# NEXT IAS

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(To be filled by candidate)

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NEXT IAS Roll No.: AIM24GCRA010 Date of Examination : 23/08/2023

Exam Centre : Old Rajinder Nagar ☑ Bhopal ☐ Online ☐

Test Code : TC057

Time Taken : 2hr 55 min

Program : FLT ☐ FLT+ ☐ SLT ☐ SLT+ ☑

# MAIN TEST SERIES 2023
## (TEST-11)

## GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the 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.

Candidates must read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

.....

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

[To be filled by the STUDENT]

| Student's Queries for the Evaluator (if any write them below) |
| --- |
| |

[To be filled by the EXAMINER]

| Evaluator's response |
| --- |
| |

*(For filling by Examiners only)*

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

MACRO COMMENTS

## IMPORTANT INSTRUCTIONS

**CANDIDATES SHOULD READ THE UNDERMENTIONED INSTRUCTIONS CAREFULLY. VIOLATION OF ANY OF THE INSTRUCTIONS MAY LEAD TO PENALTY.**

### DONT'S

1. Do not write your name or registration no. anywhere inside this Question-cum-Answer Booklet.
2. Do not write anything other than the actual answers to the questions anywhere inside your QCA Booklet.
3. Do not tear off any leaves from your QCA Booklet, if you find any page missing do not fail to notify the supervisor/ invigilator.
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1. Read the Instructions on the cover page and strictly follow them.
2. Write your registration number and other particulars, in the space provided on the cover of QCA Booklet.
3. Write legibly and neatly. Do not write in bad/illegible handwritings.
4. For rough notes or calculation, the last two blank pages of this booklet should be used. The rough notes should be crossed through afterwards.
5. If you wish to cancel any work, draw your pen through it or write "Cancelled" across it, otherwise it may be evaluated.
6. Handover your QCA Booklet personally to the invigilator before leaving the examination hall.

Candidates must not write on this margin

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 and wholesale Price index are two measures of inflation measured by Central statistical office.

**Diffference between CPI and WPI**

| CPI | WPI |
|---|---|
| ① It measures inflation at retail of consumer level | ① It measures inflation at wholesale or production level. |
| ② It takes into account 674 goods and services | ② It taken into account a basket of 192 goods. |
| ③ It includes both goods and services | ③ It does not include services. |

Candidates must not write on this margin

| | |
|---|---|
| ① Not used to calculate dearness allowance | ① It is used for dearness allowance |
| ② Base year is 2012 | ② Base year is 2016 |
| ③ Highest weightage ⇒ Food | ③ Highest weightage ⇒ manufacturing. |
| ④ It has 5 categories ⇒ food, beverages, energy electricity etc | ④ It has 3 categories ⇒ manufacturing, food etc. |

**CPI as a better measure**

- → It includes services, so a reliable measure
- → The basket of good is larger than WPI.
- → Economists say that for economy like India CPI is a better measure
- → Instead of WPI, producers price index can be calculated

Thus it is essential to regularly calculate WPI and CPI to frame worker economic policies & investment.

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2. रोजगारविहीन संवृद्धि भारत के विकास पथ का एक अंतर्निहित लक्षण है। भारत में उच्च बेरोजगारी दर के पीछे प्रमुख कारण क्या हैं? भारत में समग्र रोजगार वृद्धि दर में सुधार हेतु उपचारात्मक उपाय सुझाइए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

Jobless growth is an inherent feature of India's growth trajectory. What are the major reasons behind the high unemployment rate in India? Suggest remedial measures to improve the overall employment growth rate in India.
(Answer in 150 words) 10 Marks

Jobless growth means overall economy is growing but employment rate or quality of jobs is still stagnant.

Eg Indian economic growth between 2010-15 is often termed as jobless growth.

Why it is inherent feautere
- → less focus on employment generation
- → informal sector
- → No addition of new sectors to economy
- ↓ growth in only few sectors.

Reasons behind unemployment rate in India:

① Informal work organization
- ↓ No contract.
- ↳ Job insecurity
- ↳ Hire and fire

Candidates must not write on this margin

② Structural unemployment → lack of relavant skills.
→ lack of human resource.
↓
less investments in education and skill development

③ Disguised and seasonal unemployment
↓ ↓
Agriculture informal nature of job

④ Lack of job creation.
⑧ Lack of entrepreneurship skills.

Remedial measures :-

① Promote entrepreneurship and incubation centres.
② Schemes like PM Kausal Vikas Yojna
③ Promotion of apprenticship
④ Vocational training
eg electrician, carpentary.
⑤ ~~University~~ University-industry collaboration
⑥ Syllabus correspondence with job demands
⑦ Add new sectors to economy
eg space, green technology

If India want to become a $25 tn economy till 2040, it need to create jobs for its youth and to reap the demographic dividend.

Candidates must not write on this margin

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.

In India, today 68% of fertilizer subsidies are spent for urea subsidies which is a direct subsidy program.

If urea under NBS:-

1. Subsidy price will be paid to the factories.
2. ~~Les~~ Rational utilization of urea.
3. less corruption.
4. Rationalize fertilizer subsidy in India.
5. less contamination and soil pollution
6. Reduces excess of urea use

} environmental concerns.

Candidates must not write on this margin

## Issues related to urea management :-

→ 30% of the urea is diverted to industrial use (Economic survey 2020-21)

→ Corruption and rent seeking.

→ Amount and quality of urea to be used is not regulated

## Reforms suggested :-

→ Promotion to neem coated urea.

→ Awareness to farmers to rationalize the ~~use~~ use of urea.

→ Either bring urea under NBS or frame a new subsidy scheme for urea.

Thus, rationalization of urea subsidy is the need of the hour to promote its sustainable use.

Candidates must not write on this margin

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.

Food security means affordability and accessibility of food grains which is a pre-requisite for inclusive development.

**India's food security**

**Domestic challanges**

1. Inflation in food items
   - eg recent tomato prices.
2. spatial unevenness
   - eg drought in Marathwada and food wages in other states

**global challenges**

1. Disturbance in global supply chains
   - eg Russia-Ukraine war
2. Availability of fertilizers in post covid times

Candidates must not write on this margin

(3) Low productivity
(4) Pest attack
(5) Dependence on monsoon
(6) Poverty, especially after COVID-19.
(5) Global inflation also affect food grain prices
(4) Rise of crude oil prices

Ways to strengthen food security :-

(1) Crop diversification
Eg promotion of millets.
(2) Transport from surplus region to deficit region and mid day meal scheme
(3) Policies like Garib Kalyan Yojna, and food fortification.
(5) Revise the beneficiaries of National food security Act after census
Eg present = 80 crore beneficiaries
left out = 30 crore (approx)

Food security is essential to fight malnutrition and hunger and to reap the demographic dividend.

Candidates must not write on this margin

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.

Artemis Accord is a US led initiative based on Outer Space Treaty and Moon treaty for peaceful use of space and sustainable presence of human in space.

**Implications for space exploration**

→ India can get critical technologies from partner countries
- deep space communication from Australia and sample return mission from Japan

→ It will help in successful launch of Gaganyaan mission

→ It will strengthen QUAD and I2U2
- space is a collaboration area

Candidates must not write on this margin

→ Provide thrust to Indian space startups and include them in global supply chains eg Bellatrix and Agnikul

→ exploration of $He_3$ for energy security.
↳ south pole of Moon (Aitken basin)

**Concerns**

→ It is already very much crowded.

→ USA is always reluctant to share technology.

→ It will create a space-bipolar world
eg Artemis (vs) ILRS

→ Us has not singed Moon treaty.
↳ distribution of benefits.

Now, most of the things depend on Gaganyaan mission but for the time being, India through its Artemis membership can shape global space governance

Candidates must not write on this margin

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.

Decomposition of organic matter means breaking down of complex Organic matter into simpler form ready to be absorbed.

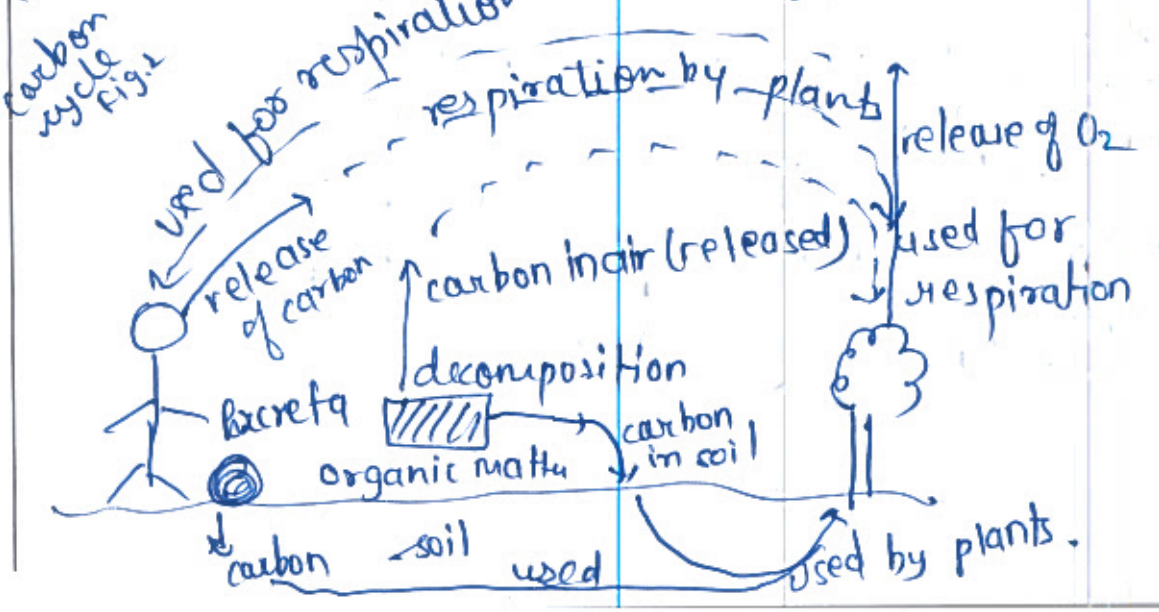
Eg $A_xB_yC_{2n} \xrightarrow{\text{decomposition}} xA + yB + C + n2$

**Contribution to carbon cycle**

Carbon cycle is the patterned, regular and periodic flow of carbon between land, water and air.

Fig: carbon cycle

carbon cycle Fig.1



Candidates must not write on this margin

## Contribution

→ Availability of simpler carbon compounds to be absorbed by the plants and other organisms

→ It helps to create a carbon equilibrium

## Factors influencing :-

Presence of oxygen → Aerobic decomposition is faster than anaerobic decomposition
⇒ decomposition in open ground

Temperature and sunlight → higher the temperature, higher the rate of decomposition

Moisture → more moister → more decomposition
⇒ tropical rain forest.

organic content :- High organic content leads to high amount of carbon released

Thus decomposition of organic matter is an important process which contributes to the life sustaining carbon cycle

Candidates must not write on this margin

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

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

Today, it is an "era of global boiling", as said by UN Sec. General. So mitigation and adaptations strategies require removal of already released carbon also.

Eg. carbon released due to vehicles, thermal plants etc

**Carbon Capture Utilization storage →**

→ Mechanism to remove already released carbon

→ It captures the carbon released from industries and utilizes it for bio-fuels

Eg algal fuel, bio ethanol etc

Candidates must not write on this margin

→ Reliance Jamnagar plant used CCUS.

→ It helps in earning carbon credit

→ It is a sustainable technique for capturing, removing and utilization of carbon.

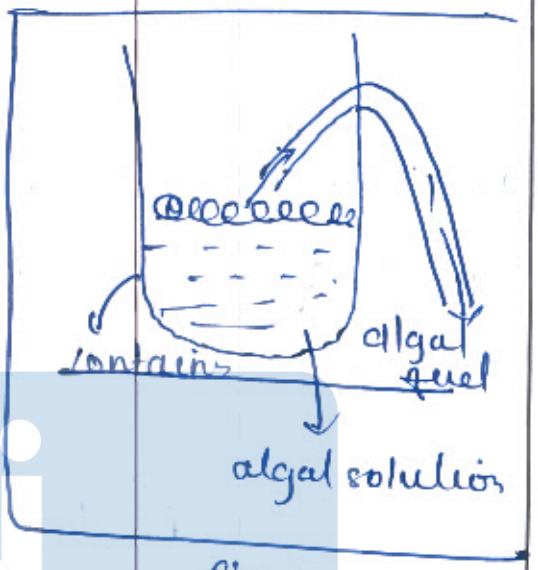



Fig.2

International community progress :-

→ Recognized for carbon credit in carbon market

→ Under 2 coilation has a sector related to CCUS.

→ Paris Agreement also acknowledged CCUS. (mitigation PATHWAY)

→ New collective Quantified goals.

Thus, carbon capture and utilization and storage is not an option but a need if we want to resist the temperature beyond 2°C.

Candidates must not write on this margin

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

Poor building design, flagrant violations of building codes and fire safety norms and overcrowding of spaces are responsible for the rising risk of fires in urban areas. Discuss.
(Answer in 150 words) 10 Marks.

Urbanization is an important aspect of development but the time demands to discriminate between unplanned urbanization and sustainable urbanization

Factors for fires in urban areas :-

① Poor building design → Not confirming to BIS standards.

Eg Recent fire in Mukharjee nagar building.

→ voilation of building codes
- ↳ No installing fire alert system
- Absence of fire extinguishers.
- incompliance to safety norms
- ↳ lack of insulating covering of electric wires.

Eg 2021-22 ⇒ 58 fire incidents in delhi due to poor building design (Fire safety dept.)

Candidates must not write on this margin

② Overcrowding of spaces :-
- ↳ Leads to high mortality.
- ↳ lack of water and sanitation
- ↳ Electric wires and electric poles are very close to residential homes.

③ Ignorance and lack of awareness

**Suggestions**

- ↳ General awareness about safety measures.
- Punishments for non-compliance to BIS codes.
- Promotion of green building codes.
- Awareness among public through mock drills and school sessions.
- Factories supplying poor quality of electronic appliances should be on target.
- Regular servicing of buildings.

Compliance to the standard building codes is necessary because it inhibits the development and risks the human community.

Candidates must not write on this margin

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

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

India shares a long border with Myanmar and Bangladesh which is a double edges sword of cultural contact and ~~organized crimes~~. ethnic conflicts

examples of organized crimes
- → drug ~~trafficking~~ smuggling.
- → smuggling of weapon
- → Organ and human trafficking.
- ⇒ financial aid for terrorism.

**Ethnic conflict impacting internal security**

→ Instances of ethnic conflicts can increase.

→ It disturbs the social harmony, halts the regular activities

⇒ recent manipur clashes

Candidates must not write on this margin

→ Vulnerable sections suffers the most
Eg women and old people.
→ Ethinization of politics.
→ Can lead to instances like burning and damaging public property

**cross border migration and internal security**

→ The migrants can be terrorist agents or sleeper cells.
→ They create resource competition and conflicts.
→ It leads to organized crimes like drug smuggling etc.
→ population increase and change in population dynamics.
Eg 1960 → Assamese in Assam were 72%.
2021 → only 30%.

Thus ethnic & conflicts and cross border migration pose a risk to internal security which puts pressure on our security agencies but Diplomacy and dialogue should be the tools to resolve it.

Candidates must not write on this margin

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

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

Money laundering is a very serious offence which contributes to many other offence like organized crimes, terrorism etc and is also born out of them

**Money laundering** :- Entry of money earned from illegal system into formal monetary system.
(or)
whitewashing of unaccounted money

**Challenges faced by law enforcement agencies**

"Enforcement Directorate is the agency to investigate the cases of money laundering."

→ Money laundering is a predicate offence

Candidates must not write on this margin

→ Establishing a relation to old offence is difficult.
→ Taking custody of the accused is difficult.
→ Faces allegations of investigating politically motivated cases.
→ conviction rate is low (6.1% ⇒ NCRB)
→ lack technological upgradation
→ can't give punishment
→ Absence of ~~enforcement~~ prosecution wing.
→ Officers on deputation.

**Suggestions**

→ Technological training of the staff.
→ establishing a ~~enforcement~~ prosecution wing.
→ states should not create impediments in its investigation
→ Autonomy.

Independence and autonomy of ED is and other enforcement agencies is crucial to tackle the cases of money laundering.

Candidates must not write on this margin

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

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

Recently, during covid-pandemic, tax buoyancy of India came down and deficits and debts increased to upto 90% (state + centre)

low tax buoyancy
→ less revenues
→ high borrowing
→ High debt and deficits
→ low investment
Less economic activities.

Can a higher tax rate improve tax to GDP ratio?

→ Percentage share of direct tax in gross revenue is 51% (economic survey 2021)

Candidates must not write on this margin

↳ To some extent, high direct tax can increase tax - to GDP ratio.

⇓

But it is a disincentive to earn more

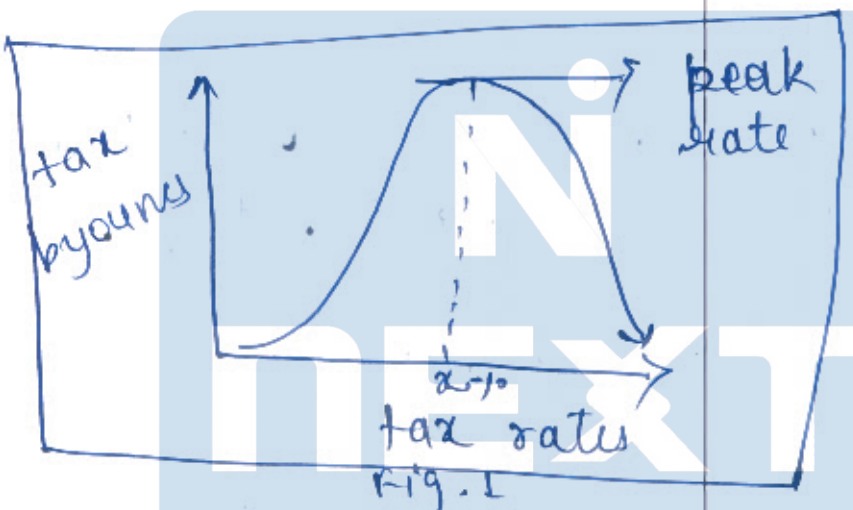



Fig. 1

Beyond x% tax rate, tax ~~buoyancy~~ buyancy starts to fall.

## Steps to revamp tax structures in India

→ stable tax structure

↳ recent GST council meeting and taxing the winning prize in gaming.

Candidates must not write on this margin

→ Rationalize tax benefits.

Eg tax benefits to political parties are questionable

→ Robust income tax return system

→ Regular and random checking of tax records by IT Dept.

→ Digitalization and virtual interface

→ Reduce complexities in filing IRRs.

→ Rationalize tax rates.

Eg services like education shall not be taxed at 18%

Thus, a stable and robust tax structure is a drivers to the increased FDIs and economic growth creating a multiplier effects leading to high tax ~~buoyancy~~ buoyancy.

Candidates must not write on this margin

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

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

India, in order to become a $25tn economy by 2047 needs to focus on its startups and innovations. because startups drive the modern economy

Drivers of fast changing economy
- → employment generation
- → formalization of economy
- → competent with changing technology
- → contribution to GDP and economic growth

↓

Increases tax buoyancy.

Candidates must not write on this margin

## Reasons for Indian startups failed to realize their potential

→ lack of govt. encouragement and subsidies.

Eg we have PU of 76,000 cr but startups were not able to invest this much large amount.

→ Lack of single window clearance and administrative compliance and complexities.

→ Frequently changing tax structures.

→ Competition (sometimes unhealthy) from foreign product.

↳ because they get govt. incentives for production.

Candidates must not write on this margin

→ lack of economies of scale.
→ lack of human resource and skill development.
→ University syllabus → oriented towards creating labour force and not entrepreneurs.

# Steps that can be taken to increase profitability of startups.

→ Hand holding approach by govt.
  Eg ~~IASp~~ INSpAce to provide startups a interface with govt.
→ Collaboration between startups
  Eg Bellatrix and Agnikul
→ Credit guarantees to MSMEs
→ Loan guarantee by govt.
  Eg Agricultural Infrastructural Development fund
→ Robust IPR ecosystem
→ Encouraging public private partnership

Above suggestions would be applied to help startups to realize their potential to drive India's economic growth.

Candidates must not write on this margin

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

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

Despite being an agricultural economy, India imports 68% of its edible oil and 98% of which is palm oil.
(Economic survey 2022)

Need for importing
→ monocropping
→ lack of incentives for oil seeds
→ environmental condition for ~~plam~~ palm oil
↓ pest infestation

**Importance of NMEO-OP :-**

→ It focuses of increasing area under oil seed production and palm
→ Reduces import bill of India

Candidates must not write on this margin

oil production.

→ Scientific management to agricultural land.

→ Incentives for oil seed production

→ Development of food processing industries.

→ North-eastern India to be selected as palm oil cultivation area.

→ Testing and packaging facility.

Note: No high yielding variety seeds are used.

→ completely based on increasing land area.

~~Imp~~ Environmental concerns of palm oil production

→ Palm oil is not native to India

→ Large scale deforestation for palm oil production

Candidates must not write on this margin

→ Palm oil is a water intensive crop

↓

overutilization of group water

already 17% group water sources are in critical stage (Central Ground water Board)

→ Pest infestation.
→ Food security.
→ lack of processing units.
→ Excessive fertilizer and soil contamination.

Thus, there is need to reduce the oil import bill but it should be done in gradual and environment friendly manner.

Candidates must not write on this margin

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

(250 शब्दों में उत्तर दीजिए) 15 अंक

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

(Answer in 250 words) 15 Marks.

With a vision of doubling farmers' income, encouraging livestock economy becomes an inevitable step.

Livestock economy
- → Fisheries
- → egg production
- → sericulture
- → Honey collection
- → pisciculture.

Parallel sources of farmers' income
- → support during crop failures.
- → off season income.
- → milk production and selling

Candidates must not write on this margin

## Role of livestock economy in agriculture sector.

① Increase farmers income.
↳ allied activities

↓ reduce fertilizer cost
↳ excreta used as manure and compost.

② sustainable agriculture

③ Reduce disguised and seasonal unemployment.

④ Reduce cost of production in agriculture
↓
eg Fertize Fertilizer → manure and compost.

⑤ Fodder utilization
↳ not required to be burnt

## Challenges faced by livestock sector

→ Disease spread
eg Bird flue
→ Anti microbial resistance.
→ Phytosanitary measures.
→ High methane emission
eg cows and ~~chicken~~ hen culture

Candidates must not write on this margin

→ lack of proper veterinary services

**Suggested measures**

- Focus on increasing good quality veterinary doctors in rural areas.
- Subsidies given for investing in livestock farming.
- High quality food availability for livestocks.

**Integrated farming** is only the solution to the sustainable agriculture which should be percolated down to the rural areas ~~who~~ with awareness generation.

Candidates must not write on this margin

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

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

Nuclear ~~fission~~ fusion is the fusion of two atomic nuclie to ~~pro~~ produce energy.

**Benefits of nuclear fusion**

- Less harmful waste.
- Limitless energy.
- Output greater than input.
- Fuel availability
  - usually not radioactive

**Scientific principles in nuclear fussion**

- It is carried out in a device called tokamak.
- Temperature and pressure requirement is very high

Candidates must not write on this margin

→ Fuel is tritium (non radioactive) and Deutarium

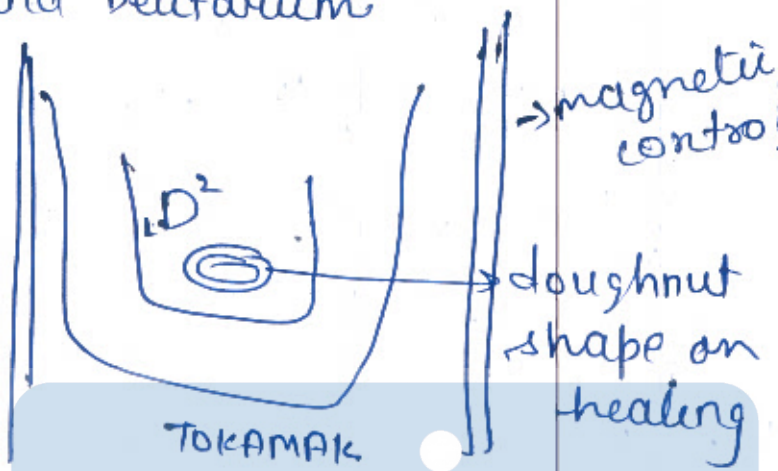



Fig. 2.

* Mangetic control of plasma.

→ Supermagents are used during fusion process

Eg ITER in France and K-Star (south Korea.)

↳ India is a member.

* Laser control of plasma

Recently 192 lasers were used in Livermoore experiment of USA

Indias project for fusion

↳ Aditya → based on magnetic control of plasma

Candidates must not write on this margin

**Challenges**

→ Temperature requirement is too high (like interior of the sun).

→ technological lack.

→ Lack of collaboration

**Opportunities**

→ High output-input ratio.

→ ITER is working on this fusion power

→ energy security and economic growth.

→ less carbon emission and net zero

→ less cost per unit energy.

Nuclear ~~fissi~~ fusion if becomes technological and financially & viable can be a bed rock of India's energy security and economic growth.

Candidates must not write on this margin

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

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

Intellectual Property Rights (IPRs) are a periodic and temporary protection given to innovation regarding its utilization and commercialization.
eg copyrights, trademark etc.

**Difficulties in administrations of IPR :-**

① Delays in granting of IPR.
eg Average time taken is 3 years from application date.

② Plenty of applications for evergreening of IPR
↓
impediment between Indo-US relation.

Candidates must not write on this margin

③ **Data exclusivity**

→ original companies demand data exclusivity for 5 years

→ Threat to generic medicines.

④ Administrative complexities.

⑤ No single window clearance.

⑥ Time period is short

eg copyright = 20 years.

**Measures to improve IPR administration**

① Digitalization of research reports to reduce complexities.

② Reduce the time between application date and granting of patents.

③ Simplify and digitalize the process

Candidates must not write on this margin

(d) Increase manpower
(e) Invest in research and development
(f) Compliance to global standards of IPR.

A robust IPR mechanism is must to foster the innovation culture along with investment in research and development.

NEXT IAS

Candidates must not write on this margin

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

The recent amendments in the Wildlife Protection Act 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.

Wildlife protection Act, 1972 was legislated to protect wild species of flaura and fauna from illegal trading and conserve them to maintain high biodiversity.

Recent changes

- Reduction in schedules
  - Six to four schedules
- Deletion of vermin category.
- one exception to elephants for religious purposes
- amount of fine money has increased
- decriminalization of certain offences.

Candidates must not write on this margin

## Implications of illegal wildlife trade

→ It is an organized crime and creates financial resources for terrorism

→ Reducing biodiversity and destruction of natural forests.
→ Affect on ecosystem services.
→ Increase in man-animal conflict.

→ Incompliance to international agreements.

- CITES

→ Phytosanitary implications.
→ Trade in animal skin, teeth etc illegal

## Effectiveness of recent amendments

→ Positive

→ High fines ~~deter~~ deter the illegal trading of wild animals.

Candidates must not write on this margin

→ Rationalisation of schedules
→ Reducing complexities.

Negative

→ Threat to elephants.
↓
They can be misused.

→ Decriminalization leads to incompliance.

India is a high biodiversity country with 4 mega biodiverse region and biodiversity is our wealth which needs to be conserved to a ~~be~~ robust legislative and institutional mechanism

Candidates must not write on this margin

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

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

Traditionally, 12.6% of India's area is prone to flooding according to NDMA but urban flooding is an emergent issue which is generally a result of man made factors. Eg Bengaluru flood

Factors contributing to urban floods incidence and severity:-

① unplanned urbanization

↳ in direction opposite to natural ecological flow

slumization

concretization → structs rain water to go into land.

Candidates must not write on this margin

② Wetland encroachment & Deforestation
↳ sponge for surplus water.
↓ ↓ ↓
Overflow of cities. ↳ desertification
eg Recent Bengluru floods.

* Human error & lack of cooperation
eg Chennai floods

③ Global warming
↳ erratic monsoon patterns
↓ ↓ ↓
Severity of floods
Raining in dry areas
eg Jaipur floods.

**Measures to be taken**

① clear wetland encroachments.
② Disilting and dredging of canals and lakes.
③ Robust Health system to tackle disease after floods.
④ Use environmently material for road construction eg geotextiles.

Candidates must not write on this margin

(5) Reduction in carbon emmissions

(6) Uraban forestory and mujawaki technique.

(7) Reconstruction of public settlement with sustainability.

Thus urban flooding needs to be controlled for which adaptation and miligation measures have to be adopted to reduce the loss of life and property.

Candidates must not write on this margin

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

→ RAW, IB → ED, CBI

(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.

Organised crimes and terrorism are two sides of a single coin which furthers the other

Eg money earned through smuggling
⇓
invested in buying weapons
⇓
spreading terrorism
⇓
provides conducive environment for further smuggling.

Reasons for organized crime and terrorism

- → illegal cross border migration
- → high unemployment levels
- → porous borders

Candidates must not write on this margin

## Capabilities and resources of intelligence and law enforcement agencies.--

→ Intelligence agencies are RAW and IB

→ Law enforcement agencies are police, ED, CBI etc.

→ The capacities and resource should be as per changing nature of crimes

- virtual crimes.
  - spreading terror through ICT

and digital deals in organized crimes.

→ These agencies are overburdened with administrative works.

→ lack of financial and technological resources.

- CBI does not have prosecution wing.

Candidates must not write on this margin

Suggestions :-

① Technological training to the staff.
② More fund devolution.
③ Lateral entry of domain experts.
④ Robust border management.
⑤ Collaboration and cooperation.
⑥ Awarness generation among local population to report the organized crimes.
⑦ Capacity building of agencies.

Thus, the resources and capabilities of the intelligence and law enforcement agencies have to be updated as per changing nature of crime. to effectively tackle terrorism and organized crimes.

Candidates must not write on this margin

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

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

Information Technology Act, 2000 was legislated to protect the users from frauds and and to provide communication security.

**Need to update it :-**

→ Legislated in 2000.

→ Nature of cyber crime is everyday evolving

Eg new malwares.

→ Rate of crimes like phishing, spams messages have increased.

Eg 23% rise in ransomware attack in 2020-21 (report by CERT)

Candidates must not write on this margin

→ **Communication safety**

↳ monitoring the communication
Eg Pegasus controversy.

↳ attack on right to privacy.
data privacy and data theft.

Eg Recent attacks of Akira virus and AIIMS cyber attack

**Suggestions to update.**

→ Define cyber crime.

→ More communication safety measurements

→ Acknowledge the emerging nature of technology

→ Robust dispute redressal mechanism

→ Punishments for communication monitoring.

except for permission by court.

Candidates must not write on this margin

⇒ Formation of a panel to suggest the updates under a domain expert.

Thus, it is needed to update the IT Act, 2000 as soon as possible to cope up with communication safety and more safe cyber ecosystem.

Candidates must not write on this margin

Space for Rough Work

INSPACE

INSpACe

INSpACe