trade, that causes spread of viruses from wild animals
eg: Pangolins were termed as carrier in many diseases
- ③ Spread of global supply chains that has caused spread of

flora & fauna of one region to others

- ④ International shipping, which might also carry ~~ecorecess~~ ^{ecosystems} or viruses
- ⑤ Increased academic and industrial labs experimenting with life forms
- ⑥ Trade/ exchange of genetically modified organisms
- ⑦ Spread of invasive species which alter the local ecology and cause spread of diseases

Recent examples of pandemics caused by zoonotic diseases are

- ① Covid -19 : allegedly originated in China
- ② Mipah virus : originated in South east asia
- ③ Zika virus : Originated in Africa

International collaboration on ~~controlling~~ ^{controlling} future spread of such diseases along with environmental protection will help the problem.

7.

भारत में बड़े सामाजिक-धार्मिक समारोहों और समागमों में भीड़ नियंत्रण की प्रमुख चुनौतियों पर चर्चा कीजिए। एनडीएमए के "सामूहिक समारोहों के आयोजन स्थलों के लिए भीड़ प्रबंधन योजना की तैयारी हेतु सुझावात्मक रूपरेखा" के आलाोक में, भगदड़ की घटनाओं को रोकने के उपाय सुझाइए।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the major challenges of crowd control in large socio-religious gatherings and congregations in India. In the light of NDMA's "Suggestive Framework for Preparation of Crowd Management Plan for Events Venues of Mass Gathering", suggest measures to prevent stampede incidents.

(Answer in 150 words) 10 marks

Socio - religious gatherings

are highly prone to stampede & riot like situation. They present major challenges in crowd control.

Major challenges of crowd control are

- ① Difficulty in communicating any information to the crowd
- ② Lack of information on size of crowd likely to attend the event
- ③ Absence of intelligence on any influence of ulterior forces in causing stampede

- ④ Inadequate logistics to take care of all people gathered

Suggestions for crowd control as per NDMA

- ① Prior information about all events likely to attract significant crowd to police
- ② Adequate police force to deal with any likely stampede
- ③ More facilities (sitting space) than the expected crowd
- ④ Collection of ground intelligence on any mischievous tendencies

In a country of 1 to crore people crowd control is a serious area of work. Adequate attention and following the guidelines of NDMA will help in dealing with the challenges.

8.

'संयुक्त राष्ट्र हाई सी ट्रीटी 2015 के पेरिस समझौते की महत्ता और सार्थकता के बराबर है।' इसके संदर्भ में, समुद्री जैव विविधता के संरक्षण और निष्पक्ष व न्यायमंगल संसाधन-साझाकरण के लिए संयुक्त राष्ट्र हाई सी ट्रीटी के महत्त्व पर चर्चा कीजिए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

'The UN High Seas Treaty is comparable to the 2015 Paris Agreement's importance and significance'. In the context of this, discuss the importance of the UN High Seas Treaty for the conservation of marine biodiversity and fair and equitable resource-sharing.

(Answer in 150 words) 10 marks

UN High Seas treaty is mutually agreed legally binding treaty among all UN member states. It regulates activities in the global high seas.

Importance of High seas treaty in Conservation of marine biodiversity

- ① Regulates transport of harmful/polluting materials on ships
- ② Release of Ballast water from ships is strictly regulated (to prevent spread of invasive species)
- ③ provides for methods to deal with incidents that harms marine biodiversity (eg: oil spills)

- Next IAS ID: PTP230200 CSMA2011, 16-05-2024 09:01 PM
- ④ Affects the international shipping, to align with the marine ecology
 - ⑤ Protect areas of high biodiversity from human disturbances through shipping

Fair and equitable resource sharing

- ① Declares High seas as global commons
- ② Rights of mining in high seas are regulated by international authority
- ③ Promotes responsible use of resources in high seas
- ④ Protects Restraints spread of conflicts to high seas

However, ~~global~~ like Challenges with PCA 2015, this body also faces challenges of proper execution. Responsible behaviour of member states will be needed to ensure smooth implementation.

जनरेटिव एआई (Generative AI) के अवैध प्रयोग से उत्पन्न नए साइबर खतरे क्या हैं? हाल ही में हस्ताक्षरित वैंलेचले घोषणा के आलोक में, भारत एआई द्वारा उत्पन्न खतरों के विरुद्ध अपनी साइबर सुरक्षा ढाँचा को किम प्रकार मजबूत कर सकता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

What are the new cyber threats posed by the illicit use of Generative AI? In the light of recently signed Bletchley Declaration, how can India beef up its cybersecurity structure against threats raised by AI? (Answer in 150 words) 10 marks

Generative AI is new technology that gives answers to questions asked in human natural languages. It has intelligence of its own and shows learning capabilities.

New cyber threats posed by illicit use of Generative AI

- ① spread of conspiracy theories by Generative AI in its answers
- ② potential use in radicalisation attempts by terrorist
- ③ different online piracy becomes easy due to use of AI
- ④ use of AI for cyber fraud, hacking attempts

⑤ massive violations of intellectual property right becomes easy

India can beef up its cybersecurity structure in following way

- ① Launch of new cybersecurity policy that covers AI risks
- ② Academic programmes that focuses upon cyber defence capabilities arising out of AI threats
- ③ Enhanced capacity of existing institutions like CERT-In
- ④ Focused measures to highlight the weaknesses in digital infrastructure
(e.g. cyber safety audit of all sites)

Cybersecurity is an evolving

area, more research into emerging trends and defence of threats and defence capabilities will help see more clearly pictures

10.

पड़ोसी देशों में बढ़ते राजनीतिक संकट के कारण भारत की सीमा सुरक्षा गंभीर दबाव में है। विस्तार से समझाइये।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

India's border security is under severe pressure due to the rising political crisis in neighbouring countries. Elaborate.

(Answer in 150 words) 10 marks

Bordering states of India
has recently witnessed political
instability and violence.

Severe pressure on border security due to rising political crisis in neighbourhood

- ① Risk of refugee influx from Myanmar and Bangladesh border
- ② Absence of fencing along Myanmar & Bangladesh border
- ③ Increased insurgency violence in North-east : due to political vacuum in Myanmar
- ④ Spread of radical Islamist forces from Bangladesh and Pakistan
- ⑤ Increased cross-border infiltration from Pakistan (eg: increased J&K violence recently)

- ⑥ Possible - creation of safe heavens
for terrorists even in Bangladesh
and Myanmar

Way ahead

- ① using advanced technology: Drone imaging
and BOLD-QIT for surveillance
- ② Intelligence on enemy's activities near
border: Need to ~~strengthen border~~
network near vulnerable areas
- ③ creation of joint task force with
Bangladesh & Myanmar to monitor
border situation

A safe and stable border
is crucial for ensuring robust
internal security. Overcoming the
increased pressure will ensure in
achieving it.

11.

"कौशल के बिना व्यक्ति संपत्ति नहीं बल्कि राष्ट्र के विकास पर एक दायित्व है"। प्रासंगिक कौशलों का समावेश भारत के जनसांख्यिकीय लाभांश में किस प्रकार योगदान देता है? युवाओं में कौशल अंतर को कम करने के लिए सरकार द्वारा हाल ही में कौन सी पहल की गई है?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

"A person without skill is not an asset but a liability on the nation's growth". How infusion of relevant skills contribute to the demographic dividend of India? What recent initiatives have been undertaken by the Government to reduce the skill gap among young Indians?

(Answer in 250 words) 15 marks

India is witnessing a demographic dividend between 2018-2040. This could enable miraculous growth for the economy. However, it needs skilled workforce to maximise the dividend for economy.

Infusion of skills can contribute towards demographic dividend in following ways

- ① Prepares the workforce to tap into emerging opportunities, despite changing work paradigm
- ② Inculcates adaptability in youth population, allowing them to acquire new skills whenever needed
- ③ ~~At~~ Youth led innovation can flow in the economic organisations

- ④ Attracts FDI, who bet on skilled workforce
- ⑤ Increased Consumer demand due to higher earnings of skilled youth
- ⑥ Increases workers' productivity who in turn increases economic productivity
- ⑦ Provide a pool of talented youth for driving deep-tech startup ecosystem (eg: advanced digital skills, mathematics)
- ⑧ Reduce the cost of skilled labour by increasing the supply

Recent initiatives taken to reduce the skill gap among young Indians

- ① Skill Indian mission: organises skill training workshops

- ② Pm Kaulshal Vikas Yojna provides Recognition to prior learning
- ③ Online executive courses by premier institutes of country (IITs offer AI and ML certification, IIMs offer management digital business management courses)
- ④ Entrepreneurship curriculum launched by some state government (eg: Delhi and Tamil Nadu)
- ⑤ Global capability centres set up at important cities
- ⑥ modernising ITIs across the country
- ⑦ vocational education provision in NEP 2020

In the 'coming age of technological revolution', skilling, reskilling and upskilling will be cornerstone for utilising the demographic dividend of India.

12.

भारतीय विमानन क्षेत्र में देश में परिवहन का प्राथमिक साधन बनने की अपार संभावनाएँ हैं। भारत के विमानन क्षेत्र में संवृद्धि को बढ़ावा देने वाले कारक क्या हैं? इस क्षेत्र के समक्ष आने वाली चुनौतियों पर प्रकाश डालिए और इसमें सुधार के उपाय सुझाइए।
(उत्तर 250 शब्दों में दीजिए) 15 अंक

The Indian aviation sector has immense potential to become the primary mode of transportation in the country. What are the factors propelling growth in India's aviation sector? Highlight the challenges that the sector faces and suggest measures for improvement.

(Answer in 250 words) 15 marks

India's aviation sector

is currently fastest growing aviation market in the world. In last ten years number of airports, passengers and air routes has seen unparalleled growth.

Factors propelling growth in India's aviation sector are:

- ① Disposable incomes: Per-capita income has gone up while saving rate has declined from 34% (2011) to 30% (2023)
- ② Urban population: People living in metro-cities have jumped by 10-12 times in last 10 years
- ③ Rising aspirations: Flight symbolises affluency and success, making people

spend on air travel, while compromising other expenses.

- ④ Reduced air fare: average fare has come down significantly since 2015.
- ⑤ Government push: initiatives like UDAN (Ude Desh Ka Aam Nagrik) has incentivised airport construction and airlines.
- ⑥ Green-field airport construction: small cities also got connected to air network (eg: Dharbhanga, Kushinagar etc).
- ⑦ Private investments: by airlines into fleet, customer service, regional language use has attracted people (eg: Indigo, SpiceJet grew very rapidly).

Challenges of the aviation sector

- ① Profit margins: Sharp fall in air fares has reduced profit per passenger for airlines (eg: Go Air got grounded).
- ② Safety issues: Frequent turbulence and equipment malfunction is being reported (eg: SpiceJet investigation).

- ③ MRO related problems: high repair & maintenance cost due to shortage of domestic MRO sites
- ④ Inadequate ~~com~~ market competitiveness
(few airlines dominate market like Indigo & Air India)
- ⑤ New routes are still less or unprofitable
for the airlines (eg: North east connectivity remains low)

Measures needed

- ① Attract FDI in aviation sector like
in MRO, jet manufacturing
- ② Provide incentives for more flights on
newer routes for increasing traffic
- ③ Institutionalise fleet audit for safety
compliance
- ④ Encourage startups in aviation sector
through conducive policies like the Telecom
sector in 2010s

Recent mega orders for new flights by Indigo & Air India shows bright future for Indian aviation. In coming decade it will expand to capture global market too.

13.

किसान उत्पादक संगठन (एफ.पी.ओ.) कृषि-नवाचार के इंजन हैं। इस संदर्भ में, कृषि में विखंडन और आधुनिकीकरण के अभाव की समस्या के समाधान में एफ.पी.ओ. के भूमिका की चर्चा कीजिए। कृषि में एफ.पी.ओ. की भागीदारी को बढ़ावा देने के लिए सरकार द्वारा की गई पहलों पर प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

Farmer Producers' Organizations (FPOs) are engines of agri-innovation. In this context, discuss the role of FPOs in addressing the issue of fragmentation and lack of modernization in agriculture. Highlight the initiatives the Government took to promote the participation of FPOs in agriculture. (Answer in 250 words) 15 marks

FPOs are farmers collectives which work like companies producing agri - crops, similar to private companies in manufacturing. Due to their role in addressing issues of farming, they are termed as engines of agri - innovation.

Role of FPOs in addressing the issues of :

(A) fragmentation in agriculture

① FPOs encourage cooperative farming

② Increases the average landholding used in farming

③ Enables pooling of inputs like seeds, capital, innovative insights etc

- ④ Provides single point of contact
for private contract farming
- ⑤ Improves production efficiency through
economies of scale in apiculture
- ⑥ Lack of modernisation in agriculture
- ⑦ Enables access to large capital
for investment in machinery
- ⑧ Organises scientific breeding of
livestock
- ⑨ Advanced techniques of farming
is adopted through information sharing
(eg: Integrated farming, polyhouse technology)
- ⑩ In-situ food processing units are
set up through FPOs
- ⑪ Latest technology adoption becomes
easy like 'precision farming', use
of 'micro climate forecasting', 'market
intelligence data' etc)

Initiatives govt took to promote FPOs

- ① Constituting large number of FPOs through handholding
- ② provides subsidies / incentives on seed, fertilisers, other agri-inputs
- ③ PKVY also encourages FPOs for natural farming
- ④ Export linkages and credit support for export oriented FPOs by APEEDA
- ⑤ Agricultural Infra fund (₹10000 crore) to support functioning of FPOs

With continuous support and mission mode expansion of FPOs, it can become the key instrument to solve all existing ills of Indian agriculture, from low productivity, to low procuring and stagnant incomes. Need is to keep investing in FPOs with patience.

14.

भारतीय अर्थव्यवस्था के सबसे मजबूत विकास इंजनों में से एक होने के बावजूद, कुछ अपस्ट्रीम और डाउनस्ट्रीम मुद्दे हैं जो भारत में खाद्य प्रसंस्करण उद्योगों के विकास को प्रभावित कर रहे हैं। चर्चा कीजिए। भारत में खाद्य प्रसंस्करण उद्योगों के समग्र विकास को मजबूत करने के उपाय सुझाइए।

(उत्तर 250 शब्दों में दीजिए) 15 अंक

Despite being one of the strongest growth engines of the Indian economy, there are certain upstream and downstream issues ailing the growth of food processing industries in India. Discuss. Suggest measures to strengthen the overall growth of food processing industries in India.

(Answer in 250 words) 15 marks

Food processing industry is growing at a CAGR of 9-11%, which is much higher than agricultural growth of India. It shows its immense potential to be a 'growth engine' of economy.

Upstream issues ailing the growth of FPI,

- ① High cost of transportation from field to processing unit
- ② Shortage of cold-storage infrastructure in the country
- ③ Seasonal nature of agri-produce, hampers regular supply.

- ④ Higher cost of agri-marketing
for private processors (due to APMC)
- ⑤ Higher overall logistics costs (at
13% of GDP, higher than 7% for
comparable economies)

Downstream issues

- ① presence of unorganised and informal
sector in processing
- ② Absence of large-scale brands in
different processing areas
- ③ Lack of innovation and product
diversity
- ④ ~~Presence of~~ Lack of trust over
safety of available food products
- ⑤ lower market ^{penetration}
~~penetration~~ for
small scale processing units

- ⑥ Inadequate regulation over adulteration, use of trans fat or banned inputs
(eg: FSSAI lacks capacity to regulate such large market)

Measures to strengthen the food processing industry

- ① Liberate the farm sector (eg: reintroduce the three farm bills)
- ② Encourage contract farming at large scale
- ③ Promote large number of FPOs across the country
- ④ Provide easy credit to small, medium processing units (like MUDRA, specialised for food processing)
- ⑤ Enable growth of commercial crops, different from wheat-rice combination
- ⑥ Set up cold-storage chains across the country.

Food processing industry can prove to be a gamechanger for both farmers and consumers of India, if suitable measures are taken.

15.

कृषि विज्ञान व सांख्यिकी के क्षेत्र में कमल: डॉ. एम.एस. स्वामीनाथन और डॉ. सी.आर. राव के योगदान से भारत को क्या लाभ हुआ?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

How was India benefitted from the contributions of Dr M.S. Swaminathan and Dr C.R. Rao in the fields of agricultural science and statistics respectively?

(Answer in 250 words) 15 marks

Dr M.S. Swaminathan and Dr C.R.

Rao were eminent scientists in their respective field. They made immense contributions to the progress of India in post-independence time.

Benefits from the contributions of:

① Dr. M.S. Swaminathan in agriculture

① provided research to increase productivity from rice and wheat crop

② Made India food surplus in cereals

③ Reduction of rural poverty in north and south India

NEXT IAS

④ Food security to India due to MSP and policy of buffer stock

⑤ Inspired a generation of agricultural scientist to make path breaking innovation

⑥ He nurtured the entire ecosystem of rigorous and through agricultural research

⑦ Dr. CR Rao

① He gave sat statistical breakthrough that are used in diverse fields

② Contributes to research in the field of space science

- ③ Strengthened the standards ecosystem of mathematical and statistical research in the country
- ④ Raised the benchmark of mathematical research in pure sciences.
- ⑤ Encouraged scientific temperament among young minds through public interactions

Scientists have always been instrumental in building any great nation. So is true for India. These two scientists exemplify it for the context of India.

16. कृत्रिम बुद्धिमत्ता (AI) समग्र बौद्धिक संपदा प्रतिमान को किस प्रकार चुनौती दे रही है? नवप्रवर्तन को बढ़ावा देने और कृतियों एवं आविष्कारों को प्रोत्साहित करने के लिए कृत्रिम बुद्धिमत्ता को बौद्धिक संपदा के साथ कैसे संतुलित किया जा सकता है?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

How is Artificial Intelligence (AI) challenging the overall intellectual property paradigm?
How can AI be balanced with intellectual property to foster innovation and incentivize creations and inventions?

(Answer in 250 words) 15 marks

Artificial intelligence is the technology that allows machines to think like humans. It is creative and capable of producing new intellectual properties.

AI is challenging the overall IP paradigm in following ways:

- ① Massive explosion of IP in various fields (eg: AI generated images, videos, books, poems and stories)
- ② Difficulty in identifying the correct owner of AI generated intellectual property
- ③ Distribution of revenue / income

NEXT IAS

generated through circulation of AI content

- ④ Non - payment of royalties to original data owners ^{on} whose content AI was initially trained (eg: AI learns creativity through training on some original data)
- ⑤ Legal issues arising out of this is not yet covered
- ⑥ Sovereignty issues: territorial IPR laws are difficult to enforce in AI world.

NEXT IAS

AI can be balanced with intellectual property to foster innovation in following ways:

- ① Payment/Royalties to original owners of data (poems, literature, research papers) on which AI was trained
- ② Tap into legal research on how to regulate AI tech by nation-states

- ③ make separate legislation to fix IP of AI generated content
- ④ Strong data protection regime established through international collaborations
- ⑤ Establish quality controls for AI intellectual property in specialised areas/and sensitive disciplines (like medical research, biotechnology)

AI is a revolutionary technological advancement of our times. However, an effective state regulation is necessary to balance the needs of innovation and intellectual property regime.

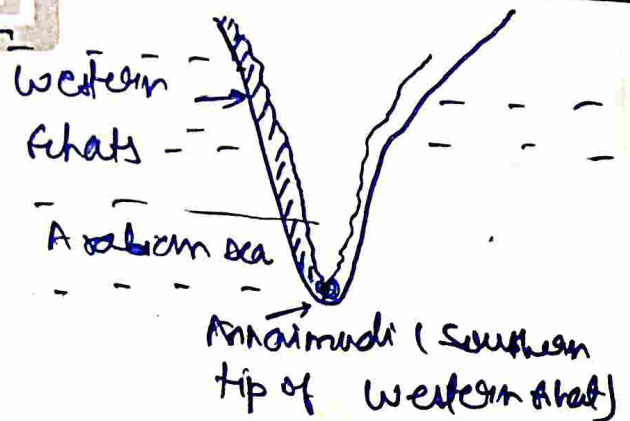
भारत की जैव विविधता को परिरक्षित और संरक्षित रखने में "पश्चिमी घाट" के महत्त्व पर प्रकाश डालते हुए, इस नाजुक और पारिस्थितिक रूप से संवेदनशील क्षेत्र के सामने आने वाले खतरों पर चर्चा कीजिए। पश्चिमी घाट पारिस्थितिकी तंत्र की सुरक्षा के लिए भारत सरकार द्वारा किए गए उपायों को विस्तार से समझाइये। (उत्तर 250 शब्दों में दीजिए) 15 अंक

Highlighting the significance of "Western Ghats" in preserving and conserving the biodiversity of India, discuss the threats faced by this fragile and ecologically sensitive Region. Elaborate on the measures taken by the Government of India to protect the Western Ghats ecosystem.

(Answer in 250 words) 15 marks

Ecologically sensitive regions
around the world are facing the
threat of developmental pressures and
climate change. Western Ghats is
one such region, located along the
western coast of Indian peninsula.

Significance of Western
Ghats



① Hosts one of the
most diverse

'biodiversity hotspots' of India

Fig: Western Ghats

② High level of endemism in its ecology
(rare & endemic species of fauna &
flora are found - eg: Malabar civet, Lion-tailed
macaque)

- ③ Holds large area of mangrove forest
(Gujarat has 2nd highest area after Bengal)
- ④ Source of perennial rivers of peninsular India (eg: Godavari, Krishna, Kaveri - etc)
- ⑤ High area of montane forests (like Nilgiri forests)
- ⑥ Most pristine and inaccessible / non-habitated areas are present there

Threats faced are

- ① Overtourism: could cause unsustainable infrastructure development
- ② Dam building: submerge large areas of pristine forest
- ③ Habitat encroachment onto forest land by human habitations
- ④ Damage to wetlands, through pollution, obstructions in catchment or agriculture

- ⑤ Sea water ingress, due to rising sea level
- ⑥ Cyclonic disturbance harms large areas of mangrove forest

Measures taken for protection by govt

- ① Coastal regulation zone: protects human activity in different zones
- ② Declaration of 'National Parks' and wildlife protection zones: protects the ~~forest~~ flora and fauna of the region
- ③ Captive breeding of endemic but endangered animals (eg: Malabar civet)
- ④ Dam Safety Bill introduced to regulate floods caused through dams
- ⑤ Restrictions on building new dams
- ⑥ Ramsar sites declaration: to protect important wetlands (eg: Vembanad lake)
protecting western shore is extremely crucial not just for biodiversity but also economy of coastal states. Sustainable measures will help in achieving these goals.

18. जलवायु परिवर्तन पर संयुक्त राष्ट्र फ्रेमवर्क कन्वेंशन (UNFCCC) के पक्षकारों के सम्मेलन (COP) के 28वें सत्र के प्रमुख निष्कर्षों का वर्णन कीजिए। COP-28 के दौरान भारत द्वारा शुरू की गई ग्रीन क्रेडिट पहल की क्या विशेषताएँ हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

Describe the major outcomes of the 28th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the features of the Green Credit Initiative launched by India on the sidelines of COP-28?

(Answer in 250 words) 15 marks

COP28 was hosted recently in UAE. It is annually hosted to arrive at a common global rules for climate change mitigation and adaptation.

Major outcomes of COP 28

- ① Agreement on increased climate finance was signed
- ② Rules on 'loss and damage' was initiated as agreed on previous COP
- ③ Discussion on global stocktake was held, to hold it timely after its schedule agreed under (Paris pact 2015)

- ④ Creation of fund to support clean technology
- ⑤ Market mechanism (like sustainable developmental mission) was further expanded
- ⑥ Cap and trade (of emissions) system was to be mandatorily implemented in many global cities

Features of green credit initiatives

- ① Separate mechanism to support credit in green technologies
- ② Global support to private sector in climate adaptation
- ③ Full Play a role in climate finance targets agreed under PCA 2015

- ④ Developing and least developed countries to get support under PA.
- ⑤ Also includes private sector in collective fight against climate ~~for~~ change

Recent initiatives at COP are implementing the vision of Paris Climate Agreement 2015. They 'need to be accelerated' to keep global temp rise to below 1.5°C by 2050 (as suggested by IPCC)

19.

शेल कंपनियों ने भारत में धन-शोधन (मनी लॉन्ड्रिंग) के खतरों में किस तरह योगदान दिया है? क्या धन-शोधन रोकथाम अधिनियम, 2005 में हाल ही में किए गए संशोधनों से ऐसी शेल कंपनियों के साथ ग्राहकों की लेन-देन संबंधी प्रकृति की समस्या का समाधान करने में सहायता मिलेगी? (उत्तर 250 शब्दों में दीजिए) 15 अंक

How shell companies has contributed to the menace of money laundering in India? Do you think recent amendments to the Prevention of Money Laundering Act, 2005 will help address the problem of the transactional nature of clients with such shell companies?

(Answer in 250 words) 15 marks

Money laundering is the process of using illegal channels to send money across states for ~~making~~ bringing it within the formal banking as 'white money'

Shell companies contribute to money laundering in following way

- ① Allow financial transactions to be seen as legal
- ② used to receive Hawala money from fake clients
- ③ helps in making fake transaction receipts, which are masking illegal channels of money.

- ④ Helps in tax evasion, by utilising benefits of tax haven
- ⑤ Enables misuse of legal loopholes
- ⑥ Allows execution of big corporate frauds

Yes, recent amendments can help in following ways

- ① speeds up the trial of money laundering cases
- ② Focuses on preventing money laundering at first instance
- ③ will promote international collaboration on money laundering
- ④ promotes use of technology to identify money laundering (eg: Aadhaar, AIA)

⑤ Strengthens corporate governance

Practices in clients, preventing transactions with shell companies

Challenges with the amendments

- ① Enforcement mechanism is weak
- ② Presence of corruption in govt and corporate bureaucracy
- ③ Trans-national organised crime network, still intact, difficult to deal with amendments
- ④ Doesn't adequately address emerging technology such as Dark web, or advanced computing like Quantum)

money laundering is

emerging as an urgent and complicated security threat. Different technologies are further complicating the problem. These amendments are step in right direction.

चर्चा कीजिए कि अपराध-उग्रवाद गठजोड़ ने पूर्वोत्तर भारत में जातीय संघर्षों और उग्रवाद की वृद्धि में किस प्रकार योगदान दिया है। इस चुनौती से निपटने के लिए कौन से संस्थागत उपाय किए जा सकते हैं?

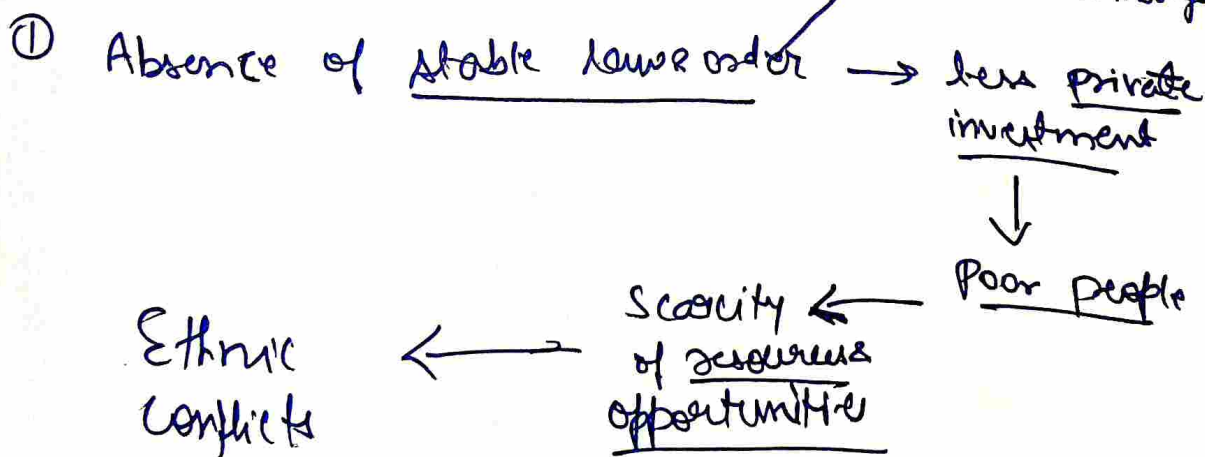
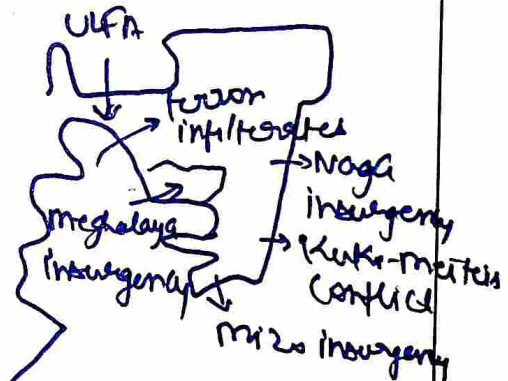
(उत्तर 250 शब्दों में दीजिए) 15 अंक

Discuss how the crime-insurgency nexus has contributed to the rise in ethnic conflicts and insurgencies in North-East India. What institutional measures can be undertaken to address this challenge?

(Answer in 250 words) 15 marks

~~North~~ North east India has been Under the grip of crime & insurgency for a long time. Recent incidents in Manipur ~~st~~ highlights how it has also led to rise of ethnic conflicts.

~~Role~~ Role of crime-insurgency nexus in rise of ethnic conflicts & insurgency



② Continuous supply of arms/money that fuels ethnic conflicts

③ Transborder crime network encourages ethnic conflicts to make more profit (like rhino and arms selling)

④ Extortion network creates discontent against ^{govt} ~~public~~ thus encourages insurgency

⑤ more stringent laws (AFSPA) → violence

(vicious cycle continues fuelling each other)

Institutional measures to address these

① Strengthening North-east council to take effective, targeted measures

② Creation of more district & Hill Council to take local decisions → reduce insurgency

③ Forming village dev. defence councils (VDCs) on the lines of JK to

reduce insurgency violence

- ④ Strengthening civil administration to address local issues (eg removing AFSPA)
- ⑤ creation of inter-state council and zonal council to discuss political issues (eg: resolution of inter-state border conflicts)
- ⑥ create 'peace committees' with neighbouring countries to cooperate counter-insurgency operations
- ⑦ for Better institutional coordination between ~~any~~ Army, police and civil administration for synchronized action

peace in North-east states will be a boost to India's overall internal security w.r.t drugs smuggling, refugee influx etc.