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MAINS TEST SERIES 2.0 - 2025 (FLT)

(To be filled by candidate)

TEST CODE : FLT2507 **Test No. : 07**

Name of Candidate: Harsh Lodha Mobile No. [redacted]

Roll No. : MT25FLTRA012 Start Time ..... End Time.....

Date of Examination: 20/07/25 Medium : English ☑ Hindi ☐

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

Q. No.	Maximum Marks	Marks Obtained
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
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: .....

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Student Concerns / Query	Evaluator's Feedback / Response
1	1 .....
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2	2 .....
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3	3 .....
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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 MTS 2.0 Score Improvement Program (SIP) is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

Q1.

Introduction	Body	Conclusion

Q2.

Introduction	Body	Conclusion

Q3.

Introduction	Body	Conclusion

Q4.

Introduction	Body	Conclusion

Q5.

Introduction	Body	Conclusion

Q6.

Introduction	Body	Conclusion

Q7.

Introduction	Body	Conclusion

Q8.

Introduction	Body	Conclusion

Q9.

Introduction	Body	Conclusion

Q10.

Introduction	Body	Conclusion

Q11.

Introduction	Body	Conclusion

Q12.

Introduction	Body	Conclusion

Q13.

Introduction	Body	Conclusion

Q14.

Introduction	Body	Conclusion

Q15.

Introduction	Body	Conclusion

Q16.

Introduction	Body	Conclusion

Q17.

Introduction	Body	Conclusion

Q18.

Introduction	Body	Conclusion

NEXT IAS

Q19.

Introduction	Body	Conclusion

Q20.

Introduction	Body	Conclusion

Candidates must not write on this margin

1. मेक इन इंडिया के एक दशक बाद भी, भारत का विनिर्माण क्षेत्र इसकी विकास गाथा में एक कमजोर कड़ी बना हुआ है। भारत जीडीपी वृद्धि और रोजगार सृजन में अपनी क्षमता का उपयोग करने के लिए अपने विनिर्माण क्षेत्र को मौलिक रूप से कैसे नया रूप दे सकता है? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Even after a decade of Make in India, India's manufacturing sector has remained a weak spot in its growth story. How can India fundamentally reset its manufacturing sector to utilise its potential in GDP growth and job creation? (Answer in 150 words) 10 Marks

Manufacturing sector in India did not flourish in our developing stage as per **Lewis Model**

Weak Spot
- ① Only 14% share in GDP
- ② Only 1.8% share in goods export
- ③ Employs only 23% people
- ④ Growth rate of 5% average.

Fundamentally reseting mfg sector.

GDP Growth
- ① Labour laws implementation for ease of doing business
- ② Food Processing Industry potential due to agriculture
- ③ Better branding and innovation for export competitiveness

Candidates must not write on this margin

④ Strong IPR policy for patents, designs, etc.

⑤ Cater to domestic demands like electronics, textile, etc.

Job creation

① Labour intensive industries for 'jobbed growth'

② Slow development to cater to new sectors like AI, ML, etc (IR 4.0)

③ Vocational education and industry - academia linkage for better results.

Government efforts for mfg sector

① PLI and DLI scheme.

② Champion sectors for mfg sector by NITI Aayog.

③ PM Kaushal Vikas Yojana 4.0.

④ DESH for ease in mfg.

⑤ Labour codes in 2023.

Candidates must not write on this margin

2. भारतीय स्टार्टअप्स ने अपार संभावनाएं दिखाने के बावजूद नवाचार को आगे नहीं बढ़ाया है। चर्चा कीजिए। भारतीय स्टार्टअप को मूल्य श्रृंखला में ऊपर जाने के लिए उपाय सुझाएँ? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Indian startups, despite showing great potential, have not scaled up on innovation. Discuss. Suggest measures for Indian startups to go up the value chain.

(Answer in 150 words) 10 Marks

India is the 3rd largest startup ecosystem with more than 125 unicorns. Although most have come from edtech, fintech and foodtech with less innovation in other sectors.

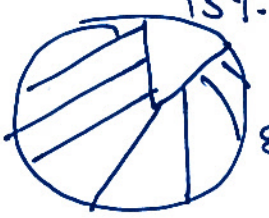


Fig: Concentration of startups

Reasons

1. We as an economy spend only 0.65% on innovation.
2. Lack of incubation support for startups in creative sector.
3. Consumer-driven goods uptake more than research-based focus (NVIDIA of US → 4th $valuation)

Candidates must not write on this margin

④ Brain drain from India so low skill employees for startups here. (Only 4.4% as per ES 23-24).

⑤ Need high-tech infra support not available here.

Measures to go up the value chain

① Connect with and attract best talent (BRAIN SHARE).

② Partnership with strategic investors for better funding and networking.

③ Inter-startup collaborations for synergy benefit and economies of scale.

④ Industry-Academia linkage for better market understanding with research.

⑤ Commitment towards end goal (Vision of 2047)

Government support in form of Centres of excellence, more Atal Tinkering Labs, Venture Capital easing needed.

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3. एक मजबूत सार्वजनिक वितरण प्रणाली (पीडीएस) के बावजूद, खाद्य सुरक्षा भारत की जनसंख्या के लिए एक चुनौती बनी हुई है। वर्तमान पीडीएस प्रणाली में क्या कमियां हैं? प्रणाली में सुधार के लिए उपाय सुझाएँ।

(उत्तर 150 शब्दों में दीजिए) 10 अंक

Despite a robust Public Distribution System (PDS), food security remains a challenge to the Indian population. What are the deficiencies in the current PDS system? Suggest reforms to improve the system.

(Answer in 150 words) 10 Marks

"PDS in India is the largest food distribution scheme covering 80 crore people" – World Food Prg.

Food security Challenge

① 1/3rd of world poor in India (WB)

② 20 crore sleep with only 1 meal a day

③ 17% wasting, 35% stunting.

④ Hidden hunger due to under nutrition

Deficiencies in PDS

① Exclusion errors after One Nation One Ration Card (Indian Express report → 1.9 cr excluded)

② Siphoning of resources → as per CAG report, 84000 crore worth food

Candidates must not write on this margin

siphoned !

③ Rice-wheat prominence leading to undernutrition as no protien and vitamins in diet.

④ Lack of connectivity and thus POS machines sometimes down!

⑤ Bureaucratic Apathy (recent MH case)

Reforms to improve PDS

① GPS tracking of trucks to avoid siphoning.

② Computerisation of PDS to increase efficiency (Chattisgarh Model)

③ CSO linkages for better outcome (Akshaypatra foundation - Telangana)

④ Include protien through eggs or fish as in Andhra Pradesh.

⑤ Suchi Bhojan model of Maharashtra can also be replicated nationwide for better food security.

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4. हाल ही में शुरू किए गए डिजिटल कृषि मिशन के प्रमुख घटकों पर चर्चा कीजिए । यह मिशन किसानों के कल्याण में सुधार करने में कैसे सहायता करेगा? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss the key components of the recently launched Digital Agriculture Mission. How will this mission help in improving farmers' welfare? (Answer in 150 words) 10 Marks

Recently, Budget 25-26 saw launch of Digital Agriculture Mission for "technological synergy in enhancing agricultural productivity"

Key components of DAM

Digital Agriculture Mission

Agri stack

1. Farmer registry where every farmer gets ID.
2. Land survey using GIS
3. Crop taken survey for better analysis of crop yield and diversification.

Krashi Decision Support System

⇓

focus on the integration of AI, IoT, data from various agencies to provide effective agri-extention services.

Candidates must not write on this margin

Role in improving farmer welfare.

(1) Farmer ID would help in better targeting and 'Outcome based policy'

(2) Land survey coupled with SVAMITVA would reduce land dispute thus enhancing Gross cropped area.

(3) Crop survey would help in custom or tailored support activities.

(4) Krishi Decision SS would better the farmer's yield using precision agriculture, micro-irrigation, etc.

(5) In line with goal to double farmers income.

(6) Data based policy making for farmer welfare.

Integrating it to Soil Health Card and PM KISAN data would be highly beneficial for goal of 'JAI KISAN'

Candidates must not write on this margin

5. एक्सिऑम-4 मिशन क्या है? एक्सिऑम-4 मिशन में भारत की भागीदारी भारत के मानव अंतरिक्ष कार्यक्रम को कैसे सशक्त करेगी? (उत्तर 150 शब्दों में दीजिए) 10 अंक

What is the Axiom-4 mission? How will India's participation in the Axiom-4 mission help in bolstering India's human space programme? (Answer in 150 words) 10 Marks

The event of Subhanshu Shukla entering ISS on Axiom-4 mission was regarded as 'grand entry of India in space sector'

Axiom - 4 Mission

→ Joint mission of NASA & SpaceX.
→ To send 4 astronauts in the International Space Station.
→ Use of private spacecraft of Space X i.e. Falcon.
→ Part of regular crew of astronauts in space station.
→ Indian space astronaut Subhashu Shukla involved too
→ To conduct various experiments in ISS to study gravity, food creation, etc.

Candidates must not write on this margin

Role in bolstering India's human space program

1. In line with humans in space policy, 2017.
2. Space time experience to our astronauts.
3. Experience useful for future Gaganyaan mission.
4. Enhance collaboration between ISRO & NASA for tech transfer.
5. Encourage the fostering of our humans in space as confidence from Axiom-4.
6. Data and experiments of this can be used for further research.

Thus, Axiom-4 brings 'new dawn' in Indian space research as per Honourable PM.

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6. परिशुद्ध औषधि की अवधारणा का परिचय दीजिए। दुर्लभ एवं विशिष्ट रोगों के उपचार में परिशुद्ध औषधि की भूमिका पर टिप्पणी कीजिए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

Introduce the concept of precision medicine. Comment on the role of precision medicine in the treatment of rare and specific diseases. (Answer in 150 words) 10 Marks

Precision medicine is the concept of accurately delivering the medicines to required part of the body.

Promise: Earlier, medicines for a specific disease had side-effects on other parts of our body causing unintended health issues.

Ex> Antibiotics affecting gut health as damaging good bacteria.

Role of precision medicine in rare and specific disease

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① Specific targeting of disease

Ex> Use of nanotubes for precision delivery.

② Help in creation and delivery of drug for rare diseases

Candidates must not write on this margin

Ex: Drug for meningoencephalitis successfully tested.

(3) More effectively treat rare diseases without side effects.

Ex: Use of genetic editing using CRISPR-CAS-9 for precision effects.

(4) Use of AI | ML for drug creation for rare diseases.

Ex: Oral hydroxyurea for Sickle Cell Anaemia trials.

Govt. programmes for precision meds

(1) National Nano Mission, 2017

(2) National Rare Disease Registry.

(3) National Strategy for AI in healthcare.

Thus, precision medicine can act as 'future of pharmaceuticals' for "ONE HEALTH, INCLUSIVE HEALTH"

Candidates must not write on this margin

7. चर्चा कीजिए कि जैव विविधता अधिनियम, 2002 और हाल ही में अधिसूचित जैविक विविधता (पहुंच और लाभ साझाकरण) विनियमन, 2025 पारंपरिक उद्योगों की वृद्धि सुनिश्चित करते हुए पहुंच और लाभ साझाकरण को कैसे बढ़ावा देते हैं। (उत्तर 150 शब्दों में दीजिए) 10 अंक

Discuss how the Biodiversity Act, 2002, and the recently notified Biological Diversity (Access and Benefit Sharing) Regulation, 2025, promote access and benefit sharing while ensuring the growth of traditional industries. (Answer in 150 words) 10 Marks

Bioeconomy of India is set to rise to 350 bn $ by 2030 from 105 bn $ today. Although issue of access and benefit sharing arise despite Nagoya Protocol.

Role of BDA 2002 in access and benefit sharing

(1) Encourages bioprospecting by clear contract and consent of tradional communities to use their knowledge

(2) Strong IPR regime to ensure research and benefit sharing through royalty contracts.

(3) Penalises Biopiracy i.e. using traditional knowledge without consent and benefit sharing.

Candidates must not write on this margin

Role of new 2025 regulation

1. To ensure that traditional industries protected by registering contracts (mandatory)
2. Space for local industry in bioeconomy in complement with BIO E3 policy.
3. Rules more in line with Nagoya protocol for global value chain accessibility.
4. Use of TKDL to ensure that traditional knowledge not misused & fruits shared.

Biodiversity is one of 'key heritages' and their usage in bioeconomy must always focus on underlying principle of 'sustainable development'

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8. "आपदा जोखिम न्यूनीकरण की दिशा में तैयारी (तत्परता) पहला कदम है।" इस संदर्भ में, भारत में आपदा तैयारी और पूर्व चेतावनी प्रणालियों को सुदृढ़ बनाने में भारतीय मौसम विज्ञान विभाग (IMD) की भूमिका का आकलन कीजिए।
(उत्तर 150 शब्दों में दीजिए) 10 अंक

"Preparedness is the first step towards disaster risk reduction". In this context, assess the role of the Indian Meteorological Department (IMD) in strengthening disaster preparedness and early warning systems in India.
(Answer in 150 words) 10 Marks

Recent case of floods in Wayanad, cyclone in Odisha highlight role of **preparedness** in disaster risk reduction.

Asserted by:
- Sendai framework calls out 'preparedness' as bulwark
- As per IMD, ₹ spent of preparedness save 9 ₹ future

Role of IMD in disaster preparedness

1. Use of Indian satelites IRNSS NAVIC for weather monitoring.
2. Use of complex variables and supercomputers to comprehend and predict monsoon.
3. Monitoring centres on eastern

Candidates must not write on this margin

and western coast for cyclones, tsunamis, etc.

④ Use of doppler radars, I-FLOWS for predictive analysis to increase time available for preparedness.

Role in early warning system

① Regular updates on monsoon and thunderstorms through SMS

② Colour coded cyclone warning system (Red, Orange, Yellow, Green)

③ Compliment with INCOIS for tsunami warnings

④ Use of social media & twitter for better EWS dissemination.

along with IMD, role of INCOIS, local village planning and volunteer corps is key for disaster risk reduction.

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9. भारत की लंबी समुद्री सीमा किस प्रकार आंतरिक सुरक्षा के लिए गंभीर चुनौतियाँ प्रस्तुत करती है? इन चुनौतियों से निपटने हेतु सुझाव प्रस्तुत कीजिए। (उत्तर 150 शब्दों में दीजिए) 10 अंक

How does the long maritime border of India present immense internal security challenges? Suggest measures to address these challenges. (Answer in 150 words) 10 Marks

Recent recalculation of our maritime border saw our border length increase by 4500km to almost 12000 kms.

Internal security challenges due to long maritime boundary.

1. Terrorist insurgents (2008 terror attacks).
2. Drug trafficking (Recent 2800kg bust at Mundhra)
3. Pirates attack (seen in Arabian Sea by somalian pirates)
4. String of Pearl policy of China to choke our trade.
5. Issues of fishermens intrusion from Srilanka in Indian waters.
6. Arms and human trafficking through waterways.

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Measures to address challenges

1. Institutional unity of Navy, Indian Coast Guard and local police.
2. Satellite navigation and surveillance through IRNSS and NAVIC.
3. Strategic development of Andaman and Lakshwadeep Islands.
4. NHA guidelines for port security, fisherman protection, etc.
5. Global partnerships for safe, secure and prosperous Indian Ocean
6. Maritime border mgt on lines of CIBMS for land borders.

Govt. efforts

1. SAGAR Strategy, IORA, IONS.
2. Surface to water defence system
3. INS Arihant & Arighat for maritime security.

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10. जम्मू और कश्मीर में आतंकवादी गतिविधियों में कमी के बावजूद, ओवर ग्राउंड वर्कर्स (OGW) और छद्म (परोक्षी) आतंकवादी समूह भारत की आंतरिक सुरक्षा के लिए गंभीर खतरा बने हुए हैं। इन खतरों को निष्क्रिय करने के लिए क्या रणनीतियाँ अपनाई जा सकती हैं? (उत्तर 150 शब्दों में दीजिए) 10 अंक

Despite decline in terrorist activities in Jammu and Kashmir, Over Ground Workers (OGWs) and proxy militant groups continue to pose a serious threat to India's internal security. What strategies can be adopted to neutralize these threats? (Answer in 150 words) 10 Marks

As per recent MoHA survey, terror attacks after abrogation of Article 370 reduced by 42% till 2023.

Threats from OGW & proxy
- (1) Lone wolf attacks hampering peace
- (2) Radicalisation of youth ongoing.
- (3) Support terror networks even though marginalised
- (4) Affect infrastructure devt. by extortion, threatening pvt. players

Strategies to neutralise these threats

(1) Weeding out these OGW and proxy groups using Intelligence-Army coherence.

(2) Surrender & rehabilitation scheme

Candidates must not write on this margin

like for LWE can be replicated.

(3) Progressive programmes on lines of Operation Sadbhavna & Operation Maa.

(4) Education and youth engagement to create trust and reverse anti India narrative.

(5) Employment opportunity so as to reduce attraction to radicalisation.

(6) Empowerment programmes on line of Naa Manzil, Umeed scheme, etc.

(7) Partner with locally influential pro-India group for attitudinal change.

(8) Reverbate the ethos of 'Kashmiriyat' as by Atal Bihari Vajpayee (former PM).

Kashmir issue has again reignited with Pahalgam attack and Op Sindoor and needs strategic rethinking.

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11. "अवसरंचना का विकास त्वरित और समावेशी आर्थिक विकास का एक प्रमुख चालक है"। दीर्घकालिक विकास को प्राप्त करने में अवसरंचना में निवेश के महत्व पर प्रकाश डालते हुए, अर्थव्यवस्था में अवसरंचना के नेतृत्व वाली वृद्धि को प्रोत्साहित करने में भारत की सफलताओं और विफलताओं पर चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

"Infrastructure development is a key driver of accelerated and inclusive economic growth". Highlighting the importance of infrastructure investment in achieving long-term growth, discuss India's successes and failures in stimulating infrastructure-led growth in the economy.

(Answer in 250 words) 15 Marks

"People travel on roads or rails, Economy travels on infrastructure".

Importance of infra investment for long term growth

(1) As per NITI Aayog, 1₹ spent on infra earns 4₹ GDP.

(2) Cascading effect on other indicators like social (hospitals, schools), economic (industry)

(3) Virtuous cycle of development as per Kelkar committee.

(4) Reduced logistics cost → more competitive goods → higher exports.

(5) Better standard of living and human development as per Amartya Sen.

Candidates must not write on this margin

India's successes in stimulating infra-led growth

1. 4th largest road and 2nd largest rail network (support 95% transport)
2. Dedicated freight corridor support 50% GDP of country (MoRTH)
3. UDAN led to creation and operationality of 100 airports (12% CAGR of airline industry: AAI)
4. Waterways leading to tourism
   - Ex: Ganga Vilas - longest and luxurious.
5. Social infrastructure like hospitals reduced IMR to 21 due to in-hospital pregnancies at 90%.
6. Educational infra like IIT's, IIM's, AIIMS creating best professionals (55% service sector share in GDP).

Candidates must not write on this margin

Failures of India

1. Logistics cost still 14% of GDP.
2. Waterways share in transport only 1%.
3. Gross fixed capital formation share of pvt sector only 19%.
4. Incremental capital to output ratio very high (3.8) so ineffective.
5. Airways share in passenger transport less than 5%.
6. Almost 111 lakh crore estimate of National Infra Pipeline but Ambition > Funding

Govt. Efforts

1. National Monetisation Pipeline.
2. 116 National Waterways Devd.
3. National Logistics Policy, 2022
4. Privatisation of Railways (Bibek Debroy Committee).

Candidates must not write on this margin

12. मौद्रिक नीति समिति (एमपीसी) की जिम्मेदारियाँ क्या हैं? एक स्थायी मुद्रास्फीति दर बनाए रखते हुए आर्थिक सुधार को व्यापक बनाने के लिए आरबीआई की मौद्रिक नीति पहल कितनी प्रभावी रही है?

(उत्तर 250 शब्दों में दीजिए) 15 अंक

What are the responsibilities of the Monetary Policy Committee (MPC)? How effective has the RBI's monetary policy initiatives been to broaden economic recovery whilst maintaining a sustainable inflation rate?

(Answer in 250 words) 15 Marks

Monetary policy committee was formed under Sec 452A of RBI Act, 1934.

RBI side

Chairman is RBI governor

2 Dy governors

← Members →

Govt. side

3 members appt for term of 4 years.

Responsibilities of MPC

1. Flexible Inflation Targeting (4 ± 2%)
2. Liquidity management for credit access to all.
3. Sovereign credit worthiness
4. Monetary policy transmission
5. Currency exchange rate stability as per MPC framework.

Candidates must not write on this margin

Efficiency of RBI in balancing growth and inflation.

Core Issue: To curb inflation, need to increase interest rates which have negative effect on growth so dilemma.

Positives of RBI policy

1. Success on both fronts
   - One of largest growing economies (surpassed Japan)
   - Inflation target of 2-6% seldomly broken.
2. Monetary policy committee dynamically working to balance both. (Bi-monthly meet despite qtrly required)
3. Use of **various tools** like
   - (i) Policy or repo rate
   - (ii) OMO's
   - (iii) Forex swaps

   To balance growth, inflation & currency.
4. Recent **rate cut** shows control

Candidates must not write on this margin

over inflation and support for growth (50 bps rate cut)

Limitations of RBI policy

1. Debates on exclusion of food from CPI for RBI purposes (volatile & supply side constraint)
2. Currency exchange rate from ₹70 in 2020 to ₹85 in 2024.
3. Growth rate target of 7.8% missed in FY24 for lack of control over inflation.
4. MPC guidelines not binding on central government.
5. Need corroboration from fiscal policy (89% Debt to GDP)

Thus, to balance the engines of inflation and growth, RBI needs professional foresight, government support and better transmission.

Candidates must not write on this margin

13. भारत में खाद्य प्रसंस्करण उद्योग के अवसर और चुनौतियाँ क्या हैं? अपार संभावनाओं के बावजूद इस उद्योग में कुल निजी निवेश कम क्यों रहा है? उपाय सुझाएँ। (उत्तर 250 शब्दों में दीजिए) 15 अंक

What are the opportunities and challenges of the food processing industry in India? Why has the overall private investment remained low in the industry despite immense potential? Suggest measures. (Answer in 250 words) 15 Marks

FPI has been declared as 'Champion Sector' by NITI Aayog.

Opportunities of FPI

1. CAGR of 12.7% as per ES 23-24
2. currently only 2% vegetables & 7% fruits processed.
3. Storage / Post-harvest loss of 1,52,790 cr which can be used.
4. Climatic and geogeaphic diversity of India (46/10 soil types)
5. Urban population to go upto 50% by 2050 (more adapted to processed food)

Challenges of FPI

1. Only 23% organised or formal production.

Candidates must not write on this margin

(2) Poor forward and backward linkages (only 2% processing opposed to 32% in Brazil)

(3) More focus on primary processing so low value addt^n

(4) Skilled workforce unavailable.

(5) Legislative barriers (APMC) and farm laws taken back.

Reason for low private investment

(1) low domestic demand for processed food in India (still only 350bn$)

(2) APMC cartelisation creating procurement hurdles.

(3) Cost challenges due to low uptake of corporate farming

(4) Lack of talent pool, govt. investment in food technology, etc.

(5) Delays in Mega food parks formation.

Candidates must not write on this margin

(6) Labour code implementation lagging and thus still 77% unorganised.

(7) High export potential but SPS norms lead to technical barriers.

Measures for growth of FPI

(1) Encourage agripreneurs

(2) Farmers producers org^n and FPL linkages.

Sahyadri farms in Maharashtra for food processing.

(3) Invest more in food tech by instituting 'Centres of excellence'.

(4) Skilling of workforce, especially in agriculture (disguised)

(5) Branding and standardisation for export competitiveness.

(6) Encourage and aware about contract farming for better linkages.

Govt efforts

(1) PMFME (2) PM Sampada Yojana

(3) Ministry for FPI

Candidates must not write on this margin

14. सूक्ष्म-सिंचाई प्रणालियाँ भारतीय कृषि में क्रांति ला सकती हैं, किन्तु इसे अपनाना सीमित है। इस संदर्भ में, चर्चा कीजिए कि सूक्ष्म-सिंचाई सतत जल प्रबंधन में कैसे सहयता कर सकती है। इसके व्यापक रूप से अपनाए जाने में क्या बाधाएँ हैं? उन्हें दूर करने के उपाय सुझाएं। (उत्तर 250 शब्दों में दीजिए) 15 अंक

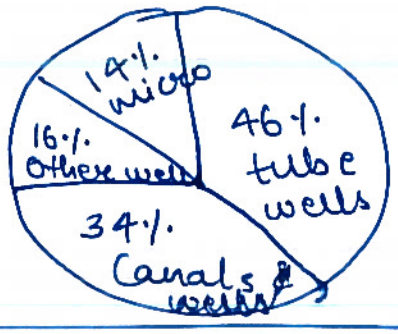
Micro-irrigation systems can revolutionize Indian agriculture, but adoption remains limited. In this context, discuss how micro-irrigation can help in sustainable water management. What are the barriers to its widespread adoption? Suggest measures to overcome them.

(Answer in 250 words) 15 Marks

Micro-irrigation systems are methods which use water effectively and precisely as per the need of crop rather than 'gushing' like traditional canal or well irrigation.

Eg: Drip irrigation.

As per CWMI report, high dependence on traditional irrigation (upto 85%).



Role of micro-irrigation in sustainable water management

(1) Less water usage compared to traditional mechanism.
(80% less usage as per ES 22)

(2) Ground water recharge possible due to more effective seepage.

Candidates must not write on this margin

③ Principle of 'Per Drop More Crop' rather than 'water guzzling'.

④ Precision in usage by combining with IoT, sensors, etc to reduce water wastage.

⑤ Reduce leaching of fertilisers affecting other water bodies.

Eg: Yamuna river pollution.

Barriers to widespread adoption

① High initial outlay for micro-irrigation (86% small & marginal farmers)

② Not suitable for small landholdings (1.08 h average landholding)

③ Lack of government support and focus more on tube wells (MGNREGA)

④ Lack of awareness among farmers about benefits.

⑤ Lack of industry products and very few agri-equipment players. (Jain Irrigation in Maharashtra).

Candidates must not write on this margin

Measures to overcome barriers

1. Policy support in form of subsidy or capital share.
2. Can replicate 'Affordable Rental Models' here for trial period.
3. Bank linkages for credit (Microfinance for Microirrigation)
4. Awareness about technology & training prg for effective usage.
5. FPO's can be used as intermediary for pooled application resulting in reduced costs.
6. Policy distortion (power subsidy) be relooked at.

Ralegaon Siddhi model of micro irrigation and watershed mgt.

Govt. efforts

1. Per Drop More Drop Scheme
2. Precision Farming Impetus
3. PM Krishi Sinchayee Yojana

Candidates must not write on this margin

15. 'मेजोराना 1 और विलो जैसे उन्नत चिप के विकास के साथ, क्वांटम कंप्यूटर अब केवल एक सिद्धांत नहीं, बल्कि वास्तविकता बन चुके हैं।' क्वांटम कंप्यूटिंग के सिद्धांत क्या हैं? भारत में क्वांटम प्रौद्योगिकियों के विस्तार (वर्धन) में राष्ट्रीय क्वांटम मिशन कैसे सहायक है? (उत्तर 250 शब्दों में दीजिए) 15 अंक

'With the development of advanced chips like Majorana 1 and Willow, quantum computers are no longer a theory but a reality'. What are the principles of quantum computing? How does the National Quantum Mission help in scaling up quantum technologies in India?
(Answer in 250 words) 15 Marks

Recent development of Sycamore chip by Google is regarded as the 'biggest leap' in quantum computing.

Principles of quantum computing

(1) Quantum superposition: the 2 elements in quantum realm are in superposition with one other despite distance.

(2) Quantum entanglement: two elements are so intricately linked that change in one affects other, despite distance between them.
(Schrodinger's cat experiment)

(3) Heisenberg principles of quantum physics and mechanics. (Uncertainty as limitation)

Candidates must not write on this margin

④ Quantum tunneling

⑤ Quantum coherence (wave-particle duality)

National Quantum Mission

→ It was launched by Ministry of Science & Technology

→ Funding of 6000 crore ₹

→ Aim to propel research in quantum computing and create real life applicable tools from it.

Role in scaling up quantum tech

① Focus on retaining best talent from India and Abroad.

② Research fellowship for scientist collaborating for quantum tech in India.

③ Creating centre of excellence for quantum computing in India.

④ Private - Public collaboration to

Candidates must not write on this margin

ensure adequate funding for quantum research.

(5) support for experiments and implementing Q-SIM toolkit. use of quantum in secure messaging for army, etc.

(6) Ambitious goal of creating and leading global quantum market

Challenges

(1) Ambiguity about concept in global scientific community

(2) Lack of skilled and learned professionals in quantum tech.

(3) Poor collaboration uptake (west dominance)

Need of the hour is resilient effort, global collab and 'brain share' as per Principle Scientific Advisor.

Candidates must not write on this margin

16. कार्य सिद्धांत, पहुँच, विस्तार क्षमता और सीमाओं के संदर्भ में फाइबर ऑप्टिक संचार के साथ उपग्रह संचार की तुलना कीजिए एवं अंतर बताइए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

Compare and contrast satellite communication with fiber optic communication in terms of working principles, accessibility, scalability, and limitations.

(Answer in 250 words) 15 Marks

Recent news of Starlink (satellite network) starting operations in India was encouraged.

Also, the National Optic Fibre Network Programme of India for inclusive & efficient internet connectivity is being implemented at full speed.

This highlights role of satellite comm^n and fibre optic comm^n in India's future in communication sector.

Difference between the two

① Working principles:

(A) Satellite: works based on the Radio waves which are transmitted using satellite in low earth orbit as by Starlink

Candidates must not write on this margin

(B) Fibre Optics : It use electric signals transmitted using wired network built through physical infra.

Ex. Andaman Sea link project

(2) Accessibility

(A) Satellite : due to it being transmitted through satellite, more access to remote areas as no geographical barrier. Although, it can be affected by weather and thunderstorm.

(B) Fibre optics : due to need for physical infra on ground, access in remote areas costly.

(3) Scalability

(A) Satellite : Highly scalable as seen from Starlink operating in > 25 countries due to huge space in 'low earth orbit'.

Candidates must not write on this margin

Although, threat of Kessler syndrome.

(B) Fibre optics: less scalable comparitively due to physical infra requirements. topography challenges.

(4) Limitations

(A) Satellite: very costly for users so low uptake especially in CDC's. High cost of capital and huge capex so gestation period. weather issues too.

(B) Fibre Optics: Time taking as physical infra needed. Remote area accessibility issues.

Although, complementing satellite and fibre option would help as per V. K. Saraswat committee.

Candidates must not write on this margin

17. आर्द्रभूमि पारिस्थितिक संतुलन बनाए रखने में महत्वपूर्ण भूमिका निभाती हैं, फिर भी उन्हें कई मानवजनित और जलवायु संबंधी खतरों का सामना करना पड़ता है। चर्चा कीजिए। आर्द्रभूमि के संरक्षण एवं संवर्धन के लिए भारत सरकार द्वारा क्या कदम उठाए गए हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

Wetlands play a crucial role in maintaining ecological balance, yet they face several anthropogenic and climate-related threats. Discuss. What steps have been undertaken by the Government of India to conserve and promote wetlands? (Answer in 250 words) 15 Marks

Wetlands are waterbodies with water level not increasing beyond 6 cm as per Ramsar Convention

Role in maintaining ecological balance

1. 'Kidneys' of earth due to purification services
2. Act as 'watershed' in case of flood & droughts.
3. Provisioning services for birds (Sambhar lake for Siberian Crane)
4. Water for flora and fauna to survive (Pangong Tso in Ladakh)
5. Act as natural levees in case of cyclones, tsunamis, etc

Candidates must not write on this margin

Challenges to wetlands

(A) Anthropogenic

↳ water body reclamation due to urbanisation (Sukhna lake)

↳ Surface runoff of fertiliser from agriculture (Yamuna)

↳ Desertification due to human deforestation (threat to Khajuraho lake)

(B) Climate change

↳ Droughts leading to water evaporation and vulnerability.

↳ Rising of sea level affecting coastal wetlands (Chilka lake)

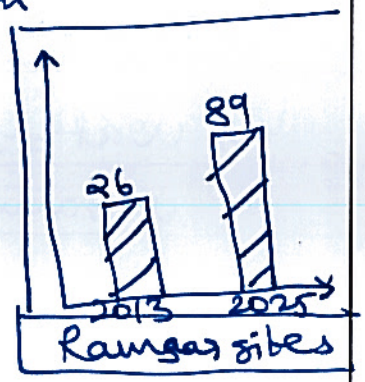
↳ Extreme rainfall leading to overflooding of wetlands

As per recent report of IPCC, 25% wetlands under threat due to climate change.

Candidates must not write on this margin

Steps by GoI

1. Ramsar site declaration in India increased 5 fold in last 10 years



2. Special funding for conservation of wetlands. (50000 ₹ capex).
3. Collaboration with CSO's like 'Pani Foundation' for promoting of wetlands.
4. Stricter rules for wetlands under EPA, 1986 issued.
5. Tourism guidelines and penalties for its contravention.
6. Pani Panchayats involving strategy for wetland conservation.

Wetlands are the water purifier (RO) of earth and needs preservation.

Candidates must not write on this margin

18. अनुचित भीड़ नियंत्रण तंत्र के कारण होने वाली भगदड़, जो कि रोकी जा सकती है, भारत में लगातार लोगों की जान ले रही है। ऐसी आपदाओं के अंतर्निहित कारणों पर चर्चा कीजिए। कुशल भीड़ प्रबंधन के लिए कौन-से संस्थागत और प्रौद्योगिकीय उपाय किए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

In spite of being preventable, stampedes due to improper crowd control mechanisms continue to claim lives in India. Discuss the underlying causes of such disasters. What institutional and technological measures can be taken for efficient crowd management?

(Answer in 250 words) 15 Marks

Recent case of stampede in Bengaluru after RCB victory parade was disheartening and exposed poor planning of administration in crowd management.

Causes of such disasters

(1) Demographic
- ↳ huge population (1st in world)
- ↳ Overcrowding leading to overreach of carrying capacity

(2) Planning
- ↳ Poor strategic planning for crowd control. (low personnel)
- ↳ Lack of emergency exit planning and controlled entry mechanism

(3) Behavioural
- ↳ Issue in public ignoring

Candidates must not write on this margin

administrative guidelines.

↳ Over-enthusiasm of people creating rushes in mob.

↳ Stress and anxiety and lack of emotional intelligence during stampede increase loss.

(D) Technological

↳ Lack of skills to use GIS, cadastral maps, event location layouts, etc.

↳ Absence of drones, AI for better planning & crowd mgt

Measures for crowd mgt

(A) Institutional

↳ Adequate approvals before any mass event.

↳ Proper police and paramilitary personnel deployment if needed.

Candidates must not write on this margin

↳ Issuing advisories and guidelines for public entry & exit.
(Learn from Republic Day Parade Crowd management).

↳ Advisories for behavioural mgt. in case of stampede-like situation.

↳ Stationing NDRF, SDRF personnel for contingency.

(B) Technological

↳ Use social media for info dissemination

↳ Use drones for proper monitoring.

↳ AI for predictive analysis, stress points, strategic planning, etc

↳ Use of speakers, etc. for on-ground calm. & advisory dissemination.

Stampedes are controllable disasters and must be eliminated through strategic & tech planning.

Candidates must not write on this margin

19. भारतीय समाज के तेजी से डिजिटलीकरण के साथ, डिजिटल गिरफ्तारी जैसे साइबर अपराध में भी वृद्धि हुई है। साइबर सुरक्षा के प्रमुख तत्त्वों पर प्रकाश डालते हुए, भारत की साइबर सुरक्षा अवसंरचना को सुदृढ़ करने के लिए आवश्यक उपायों पर चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए) 15 अंक

With the rapid digitalization of Indian society, cyber crimes like digital arrest have also increased. Highlighting the major elements of cybersecurity, Discuss the measures needed to strengthen India's cybersecurity infrastructure. (Answer in 250 words) 15 Marks

As per IMAI report, India is 2nd largest smartphone user with around **90 cr users**.

Rapid digitalisation

1. 172 billion UPI transc.
2. 2,22,000 cr through DBT
3. 83% travel reservation by online mode
4. 46% of total transc online.

⇓

Increased cyber crimes

1. 564% increase in 8 yrs as per NCRB
2. Ransomware attacks like Petya, wannacry etc.
3. 66% companies face cyber threats (NSO data).
4. Digital arrest, Pegasus issue, etc.

Thus, cyber security needs a relook.

Candidates must not write on this margin

Major elements of cyber security

(A) Hardware protection — Ex: USB Pratirodh

(B) Software protection — Ex: Maya OS.

(C) Criminal actors — Ex: Need for ethical hacking

(D) Cyber warfare & State sponsored cyber attach. — Ex: Red Echo attach Kundankulam project [China sponsored]

(E) Cyber force — Ex: 2019 policy calls for 5 lakh cyber soldiers.

(F) Digital literacy — Ex: Only 36.1 as per NSO survey

(G) Online cyber frauds — Ex: Phishing, Visiting, Point-of-user attach, etc.

(H) Independent critical infra security — Ex: NCIIPC formed for it.

Candidates must not write on this margin

Measures to strengthen cybersecurity infra for India.

1. Skilling of cyber soldiers (Reach 5 lakh target)
2. Backdoor testing of critical infra
3. Chief Security officers in all corporates.
4. Digital literacy campaigns along with cyberthreat analysis and training of people

   RBI 'Kehta Hai' campaign to avoid financial fraud.
5. Critical infra security by deploying best minds in field.
6. Security infra like firewalls, edge computing to mitigate them.

Thus, as KM Panikar said, "Cyber warfare is next generational warfare & we must be aware, adapting and agile in that"

Candidates must not write on this margin

20. अवैध आव्रजन भारत के लोकतंत्र, संप्रभुता और आंतरिक सुरक्षा के लिए खतरा उत्पन्न करता है। इस कथन के आलोक में, चर्चा कीजिए कि हाल ही में पारित आव्रजन और विदेशी अधिनियम, 2025 अवैध आव्रजन के मुद्दे से प्रभावी ढंग से निपटने में कैसे सहायता करता है। इस अधिनियम से संबंधित संवैधानिक और संभावित मानवाधिकार संबंधी चुनौतियाँ क्या हैं? (उत्तर 250 शब्दों में दीजिए) 15 अंक

Illegal immigration poses a threat to India's democracy, sovereignty, and internal security. In light of this statement, discuss how the recently passed Immigration and Foreigners Act, 2025, helps in effectively addressing the issue of illegal immigration. What are the constitutional and potential human rights challenges associated with the Act? (Answer in 250 words) 15 Marks

As per the NRC in Assam, nearly 1.9 cr migrants in that state alone which highlights length & breadth of Illegal immigration in India.

Recent Act

① Illegal Immigrant be detained if without valid documents like visa, etc.

② If persecuted minority from Pak. Afgh. BNG then given citizenship after proper scrutiny as per CAA, 2019

③ If others, then opportunity of being heard in Foreign Tribunal to prove citizenship or stay legality.

④ If unable to do so then GoI reserves right to detain & deport them

Candidates must not write on this margin

Benefits

1. Identify illegal immigrants.
2. Demographic balance and thus peace.
3. Avoid issues like in Assam again like AASU protests
4. Avoid insurgency and terror acts as many disguised as immigrants.
5. Targeting of schemes & limited resources for 'citizen' and valid 'outsiders'
6. Power to detain as 'operant conditioning' to stop further illegal immigration.

Constitutional challenges

1. Against Art 21 for right to life and liberty to all
   (Detention camps poor conditions)
2. Against Art 14 as Muslims and other neighbours excluded.
3. Against the principle of 'social justice' in preamble.

Candidates must not write on this margin

④ Cut-off date of 31.12.2014 against Art 6-7-8 and Assam Accord.

Human rights challenges

① Supreme Court in Shakti Vahini Case highlighted poor condn of illegal immigrants and called for protectn of their human rights.

② Basic facilities not available like food, healthcare, water, etc. (Rohingyas case)

③ Dignity violated which is against UDHR and UNHCR.

Although we have not signed Refugee convention, India has been believer of 'Vasudheva Kutumbakam'. Need of the hour is cross border coop between India and neighbours for better mgt. of refugees.

Space for Rough Work

Space for Rough Work

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महत्वपूर्ण निर्देश

अभ्यर्थियों को निम्नलिखित निर्देशों को ध्यानपूर्वक पढ़ना चाहिए। किसी भी निर्देश का उल्लंघन करने पर दण्डित किया जा सकता है।

क्या न करें-

1. इस प्रश्न-सह-उत्तर पुस्तिका के भीतर कहीं भी अपना नाम या पंजीकरण संख्या न लिखें।
2. अपनी QCA पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तरों के अलावा कुछ भी न लिखें।
3. अपनी QCA पुस्तिका से कोई भी पृष्ठ न फाड़ें, यदि आपको कोई पृष्ठ गायब लगे, तो पर्यवेक्षक/निरीक्षक को सूचित करना न भूलें।
4. अपनी QCA पुस्तिका को अपनी टेबल पर न छोड़ें, परीक्षा समाप्त होने के पश्चात इसे निरीक्षक को सौंप देना चाहिए।

क्या करें-

1. कवर पृष्ठ पर दिए गए निर्देशों को ध्यान पूर्वक पढ़ें और उनका सख्ती से पालन करें।
2. QCA पुस्तिका के कवर पृष्ठ पर दिए गए स्थान पर अपना पंजीकरण नंबर और अन्य विवरण लिखें।
3. स्पष्ट और पठनीय तरीके से लिखें। खराब/अपठनीय लिखावट में न लिखें।
4. रफ नोट्स या गणना के लिए, इस पुस्तिका के अंतिम दो खाली पृष्ठों का उपयोग किया जाना चाहिए। रफ नोट्स को बाद में क्रॉस कर देना चाहिए।
5. यदि आप किसी कार्य को रद्द करना चाहते हैं, तो उस पर अपना पेन चलाएं या उस पर "रद्द" लिखें, अन्यथा उसका मूल्यांकन किया जा सकता है।
6. परीक्षा हॉल छोड़ने से पहले अपनी QCA पुस्तिका व्यक्तिगत रूप से निरीक्षक को सौंप दें।

ऑनलाइन सुविधा का लाभ उठाने वाले अभ्यर्थियों के लिए विशेष अनुरोध

1. QCA पुस्तिका को ठीक से स्कैन करें। हम चाहेंगे कि आप स्कैनिंग के लिए कैमस्कैनर ऐप (CAM SCANER) का प्रयोग करें। (यह कोई प्रमोशन नहीं है)।
2. कृपया QCA पुस्तिका को पर्याप्त रोशनी में स्कैन करें। कम रोशनी में स्कैन की गई पुस्तिकाएं, उनके मूल्यांकन की गुणवत्ता को बाधित कर सकती हैं।
3. स्कैन के दौरान छाया वाले किसी भी पृष्ठ/पीडीएफ को फिर से स्कैन किया जाना चाहिए। कृपया सुनिश्चित करें कि आपके द्वारा अपलोड की गई पीडीएफ यथा संभव स्पष्ट हो ।
4. QCA पुस्तिका का उपयोग नहीं करने वाले उम्मीदवारों को अपना विवरण पहले पृष्ठ पर देना चाहिए और मैक्रो टिप्पणियों के लिए अगला पृष्ठ खाली छोड़ दें। यह समझना चाहिए कि उत्तर स्कैन की गई पीडीएफ में पृष्ठ नंबर 3 से शुरू होना चाहिए।
5. QCA पुस्तिका का उपयोग नहीं करने वाले उम्मीदवारों को प्रश्नपत्र के अनुसार उत्तर के अनुक्रम का पालन करना चाहिए।
6. कृपया स्कैन किए गए संस्करण में उत्तर के अनुक्रम और कुल पृष्ठों की संख्या की जाँच करें। सुनिश्चित करें कि यह उसी के भौतिक संस्करण के अनुरूप है।