

VAJIRAM & RAVI

MAIN EXAM TEST SERIES (June 2022)

GENERAL STUDIES

Free Test – 3

(Comprehensive)

GS Paper III

Time allowed: Three Hours

Maximum Marks: 250

ADMIN. NO.:

1 1 0 0 1 9 7

NAME:

SHREYANSH SURANA

MOBILE NO.

(compulsory)

EMAIL:

(compulsory)

DATE OF SUBMISSION:

(Compulsory)

04-Sept-2022

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions:

There are **TWENTY** questions printed in **ENGLISH**. All the questions are compulsory.

The number of marks carried by a question/ part is indicated against it. Word limit in questions, wherever specified, should be adhered to. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

Q No.	Marks	Q No.	Marks	Q No.	Marks
Q1	4.5 /10	Q8	4 /10	Q15	7 /15
Q2	5.5 /10	Q9	3.5 /10	Q16	5 /15
Q3	4 /10	Q10	3 /10	Q17	4.5 /15
Q4	2 /10	Q11	6 /15	Q18	5 /15
Q5	3 /10	Q12	5.5 /15	Q19	6 /15
Q6	2.5 /10	Q13	5.5 /15	Q20	5.5 /15
Q7	4 /10	Q14	7 /15	Total	93 /250

Follow these steps to avail the facility of mentoring –

1. Go through the soft copy of your evaluated answer sheet and analyse all the comments and suggestions given.
2. Call 96672-73133 between 11:00 am to 5:00 pm to fix your mentoring slot.
3. Please follow the mentoring appointment timings properly.

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09 SEP 2022

FOR EVALUATION

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09 SEP 2022

REVIEWED

Parameters	Excellent	Very Good	Good	Average	Poor	Very Poor
Language and Articulation			✓			
Structure and Presentation			✓			
Conceptual clarity and Content			✓			
Number of Attempted questions	✓	.				

Evaluator/Reviewer Suggestions

Hi,

- You have attempted this test very well.

- Structural aspect

carries
20% of
total
marks.

- Intro

- Try to always add intro of whole Q's. If Q has 2/3 demand - Try link all parts in Intro part. Don't just let only sufficing 1 part of the Q.

- Conclusion

→ Same goes with conclusion

10M	25-30w	Intro & conclusion
15M	30-35w	conclusion

Try to add summary in static ones & way forward + 1-2 concluding lines at last - in current related questions.

- Body → 10M → 2 headings

Not always but make! + 3-5 arguments in each with 15M - 3 headings = 11 examples

Go through all these micro & macro comments. All the Best...!

- ① whether answers properly structured?
- ② Is handwriting legible?
- ③ How to improve presentation
- ④ what more diagrams can be included?
- ⑤ facing difficulty in "conclusions"

- Try avoiding factual errors — This doesn't put good impression if you write incorrect.

- Try to avoid irrelevant diagrams like Q-10.
only draw where its necessary.

But you can do wonders

just improve on your parts.

Drawing is not ^{too} far 😊

All the very best

Do well

(Answer questions in NOT MORE than the word limit specified for each in the parenthesis. Content of the answer is more important than its length.)

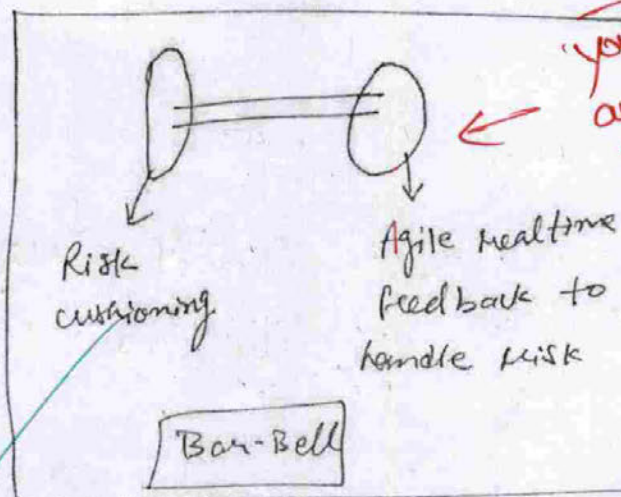
1. What is a barbell strategy? How was it put to use to cushion the Covid blow on the Indian Economy?

(10 marks, 150 words)

Barbell strategy is a 2 pronged approach where the 1 leg focuses on risk hedging while the other leg actively takes up risk in agile manner.

This was mentioned by Eco survey 2021-22 as well.

Used during Covid to cushion Economy.



① Use of Risk Aversion (Hedging):

① Increased expenditure on health infra.

62% budget increase

② Protection to workers by government's contribution to Provident Fund.

③ Deferred applicability of Insolvency and Bankruptcy code (IBC).

④ PM - Garib Kalyan Yojana for Social Security Benefits.

Agile Realtime Risk Dealing.

① Iterative approach towards economy's lock down — 1st wave — pan India

2nd wave — localised lockdown

try to
add-
food security.
- income support.

② Frequent policy updation to deal with economic crisis

eg. Increased monotonies for critical infra projects.

relevant points

③ Direct Tax cut down (a risky decision); monetary policy easing.

Thus, a combination ensured in a near "V-shaped" recovery with growth rate 12% (2020-21).

Students should not write anything inside the box

generic conclusion

Introduction	1	Suggestions:
Body	3	
Conclusion	0.5	
Presentation	—	
Marks:	4.5	

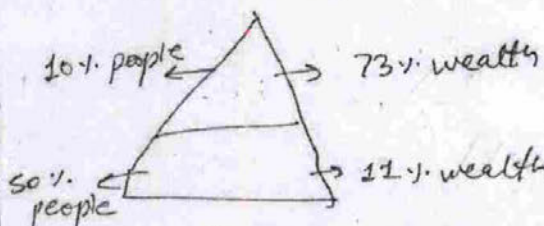
2. Post liberalization growth in GDP has come at the cost of ever-widening inequality. Analyze.

(10 marks, 150 words)

Since reforms of 1991 (LPG) ^{try to avoid symbols.} Indian economy has grown ~9 folds in terms of GDP.

At the same time socio-economic inequality also widened.

Post liberalisation Growth & widened Inequality

③ Growth	Inequality
① Rapid increase in per capita Income due to increased eco. activity	① <u>Oxfam Report</u> 
② <u>Rapid urbanisation</u> ↳ 2020: 36 % Urban population (2.4% Growth Rate) ↳ Urban area contribute <u>64 %</u> to GDP.	② <u>Urban Rural divide</u> → Agriculture - (~17%) → Stagnant Growth → High Capital output Ratio → Distressed migration → <u>↓ farm income</u>

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Growth

Inequality

- ③ Higher Job creation
in Service sector.
↳ BPO, KPO, ITeS

- ③ Rising contractualisation
and casualisation of
work force
(90% informal workforce).

- ④ Spending on
urban Infra. inc.
-ased by 380%
(NITI) during 3 decades

- ④ more spending on
farm Subsy and megre
investment in Infra.
↳ poor capital formation.

- ⑤ Pockets of prosperity.
↳ mega cities
↳ port cities

- ⑥ Lagging north
east region.

- ⑦ Health Sector
↳ 72 J. beds in
urban area

- ⑧ Rural Health:
↳ 60% population
(20% Bed in Hospitals).

Thus need is to implement social security and
skill enhancement measure for "Sakshat Sarkar Vikas".

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	4	
Conclusion	0.5	
Presentation	-	
Marks:	5.5	

3. India's food processing sector grew well in the last few years but still India has immense potential to unlock in this sector. Discuss.

(10 marks, 150 words)

try to mention potential of sector to answer various challenges → Food Processing sector contributes to 32% of agro-GDP (Eco-Survey 2020) and employs 112 million population. relevant intro

→ farmers' income Export

Growth Story So far:

① opening up of mega food Parks -

eg. Avanti Park Indore.

② PM - DAMPAAR Scheme promoted food parks in Tier-II and III cities

→ Regional development.

③ Improved farm Incomes

(₹ 3,200 p.m. in 2012 to ₹ 6000 p.m. in 2019).

Immense potential to unlock.

① Post harvest waste stands at 25-30%
(Ashok Dalwai)

→ Food processing can reduce it.

② : Scope for value addition eg. Polishing, Primary processing and canned preservation.

eg. Raw fish ₹80/kg

Canned fish ₹300/kg.

③ farm to factory linkages are still poor.

eg. Distress selling Tomatoes @ ₹1/kg in November

④ Only 0.8% share in export market.

→ Issue of Sanitary & Phytosanitary measures.

Way forward.

→ Quality Improvement

→ Branding eg. "Vindhyaj Herbs"

→ Use of Tech eg. Ninja cut collects fruit from farm gate for ~~farm~~ farm making.

Thus, the sector has potential to double farm income by

Students should not write anything inside the box 2025

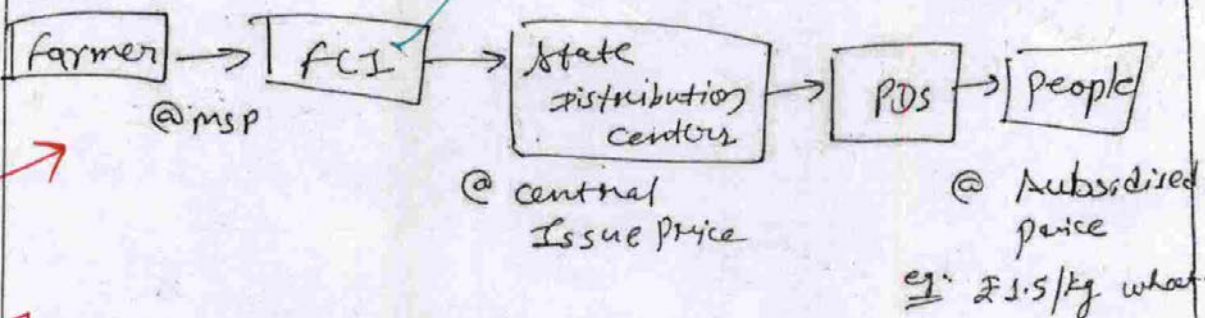
Introduction	1	Suggestions:
Body	3	
Conclusion	1	
Presentation	-	
Marks:	4	

4.

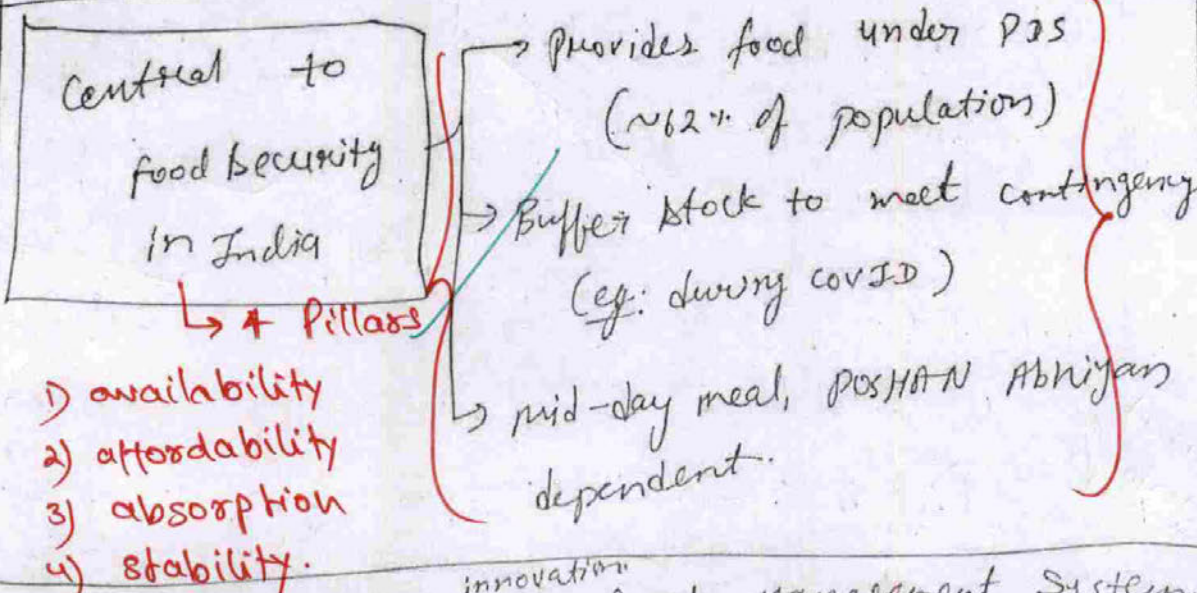
Food Corporation of India is central to food security in India, but to become an agency for innovations in Food Management System it needs to overhaul its operations and modernise its storage. Comment.

(10 marks, 150 words)

generic intro
FCI is responsible for storage, procurement and disbursement of food grains under NFSA, 2013.



Chain of food grain.



To become ^{innovation} Agency in Food Management System.

1. Overhaul its operations.

① Timely payment of Dues by government
(Eo-survey 2021: ₹ 9.8 lacs more due)
↳ leading to operational inefficiency

add-on
- end to end
computerization
- handing over
procurement.

valid points

② Decentralising Procurement → saving in transportation & distribution cost.

③ Prevent leakages by use of Tech. like GIS in trucks (Used by Punjab).

II Modernise Storage

① use of Electrified demistifying Auto Silos
(low space more storage).

② Automatic Liquidation of Stock → to prevent excessive buffering & rotting.

③ PPP model to allow private warehouses for storage facility.

mention issues related
- lack of accountability
- first in, first out principle.

relevant points

too generic conclusion

food security is vital to achieve SDG-1, 2, 5, 10, 15, etc.

Students should not write anything inside the box

Introduction	0-5
Body	1
Conclusion	0-5
Presentation	-
Marks:	2

Suggestions:

5. What is a Small Satellite Launch Vehicle (SSLV) and how will it benefit India's space programme?

(10 marks, 150 words)

: 35

Recently, ISRO launched its EOS-2 satellite via SSLV through Satish Dhawan Launch Station.

SSLV:

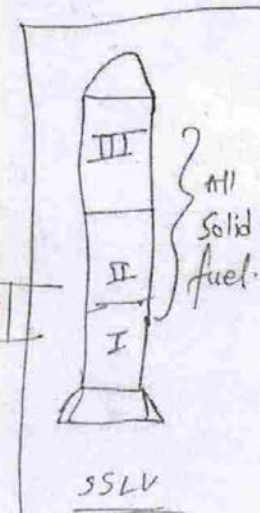
① It is small payload, less distance launch vehicle to place satellites in Low Earth orbits (LEO).

② Its capacity
 {
 weight of payload - 500 kg
 distance - 500 km

③ It is 3-stage solid propelled satellite vehicle & VTM

Benefit to India's space program

① Help in commercialising the



Satellite launching

- ② Reduce the time to launch → hence can help industry/businesses exploit timely opportunity. ✓

eg. Byju's edu-SAT for increased e-learning demand.

- ③ Gaining share in International Space market (currently only 2%). ✓

- ④ Help in promoting new tech. like Satellite based internet → need multiple small satellites. [eg. Starlink Project]. ✓

- ⑤ Reduce the operational cost and writing time → promote research [eg. IIT Madras's Student's Nano-Satellite. (Edu-SAT)] ✓

Creating of IN-SPACE to promote sector is step in right direction.

Students should not write anything inside the box

Introduction	0.5	Suggestions:
Body	141	
Conclusion	0.5	
Presentation	—	
Marks:	3	

6. Ban on single-use plastic is a significant step but not a complete solution to curb plastic pollution. Comment.

(10 marks, 150 words)

Single use plastic is the plastic ~~used~~ which is used once before being discarded.

eg. Ice cream stick, ear-buds.

{ Selective ban in force since 1 July, 2022. } Context

Significant Step

→ not asked instead

'significance of ban' is demand

① Reduce the Solid waste (Plastic forms 62% part - Management Issue. MoEFCC).

② Will promote eco-friendly alternatives.

eg. Bamboo Straws

③ Protect Environment - marine species from micro plastics; cattle from choking, soil pollution etc.

Not a complete solution to plastic pollution.

④ The manufacturing will be pushed underground (Illegal production)

↳ since cheaper alternative not easy

add-on
high substitution cost

② SUP constitute only 6% of all plastic generated.

③ Inadequate plastic waste disposal facility
(only 60% waste processing ratio - UNEP).

④ Real challenge is to tackle already existing plastic in environment
eg. Great Pacific Garbage Patch

⑤ Attitudinal Change is missing towards giving up plastic

(eg.) people hoarding up poly bags.

⑥ Increasing microns will simply increase product price, no much impact on use.

Way forward { Promote alternatives [eg.] paper cartons
Initiatives like "Bring own cup & c/d
Adopting Lifestyle for Environment [LIFE].

suitable points

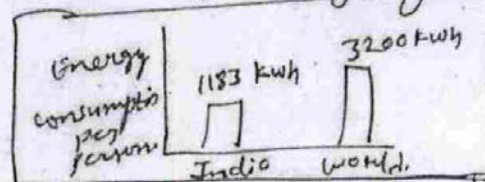
Students should not write anything inside the box

Introduction	0.5	Suggestions:
Body	1.5	
Conclusion	0.5	
Presentation	-	
Marks:	2.5	

7. How can Climate finance prove critical in addressing the issue of climate change? What are some of the international financial mechanisms to provide financial resources to developing countries?

(10 marks, 150 words)

COP-26 ended on a note to enhance climate finance to developing and least developed countries (LDC) without specifying the modalities.



Climate finance critical to address climate change:-

① To adopt newer technologies which are generally costlier.

eg:- Electronic furnace in place of Brick kiln.

② To give up the polluting systems already in place.

eg:- Giving up cheaper coal/thermal power.

③ Poorer countries have to choose between environment [V/S] Development.
 ↓
 sidelined Becomes natural choice

- ④ \$5 tr. per annum required on climate investment to stop temperature rise at 1.5°C (IPCC Report - 5th)

International financial mechanism

- ① Global Environment facility:

add-on
- Least developed countries fund
provision to transfer technology and finance to LDCs.

- ② Climate finance mechanism of Paris deal -
\$100 billion per annum.

→ suitable periods

- ③ Carbon Emission Trading (under Kyoto Protocol) to enable LDC's earn from low emissions.

- ④ Green Environment fund under UNFCCC

need is to take serious steps towards - common

But differentiated Responsibility and enable

functionalisation of finance to achieve World Net Zero

Students should not write anything inside the box

Introduction	0.5
Body	3
Conclusion	0.5
Presentation	-
Marks:	4

Suggestions:

8. How is Flash drought different from conventional drought? Discuss about the vulnerability of India to Flash drought related hazards.
(10 marks, 150 words)

Don't define Flash Flood

68% area of India is prone to drought as per Geological Survey of India.

Flash Drought

Conventional Drought

① Intensifies over very short durations

eg. 2-6 weeks.

mention few

① Takes long period of time to culminate
say - months.

② Generally multiple factors acting in concert

eg. Low Rainfall (+) Heatwave (+) Dry spells.

② Even one factor prolonged can cause drought
eg. Low Rainfall over a period of time

③ Difficult to predict and take precautionary measure

③ Easier to mitigate by proper water and resource management.

eg. National Water Resource Management Program.

Valid points add-on rapid onset in India especially during monsoon period.

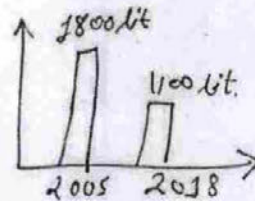
Vulnerability of India to flash floods Drought

① Large numbers of people directly dependent on rain-fed agriculture - 48% rainfed area *not to link with demand*

② Already exacerbating land desertification (30% area vulnerable - MoES)

③ Large cattle population depend on direct Grazing *good points*

④ Water security →



Already water stressed

⑤ Industry like - coal power plant, etc. dependent on water.

Way Ahead

→ Land degradation Atlas to be used for mitigation (ISRO)

→ Scientific dam operation and maintenance

→ Traditional knowledge - Tank, Johad, Kuls, etc.

Students should not write anything inside the box

Introduction	0.5
Body	3
Conclusion	0.5
Presentation	-
Marks:	4

Suggestions:

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(Don't write)

Anything
this part

9. The growing trade in narcotics through the use of cryptocurrencies and the darknet is causing policymakers to reassess the impact of ICT technology on drug policy enforcement. Analyze.

(10 marks, 150 words)

India is the largest opiate consumer in terms of number of consumers (VN-02C).

Use of Tech in Drug Trade

Crypto currency

Darknet

Anonymity of payer — web portals like

Payment anywhere in world

(60% goes to Mexico)

Low transaction cost

"Meth-Hunter" easily available

— Difficult for security agencies to reach the culprit (routers).

— Hidden IP address → anonymity.

Drug policy enforcement challenges due to ICT

- ① Loopholes in laws like - NPS Act
→ online marketplace not covered.

② Existing infra not sufficient to track and trace anonymous buyers.

③ No ^{effective} international collaborations to tackle this transnational crime.

④ Liberal ICT norms → any one can access dark web by Onion Router (TOR).

⑤ Crypto-currency does not leave transaction trail behind → CERT-Fin fail to identify.

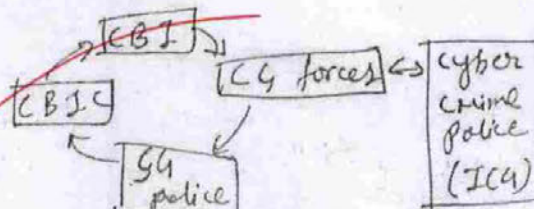
Response Required:

↳ Greater Vulnerability Awareness

↳ Use of advanced ICT tools - "crawler" of MH.
↳ Nisha Mukat Bharat Abhiyan

↳ Regulating crypto currency exchange

↳ Interagency coordination



Students should not write anything inside the box

Introduction	0.5
Body	2
Conclusion	1
Presentation	-
Marks:	3.5

Suggestions:

Don't write anything this part

10. Rafale fighter jet is effectively countering the threat posed by the advanced 5th generation fighters of India's adversaries. Critically examine.

(10 marks, 150 words)

4-5 generation.

India, recently procured 5th generation Rafale fighter jet from France which enhanced its defence capabilities.

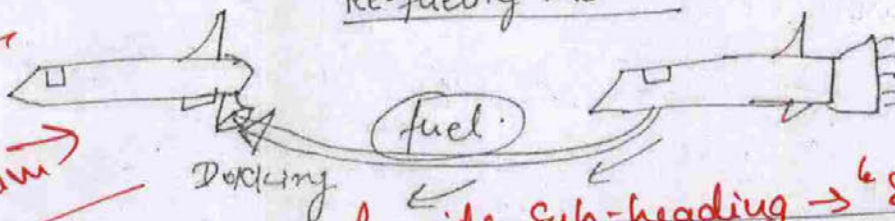
Effectively countering Threat from Adversaries.

① Created deterrence against countries like China (which has wave glider jets).

520

② Enhanced flight capability: Air re-fuelling system and speed of 1.8 mach.

Re-fueling mid Air.



③ Capable of carrying Nuclear warheads.

↳ deterrence to Pakistan (Nuclear state).

add-on
- combat
proven
- advanced
electronics.

④ Also acting as net security provider to neighbours

eg. Bhutan dependent on India for defence. valid points

⑤ Increased Bargaining power in inter-national Affairs.

Challenges Remains:

① Vast coast line still remains vulnerable

eg. only 1 air-craft carrier

② Non-conventional Threats remains

eg. state sponsored terrorism from Pakistan

③ Obsolete equipment eg. frequent crashing of miG-21 craft.

add-on
- sensors
- mechanical
capabilities.

valid
conclusion

R&D is
required

Need is to implement Rhetkar Committee recom-mendation to nationalise defence procurement

Students should not write anything inside the box

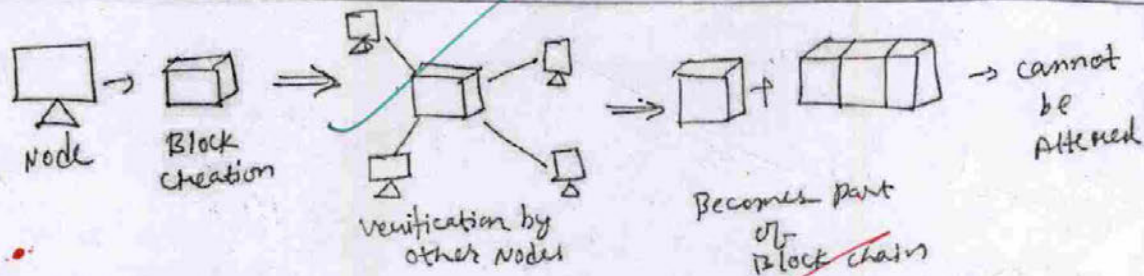
Introduction	0.5
Body	2
Conclusion	0.5
Presentation	-
Marks:	3

Suggestions:

11. Union budget 2022-23 has proposed the introduction of the Central Bank Digital Currency (CBDC) to boost the digital economy. What do you understand by Central Bank Digital Currency (CBDC) and in what ways can it boost the digital economy in India?

(15 marks, 250 words)

Central Bank Digital Currency (CBDC) is a blockchain based crypto currency which will exist in digital form and issued by RBI.



Features of CBDC:

- ① Will act as perfect substitute of paper money.
- ② Immense potential due to rising tech users (83.34 crore active smartphone users)
- ③ Decreased significance for RBI → low cost to generate

Boosting the Digital Economy:

① Will lower the transaction cost involved in paper currency

{seamless and timeless transactions}

② Will boost digital payments

eg. 50+ travel transactions are now online
(NPCI)

③ Convenient to store and carry

↳ No risk of theft / mutilation

④ Provide Safer Alternative to the volatile crypto currency like Bitcoin

⑤ Will enable creating innovative products based on CBDC

{Just like UPI - app integrated payments}

⑥ Free from credit and liquidity risk - hence faster adoptions.

add-on
seamless &
quick
transaction
promote
digital
economy

valid
points

Challenges:

① Digital divide and lack of trust of people in digital currencies.

② Difficult to attract investors from crypto market to CBDC (since no scope of price fluctuation gains).

③ Not completely environment friendly - mining of currency is energy intensive process.

Way forward:

→ Rolling out on experiment basis

→ collab with private players eg. Myntra to allow CBDC on App for payment.

→ Learn from International experience eg. China.

→ need of data protection law.

→ Proper assessment of cyber security risk and vulnerabilities

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	4	
Conclusion	1	
Presentation	-	
Marks:	6	

12.

While most developed nations are experiencing an (aging population) India has the opportunity to produce skilled Human resources and become the world's skill capital. Elaborate.

(15 marks, 250 words)

valid intro → India has already entered into phase of demographic dividend (56 % working age population), and will continue till 2046.
[census 2011]. - Average age - 28 years

Developed countries experiencing aging Population.

① more focus on population control in earlier decades → Now Japan facing aging (avg. age ~ 48 years).

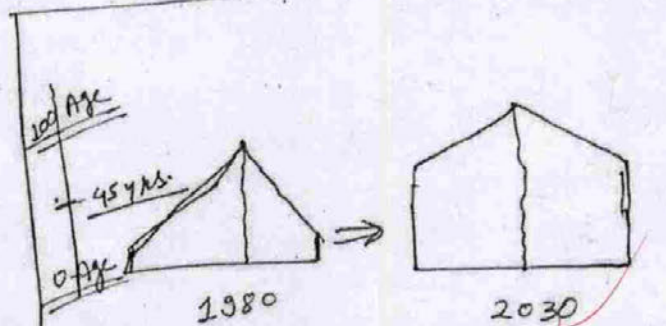
② Enough fund invested in physical infra but human capital lacking
eg.: Ireland's liberal immigration to attract talent.

good support to demand

India has opportunity to produce skilled human resources.

Measures:

- ① Investing in skilling, upskilling and reskilling.



(only 4% formally trained India's Population pyramid
S. Korea - 96%)

→ wide representation

- ② Improving participation of women, Trans. genders and disabled in workforce

→ OECD: If women to contribute on equal footing - 21% increase in GDP by 2030.

- ③ Large untapped Youth under disguised unemployment.

→ creating Jobs in agri-allied sector by skilling in food processing.

- ④ Skilling in high demand areas

eg. coding, supply chain management, KPO, etc.

to do cover other dimensions also

provide employer - education link

⑤ Huge demand in managerial and Accounting sectors

eg. IT companies of Europe outsourcing Bookkeeping to Indian Accountants.

Becoming World's Skill capital.

try to mention the challenges

→ need of skill development

→ need of health

① Globalised economy - opportunity all over the world

eg. online Tutoring via platforms like Chegg.com.

→ good coverage

② Knowledge workforce in quaternary activities

③ Leveraging ITes sector - Software development and maintenance.

④ Shortage of manpower in countries like - Saudi: Indian Skilled workforce can fill gap.

good conclusion

Schemes like - PMKVY, Skilling India mission will help in realising the demographic dividend in long run.

(Students should not write anything inside the box)

Introduction	1	Suggestions:
Body	2.5	
Conclusion	1.5	
Presentation	0.5	
Marks:	5.5	

Q. No.

13. PM Gatishakti will give a new direction to the development of infrastructure with a transformative approach for Economic growth and will facilitate India's transition to Amrit kaal. Discuss.

(15 marks, 250 words)

PM Gatishakti is multi-modal Infrastructure

- Structure Scheme with an outlay of

₹ ~ 120 lakh crore. (Subsuming ₹ 111 lakh

₹ crore National Infra Pipeline)

Development with Transformative Approach

① Synchronisation with 16 ministries to have unified investment Approach.

② Optimization of funds to prevent duplication of activities

eg. Laying road then digging it for pipeline → poor optimisation.

③ Comprehensiveness: Multipronged strategy

eg. for sectors like - Rail, Road, Industry, defence etc.

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④ Dynamicity: Real time monitoring through Gatishekki Portal for timely changes and updates

try to add
significance

⑤ Analytical: Leveraging technology like geospatial mapping, drone survey for faster implementation

- cargo terminal
- roads to open
- development

⑥ Prioritising: Instead of Ad-hoc approach, systematic planning and coordination with single - window clearances.

Facilitating India's Trans^{ition} to Amrit Kaal

① Boost to Industrial Capital Formation
eg. 16 Industrial corridors across country

Valid
points

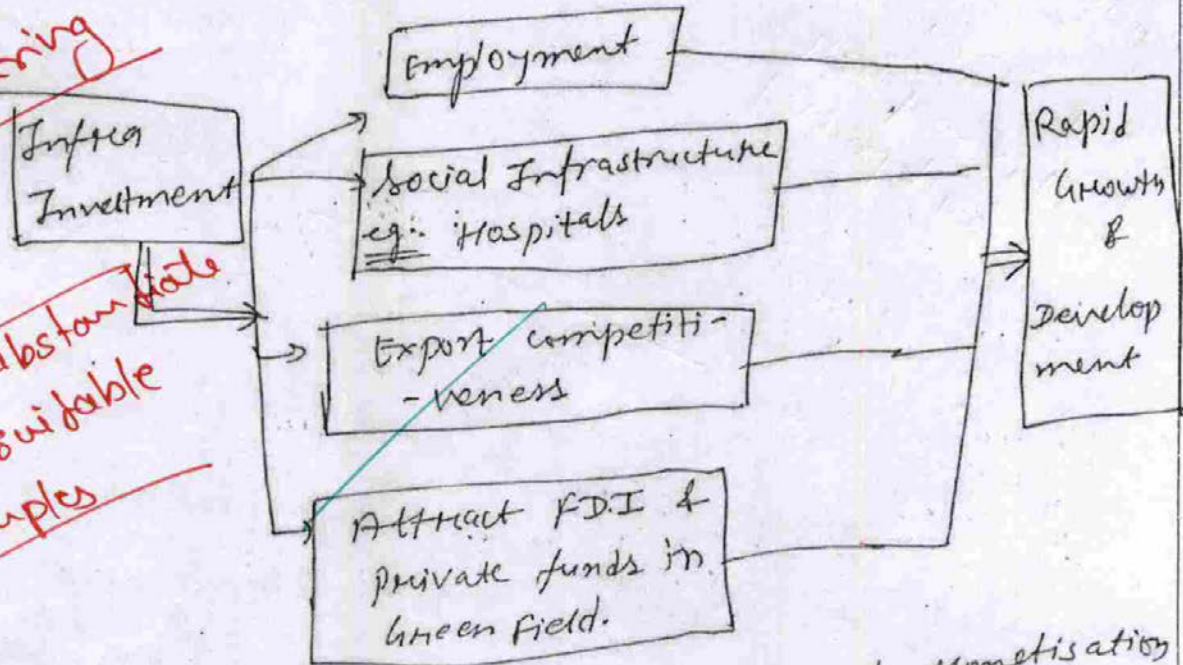
② defense Indegenisation: 2 defence corridors
@ UP & TN.

③ Make Logistics more competitive

Q. No. 1

eg. Port decongestion to reduce existing transportation cost of 14%. (China - 6%)

④ Virtuous cycle of Investment & Growth.



⑤ Innovative funding like - National monetisation Pipeline (₹ 6 lakh crore), etc. will provide fiscal head room to government.

Valid conclusion need. is faster implementation and timely monitoring to facilitate ease of investing & doing business to achieve the Amrit keel goals.

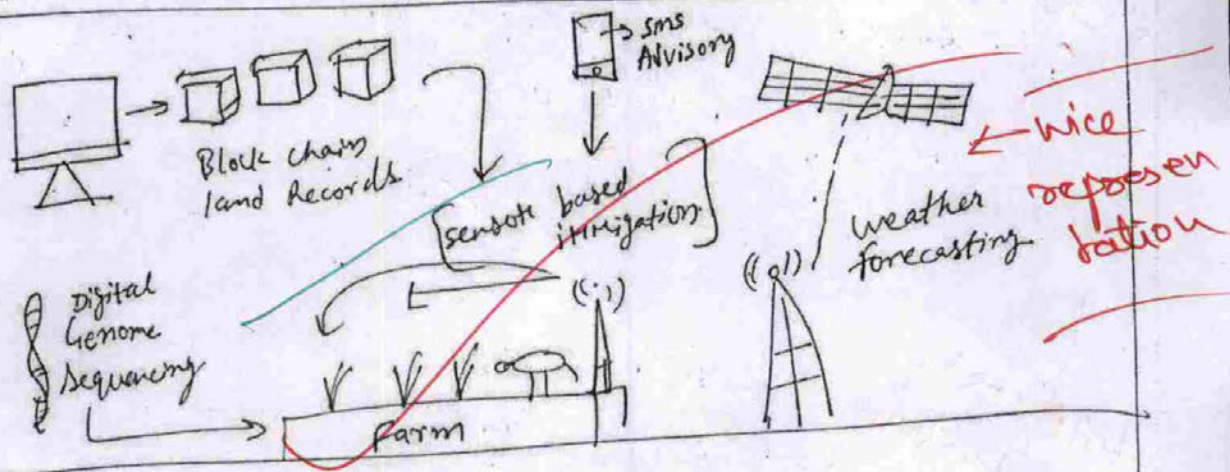
Students should not write anything inside the box

Introduction	1	Suggestions:
Body	3	
Conclusion	1	
Presentation	0.5	
Marks:	5.5	

14. What is digital agriculture? How it can contribute towards increasing farmer's income and improving efficiency of the agriculture sector in India. Write down the initiatives taken by the government to promote digital agriculture in India.

(15 marks, 250 words)

Valid intro → Digital Agriculture is the application of ICT tools to augment the agri-process and improve the outcomes.



Contribution towards increasing Farmer's Income

- ① Quantum Computing Based weather prediction
↳ know when to sow seeds

Better price discovery of products using data → Better price realisation.

- ② e-NAM to provide wider market and get best deal.

④ E-commerce Apps like - Ninjakart : Helping reduce farm waste → procure from farm gate.

⑤ Direct - Benefit Transfer → prevent leakages in Income. (e-transfers).

Improving efficiency

① Precision farming : use of AI to measure moisture level and turn on sprinklers.

② Agro-extension service like Kisan - Pathi App for timely information.

③ GIS based mapping and survey : micro-climate based advisory.

④ Use of Drone Technology for fertilizer use efficiency.

⑤ Nano-sensors to monitor water use efficiency.

to add blockchain based food traceability system.

to reduce cost of production
→ agro export

Initiatives of Government:

- ① e-NAM for online agro market.
- ② Land Record digitisation under Awanitwa Scheme
- ③ LIS Survey under PM-fasal Bima Yojana
- ④ Launched Ki-SAT to monitor water levels for irrigation requirement.
- ⑤ Agri-stack: end to end service across value-chain.
- ⑥ Kisan call centers, soil health card, etc.

Need is to create integrated digital infrastructure which is Affordable, Accessible and Available to farmers.

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	5	
Conclusion	1	
Presentation	-	
Marks:	7	

Why is there a lack of participation of women in the field of science and technology?
How can India facilitate increased participation of women in Science Technology Engineering and Medicine (STEM)?

(15 marks, 250 words)

Enrolment Ratio of Women in Higher education

is only ~26% and participation proportion

in STEM is merely 14%.

Why Lack of Participation?

I. Structural Issues:

① Poor women friendly Infrastructure

② Lack of transportation facility in case of late night working.

③ Pay Gap: gender pay gap is

④ Poor budgetary allocation towards women participation.

II. Attitudinal Issues:

① Dual Burden [Home Responsibilities
Professional life.

② Patriarchy → Low social mobility.

- ③ Lack of opportunities at all places
(concentrated mostly in urban areas).

III. Workplace Issues.

- ① Stereotyping roles: giving peripheral assistive role to women.

- ② Sexual Harassment at workplace.

- ③ Discrimination in promotional and leadership opportunities.

try to cover more dimensions

How can India facilitate Increased Participation

- ① women friendly Infrastructure like - Washrooms, Creche facility.

- ② Incentivising through schemes like AGNii, Atal Innovation Mission, etc.

- ③ Improving gender enrollment ratio at higher education

relevant points

↳ Reserved Seats
↳ fees concession.

④ Role modelling effect like - Mrs. Swati
incharge of Perseverance Mission (NASA).

⑤ flexible work timings and gender neutral
pay.

⑥ Better implementation of schemes like
↳ KIRAN, GATI, Vigyan Jyoti

⑦ Gender sensitisation at societal level to
change perception.

To tap the demographic dividend and tread
on road to "Viksit Bharat" improving women
participation in STEM is non-negotiable.

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	5	
Conclusion	1	
Presentation	-	
Marks:	7	

16. India needs a greater thrust on innovation to catapult itself to a higher growth trajectory. With reference to the Science, Technology, and Innovation Policy, discuss the approaches that can help unlock innovation potential in India.

(15 marks, 250 words)

India Ranks 48/136 in Global Innovation Index by World Economic Forum

try to include India entered top 50 innovating countries for first time.

Greater thrust on Innovation → Higher Growth

- ① disruptive technologies have potential to address farm distress.

eg. Use of Nano-urea in farms.

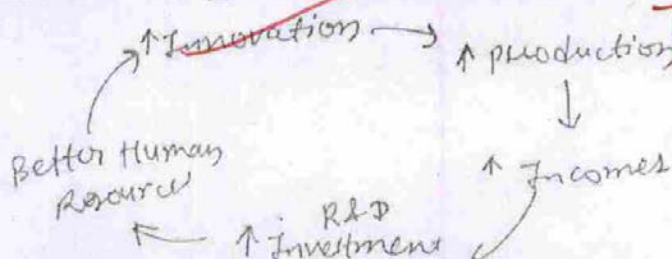
- ② Improving the productivity and competitiveness of our Industry.

eg. Technical Textile

- ③ Enable Participation in Global Value chain

eg. Semi-conductor Sector

- ④ will create domino effect:



→ nice representation

⑤ Tapping on the emerging fields and becoming global leaders

eg: IR4.0 based industries like metaverse.

⑥ Improving social sector well being

eg: Innovations in education & health sector.

↳ gamification of education by 'Udemy'.

Features of Science, Tech and Innovation Policy (STIP)

① Augmenting public sector expenditure on R & D to ~1.5%.

② Central Repository of magazines (Scientific) to be freely available to researchers.

③ Rationalised Intellectual Property Regime to attract private investments.

Approaches to unlock Innovation Potential of India.

① Availability of credit for commercialising

Nascent Technologies

eg Bombay Venture Capital Funds.

② Strong innovative start-up culture

↳ Tax incentives, Mentorship.

→ relevant points

③ Regulatory Sandboxes - to experiment with new technologies

add-on
increasing private participation
→ industry-academic linkage

④ Skilling of youth in emerging technologies - like machine learning, AI, ML etc.

⑤ changing pedagogy at school level to promote critical thinking

eg. ATAL Tinkering Lab

⑥ Facilitate mergers and Acquisitions to enable joint innovations eg. L&T & Sapura (Singapore) in hydrocarbons.

appropriate conclusion

Long Term Innovation Strategy with increased budgetary allocation is need of hour.

Students should not write anything inside the box

Introduction	1
Body	3
Conclusion	1
Presentation	-
Marks:	5

Suggestions:

17.

Discuss how the reintroduction of Cheetah in India will not only help in the conservation of the species but will also be a boon to the ecosystem. Also, mention the challenges faced in the reintroduction of the Cheetah.

(15 marks, 250 words)

After the final clearance of MOTEPCC, cheetah are soon to be relocated to Kuno Palpur National Park (MP) from Africa. It was long back extinct in India in 1952.

Re-introduction: Help in conserving species

① providing diversity of habitat for greater gene adaptation.

② providing natural habitat - i.e. grassland and adequate prey base to sustain populations.

③ Systematic and scientific conservation plan to bring population upto 30 individuals by 2035.

Boon to the ecosystem:

- ① Flagship species - hence greater conservation effort towards over all ecosystem.
- ② Check on increased population of herbivores and resulting over-grazing.
- ③ Will complete the food chain by adding the primary predator.
↳ Bringing back Balance in forest ecosystem.

Suitable points

try to link it with the concept of Niche.

Challenges in Re-introduction:

- ① Adaptation to newer climate may be difficult
- ② Experts point out the relatively smaller grasslands in India.
↳ potential Animal-Animal conflict for territorial dominance (presence of tigers & leopards)

add-on
→ adaptation
→ exotic species

③ Inadequate attention to already vulnerable species

eg:- Population of musk deer declining.

④ Sustaining population will need future more - the introductions

↳ But no such agreement.

⑤ Lack of skilled manpower trained in Cheetah conservation

↳ different behaviour of cheetah than other Big cats.

⑥ Displacement of locals living in area.

Way forward:

↳ Close monitoring by using GPS collars

↳ Adequate water & prey to avoid man-animal conflict.

↳ Coordinating with CITES, etc for scientific conservation.

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	3	
Conclusion	0.5	
Presentation	-	
Marks:	4.5	

18. Discuss how climate induced flood loads and reservoir level change may lead to dam failure. In what ways does the Dam Safety Act 2021 ensure prevention of dam failure-related disasters?

(15 marks, 250 words)

Mention
IPCC
here.

6th Assessment Report

→ to mention
whose
Report??

points to increased

valid
info

Vulnerability of India due to climate induced
changes in weather phenomena. [IPCC].

Climate Induced Flood loads & reservoir
level change :-

- ① Heavy rainfall over short duration period
↳ overwhelming capacity of dams

relevant
points

- ② Increased siltation due to soil erosion
↳ reduced holding capacity of water bodies.

good
coverage
of causes

- ③ Snow melting in Himalayan Region →
Greater flows of water.
[eg. GLOF's].

→ to mention
other
causes
also.

Leading to Dam Failure:

- ① Poor structural integrity [227 dams are

> 100 years old].

② Non-maintenance and cracks in reservoirs
(eg. Polavaram old dam) → Reduced water bearing capacity.

Suitable
points

add-on

lack of
timely
inspection

→ non uniform
dam safety
procedure

③ Lack of dredging before rains → high sedimentation deposits → ↓ water holding

④ Increased force of rivers (eg. due to ~~flow~~) may damage the dam walls and cause dam bursts [eg. Sukhaura river in Parashah Dam, MP].

Dam Safety Act ensure prevention of Dam failures.

① National Committee on Dam Safety:

↳ Standards for dam safety to prevent dam

failure

② National Dam Safety Authority

↳ inspection & investigation of dams

↳ Accreditation of dam construction Agencies

addon

→ operational
safety

→ compensation
to affected
families.

to mention
other
dimensions
also

- ③ Dam Safety unit in each dam for timely mitigation measures.
- ④ Regular Audit and evaluation of health of dams.
- ⑤ State Dam Safety Organisation
↳ monitoring operation & maintenance of dams.

valid points

Phase II of DRIP (Dam Rehabilitation and Improvement Project) will go a long way in ensuring dam safety.

mention its importance to environment

Students should not write anything inside the box

Introduction	1	Suggestions:
Body	3	
Conclusion	1	
Presentation	-	
Marks:	5	

What is a drone swarm? How do drone swarms present a challenge for conventional air defence systems? What countermeasures should be taken to prevent this threat?

(15 marks, 250 words)

Drone swarm, just like a swarm of locusts, is large number of drones acting in synchronisation towards a common purpose and centrally controlled.

Utilities of Drone Swarm

① Entertainment: eg.
Drone show during Asian Games opening.

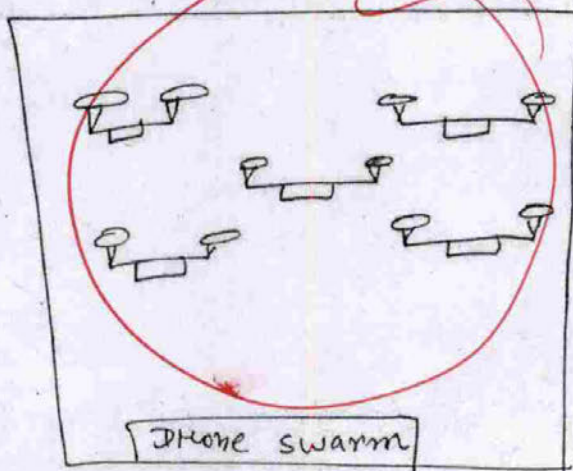
② Surveillance over a vast area in coordination.

③ Used by non-state actors for infiltrating items across borders.

④ Providing services like - water sprinkling during forest fires.

Challenge for Conventional Air Defence Systems

① can skip the radars - small in size.



② Even if few drones in a swarm is shot down, others will deliver the goals.
eg: Arms delivery across border.

③ No effective anti-drone offence and defence tech. available.

④ Cheaper and easy to use and acquire
eg: Easily available on e-com websites

⑤ Difficult to distinguish between innocent and threat drones.

⑥ easy trafficking of drugs without making noise (proximity to Golden Triangle and Crescent).

⑦ Drones in swarm can dodge automated targeting systems.

⑧ more precision than conventional aircrafts.
 ↳ also no need to commit boots

Counter measures to be taken.

add-on
 saturation of
 air defence
 unpredictable

no need of
 writing
 so many
 points

① Robust Surveillance both human and Tech Based.

② Anti drone tech like - Laser (High Intensity).

③ Regulate the use of high capacity (flight range > 10 km)

④ Tech transfer from countries like Israel who have successfully used Iron Dome.

⑤ Developing offensive Drone capability

[eg.] Project NETRA of DRDO.

Use of Jammers to disrupt communication signal of drones.

To tackle the emerging tech's menace, India

need to develop indigenous counter - drone strategy

to protect critical assets and security.

Students should not write anything inside the box

Introduction	1
Body	4
Conclusion	1
Presentation	-
Marks:	6

Suggestions:

Q. No.)

20.

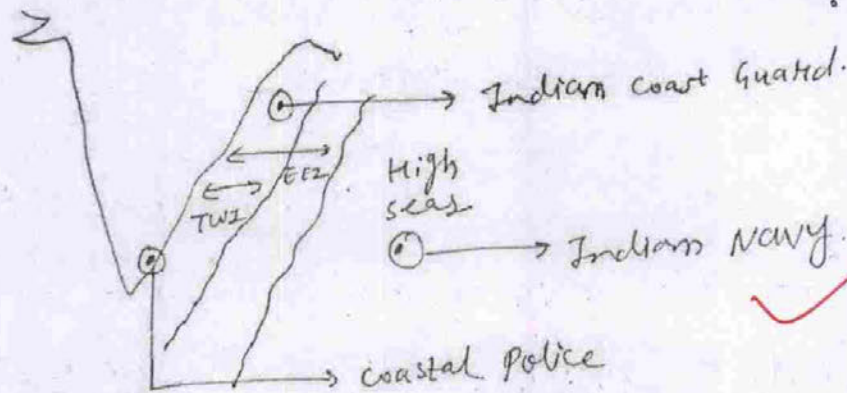
Discuss in brief India's coastal security architecture and its evolution. Also, discuss the role played by the Indian coast guard in this regard. (15 marks, 250 words)

With 7500 km coastline and 1200 scattered islands India's coast is vulnerable to various security threats.

eg. 26/11 attackers came from Arabian Sea.

good intro

India's coastal security architecture and its evolution:-



India's coastal security.

① Sea-Land Interface:

↳ comes under jurisdiction of states

try to write points

a) measures post Kargil

b) measures post 26/11

c) recent measures.

↳ Guarded by police of the respective states.

② Territorial waters and Exclusive Economic Zone:

↳ Guarded by Indian Coast Guard

↳ Active coordination with both Navy and Indian State Police.

③ Beyond EEZ (High Seas):

↳ comes under the jurisdiction of Indian Navy

↳ Guard from External Threats.

Eg. INS Vikat. vessel-carrier of Aircraft.

Role Played by Indian Coast Guard:

① Human Intelligence by coordinating with local fishermen community.

② Technical Intelligence by tech like - satellite data, radars, etc.

(3) Patrolling to keep check on piracy Activities eg: Near Kachchatavy Island.

(4) Rescue and Search operations in

add-on
- NC31 *network* case of any ships like-vessel sinks

(5) *fast line*
ass is tance Vigil on Setting & Floating objects

→ possibility of arms/drug trafficking from Pakistan.

(6) Alerting fisherman from crossing to the other nation's EEZ (eg: Near Sri Lanka).

(7) Coordinating with friendly neighbours for info. sharing. eg: RIMES information sharing.

Need is to equip coast guards with latest equipment for better Threat Assessment and effective response as suggested by Madhukar Gupta Committee.

invalid conclusion

Students should not write anything inside the box

Introduction	1.5	Suggestions:
Body	3	
Conclusion	1	
Presentation	-	
Marks:	5.5	

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