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GENERAL STUDIES (TEST CODE : 2210)

| | | | |
|-------------------|--------------|---------------------|--------|
| Name of Candidate | Keerti Joshi | | |
| Medium Eng./Hindi | English | Registration Number | 731399 |
| Center | PKN | Date | 21/08 |

INDEX TABLE

| Q. No. | Maximum Marks | Marks Obtained |
|--------|---------------|----------------|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 10 | |
| 4 | 10 | |
| 5 | 10 | |
| 6 | 10 | |
| 7 | 10 | |
| 8 | 10 | |
| 9 | 10 | |
| 10 | 10 | |
| 11 | 15 | |
| 12 | 15 | |
| 13 | 15 | |
| 14 | 15 | |
| 15 | 15 | |
| 16 | 15 | |
| 17 | 15 | |
| 18 | 15 | |
| 19 | 15 | |
| 20 | 15 | |

Total Marks Obtained:

Remarks:

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
- There are **TWENTY** questions printed in **ENGLISH & HINDI** इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.**
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

Plot No. 857, 1st Floor, Banda Bahadur Marg (Opp Punjab & Sindh Bank), Dr. Mukherjee Nagar
Delhi-110009

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

1. Highlighting the significance of Central Asia for India, discuss the challenges in strengthening the Indo-Central Asian relationship. (150 words) 10

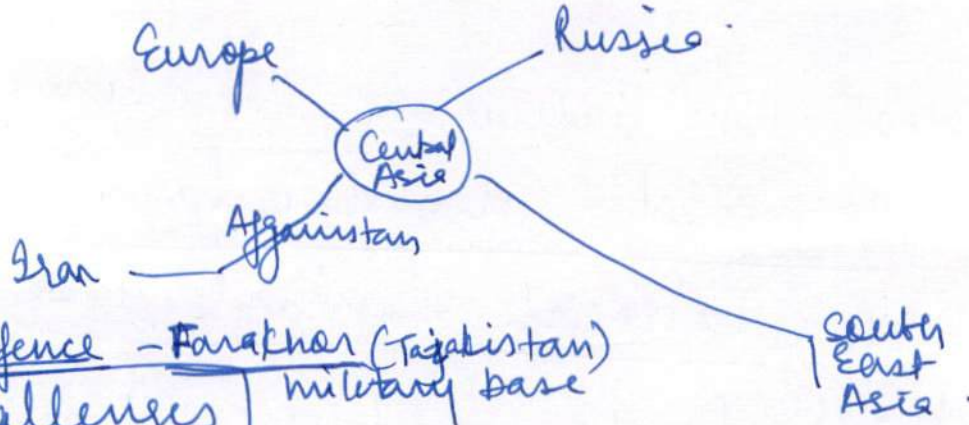
भारत के लिए मध्य एशिया के महत्व पर प्रकाश डालते हुए, भारत-मध्य एशियाई संबंधों को मजबूत करने के समक्ष विद्यमान चुनौतियों पर चर्चा कीजिए।

India is following principles of extended neighbourhood policy, Connect Central Asia, Look West to enhance Indo-Central Asia relationship.

Significance:

- ① Geopolitical - their own significance having common threats of radicalism, extremism can be a ground for connect to deal collectively.
- For better dealing with Afghanistan
- ② Energy - Kazakhstan for Uranium, Turkmenistan for Gas
TAPI gas pipeline (Turkmenistan - Afghanistan - Pakistan - India).

③ Geographic - cross point for India's global connect



④ Defence - Farakhor (Tajikistan) military base

Challenges

① Connectivity - No direct link and issues with Pakistan

② Slow Pace of projects - Such as
- International North-South Transport Corridor
- Ashgabat agreement
- Chabahar port

③ China - these are more close to China in terms of trade, connect etc

Challenges

Russia-Ukraine war provides opportunity to India to enhance trade filling vacuum and improve timeliness of projects.

2. Discuss the role that the Indian diaspora can play in the making of "Aatmanirbhar Bharat" (self-reliant India). Also, mention the challenges in this regard. (150 words) 10

"आत्मनिर्भर भारत" के निर्माण में भारतीय डायस्पोरा द्वारा निभाई जा सकने वाली भूमिका पर चर्चा कीजिए। साथ ही, इस संबंध में विद्यमान चुनौतियों का भी उल्लेख कीजिए।

Indian diaspora comprises Non Resident Indians and people of Indian origin.

Role of Indian Diaspora: Aatmanirbhar Bharat

① Investing in India: China diaspora invest 30% where is in India, it is less than 10%.

② Creating favourable policy
Indian diaspora created favourable environment for India-US nuclear deal.

③ Tourism: themselves visiting or by promoting culture food, cuisine, festivals spread.

④ Promoting Foreign Direct Investment, Foreign Institutional Investment by confidence building

⑤ Remittances - India largest receiver.

Challenges

① Less investment

② More fascinated by western nation and less believe in policy, corruption, etc.

③ Policies unfavourable - Need of more handholding, promoting diaspora investment, promoting ease of doing business

Conclusion

Pravasi Diwas (9 January), Know Your Country, pilgrimage etc are a way to connect to diaspora but more efforts for economic gains is required.

3. Stating the significance of trans-boundary river water management for India, discuss the emerging issues in this context. (150 words) 10

भारत के लिए सीमा-पार नदी जल प्रबंधन के महत्व का उल्लेख करते हुए, इस संदर्भ में उभरते हुए मुद्दों पर चर्चा कीजिए।

Trans boundary river management is rationalising use, storage, flow, coordination, database creation to better map, monitor rivers across nations.

Significance :

- ① Disaster Managements → such as droughts, floods [Kosi called Corridor of Bihar].
- ② For energy security - Various hydroelectricity project are based on continuous flow of such rivers.
- ③ For peace and friendly relation - Disputes such as Jamuna river between Bangladesh and India was solved.

after signing treaty.

Emerging Issue

① Nations rivalry turning to water threats:

China building infrastructure on Yarlung Tsangpo.

Indus water treaty yet Pakistan constant allegations on India on every sub off project also.

② Lack of data exchange.

③ No proper treaties

China - Only Memorandum of Understanding signed for Sutlej and Brahmaputra.

Bangladesh - Teesta conflicts and more than 100 small river conflict

④ Boundary river based - Kalapani (Nepal) issue.

Conclusion

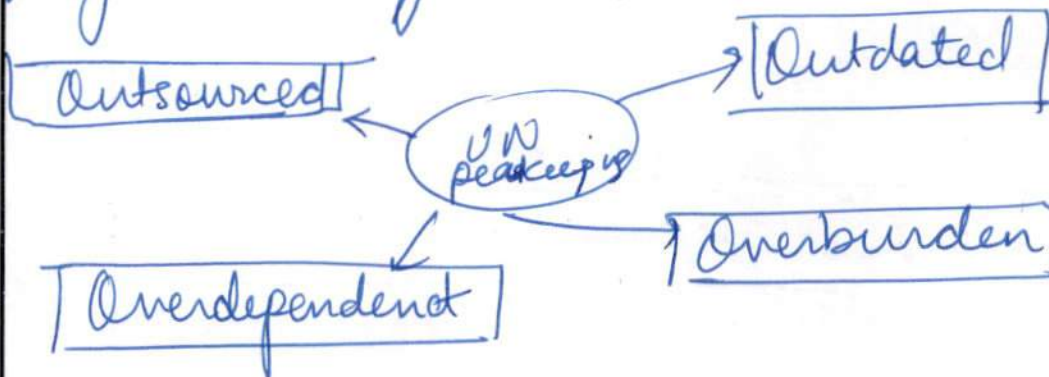
Need of treaties, bilateral solutions and set guidelines to deal with this rule based order

4. UN Peacekeeping requires reforms to keep its operations fit-for-purpose. In this context, discuss the challenges faced by the UN Peacekeeping. Also, suggest reforms to improve its operations. **(150 words) 10**

यू.एन. पीसकीपिंग (संयुक्त राष्ट्र शांति सेना) को अपने परिचालन (ऑपरेशन) के उद्देश्य के अनुरूप बनाये रखने हेतु सुधारों की आवश्यकता है। इस संदर्भ में, यू.एन. पीसकीपिंग द्वारा सामना की जाने वाली चुनौतियों पर चर्चा कीजिए। साथ ही, इसके परिचालन में सुधार के लिए उपायों का सुझाव दीजिए।

UN peacekeeping is using forces, diplomacy etc to deal with crisis in countries like Syria, libya, yemen etc.

Reforms Required:



Challenges:

- ① Funds : Voluntary in nature therefore limited.
- ② Manpower forces : Contributed by

member nation
eg India highest contributor.

③ Lack of common training,
unity of command - mismanagement
of operation and deaths.

Reforms

① Proper training, permanent
troops - increase efficiency.

② Mandatory funds - To ensure
proper food, facility to enhance
morale

③ Innovation, use of technology;
Better Research and Development
Satellite mapping etc.

Conclusion

Crisis habitated countries witness
more humanitarian conditions;
More than forces, there is need for
fundamental ground work to ensure
Sustainable peace.

5. Discuss the role that space technology can play in strengthening India's border security. (150 words) 10

भारत की सीमा सुरक्षा को सुदृढ़ करने में अंतरिक्ष प्रौद्योगिकी की भूमिका पर चर्चा कीजिए।

Space technology is use of space satellites etc for enhancing outputs in various fields on earth. ISRO plays crucial role in India.

Space technology : Strengthening India's border security

① Mapping : It helps map the borders more accurately and better collaborations with neighbour.

② Monitoring and surveillance
It can give field view of any encroachments and with better technology ever

movements of people can be detected. eg China village development in Arunachal Pradesh was detected.

③ Coastal regulation, fishing ships can be alarmed on crossing international waters through satellite phones.

④ friendly relations and Disaster Management.

Geospatial technology used by IMD to predict disaster can stop disaster related security threat. Sharing such technology with neighbours such as Bangladesh has a centre can help enhance collaboration.

Conclusion

More Research and Development can help monitor whole border sitting in single room.

6. What do you understand by hybrid warfare? Discuss India's preparedness in this context. (150 words) 10

हाइब्रिड वारफेयर से आप क्या समझते हैं? इस संदर्भ में, भारत की तैयारियों की विवेचना कीजिए।

Hybrid warfare is warfare which is a mix of fronts such as air, water, land, space and multiple technology such as nuclear, drone, missile etc

Hybrid warfare can be very dangerous and capable of causing widespread destruction

India's preparedness

① Formation of office of Chief of Defence Staff - this

- focused on joint command
of military, Navy, and airforce.
- ② Defence budget for modernisation
of all three with procurement
of 5400, Project 75I, Rafalee.
- ③ Testing of ASAT in space.
- ④ India Lacking :

- Mock drills not much
practiced with use of all
three.
- No ~~unity~~ ^{clarity} on who will
report to whom in the 3
services.
- Defence budget tilted more
towards Army.
- Defence space Agency lack
funds and research, innovation
low.

Conclusion

more preparedness, clarity of policy,
research and development, and learning
from global practice is required.

7. Discuss how cryptocurrencies can become a tool of money laundering in India. Also, highlight the steps taken by the government in this regard.

(150 words) 10

चर्चा कीजिए कि भारत में क्रिप्टोकॉरेसी मनी लॉन्ड्रिंग का एक उपकरण कैसे बन सकता है। साथ ही, इस संबंध में सरकार द्वारा उठाए गए कदमों पर भी प्रकाश डालिए।

Cryptocurrency are virtual currency in form of block chain that are end to end encrypted.

Cryptocurrency: Tool for money laundering

- ① Being end to end encrypted though to monitor their flow
- ② Anonymity & No database of sender makes whole process safe for laundering
- ③ Quick transfers: from one place to another

makes traceability tough.

- (4) Lack of proper legislations.

Steps by government

- (1) Earlier RBI banned by Supreme Court ordered it to be against A.19.
- (2) Government made provision for taxing virtual assets at rate of 30%.
- (3) RBI creating own digital currency which is more secure to reduce dependency on cryptocurrency.

Conclusion

Management is better than restriction as more robust technology is required to monitor cryptocurrency holders, transfers, use etc.

8. To display its commitment to achieve net zero emissions, India has incentivised the production of green hydrogen. In this context, discuss the prospects and challenges of a green hydrogen economy. (150 words) 10

निवल शून्य उत्सर्जन की स्थिति को प्राप्त करने की अपनी प्रतिबद्धता प्रदर्शित करने के लिए, भारत ने हरित हाइड्रोजन के उत्पादन को प्रोत्साहित किया है। इस संदर्भ में, हरित हाइड्रोजन अर्थव्यवस्था की संभावनाओं और चुनौतियों पर चर्चा कीजिए।

Green hydrogen is producing hydrogen through use of renewable energy such as solar, wind etc.

Green hydrogen prospects

① In mixing with fuels or completely hydrogen run vehicles → Decrease pollutant emission such as NO_x , SO_x , soot etc.

② In electricity generation in households, industries

③ Decrease import bills and

current account deficit. providing

better energy efficiency

Challenges

- ① Storage tough → Needs more space.
- ② Flammability - Hydrogen stored under pressure can be highly flammable.
- ③ Length to carry - portability tough
- ④ Green energy source not constant such as solar mostly summers and it itself needs development

Conclusion

India's 'Nationally Determined Contribution Target' and New 'Panchamiti' target demand green hydrogen development

9. S. Chandrasekhar was one of the greatest scientists of the 20th century whose prolific contributions spanned across astrophysics, space and mathematics. Elaborate. (150 words) 10

एस. चंद्रशेखर 20वीं सदी के महानतम वैज्ञानिकों में से एक थे, जिनका खगोल भौतिकी (एस्ट्रोफिजिक्स), अंतरिक्ष और गणित के क्षेत्र में विपुल योगदान था। सविस्तार वर्णन कीजिए।

S. Chandrasekhar is known for his contribution in defining Chandrasekhar limit which have made contribution in modern science.

Contribution: Astrophysics, Space, Mathematics

① Deep study of planetary movements, expanding universe theories, formation of universe, composition of planets.

② Studying the objects, atoms,

Charge, electricity, magnetics
and contributing in their
mechanism, wave-mass relations

③ Understanding numbers,
patterns, infinity, use
and application of trigonometry
helped generations till now.

Conclusion

Chandrasekhar contribution
have made India a land
of scientific person as
known throughout history
with others like Ramanujan,
Abdul Kalam etc.

10. India's lunar missions, besides attesting to the development of space technology in India, have contributed significantly in exploring the lunar surface. Discuss. (150 words) 10

भारत के चंद्र मिशनों ने, भारत में अंतरिक्ष प्रौद्योगिकी के विकास की पुष्टि करने के अतिरिक्त, चंद्रमा की सतह के अन्वेषण में महत्वपूर्ण योगदान दिया है। चर्चा कीजिए।

India's Chandrayan I and II both contributed largely to exploring moon and LUPEX in collaboration with Japan will enhance its achievements.

Lunar Mission: Attestip to development of space technology

① - It is an addition to various successful missions as as Mars Mission, ASAT anti satellite technology, IRNSS, etc.

- It was the 1st time CySLV III was used which will help in human space missions.

Contributions to exploring lunar surface :

- ① It has mapped moon surface through satellites.
- ② It has detected ~~presence~~ presence of water on the dark side of moon.
- ③ It helps detecting theories about formation but analyzing surface, minerals, craters.
- ④ It helped study moon atmosphere and detection of gases present

Conclusion

Insat that is Satellite based mission will open more opportunity for scientific study of moon's surface.

11. There have been arguments that with the old global multilateral order failing to manage rising challenges, issue-based coalitions are gaining traction and have become the arenas of functional cooperation. Discuss.

(250 words) 15

ऐसे तर्क दिए गए हैं कि पुरानी वैश्विक बहुपक्षीय व्यवस्था बढ़ती चुनौतियों का प्रबंधन करने में विफल रही है, जबकि मुद्दे-आधारित गठबंधन लोकप्रियता प्राप्त कर रहे हैं और कार्यात्मक सहयोग के क्षेत्र बन गए हैं। चर्चा कीजिए।

The multilateral order such as United Nation Organisation formed after world war II, World Trade Organisation etc are substituted by smaller groupings such as G7, G20 etc.

Old global multilateral order: failing to manage rising challenge

① Mostly consensus based decision making such as in World Health Assembly leading to delay in response in Covid situation, WTO delay in deciding IPR relaxation

for vaccine etc.

(2) Western world dominate such
world bank, IMF dominated by
US.

(3) Lack of funds, since voluntary
contributions [70% in WHO] leads to
dependency. WHO contribution decreased
by US during covid times.

(4) Lack of manpower, US Peace keeping
force given by participants nations
with not mandatory obligation.

(5) Sovereign nations, national interest
upheld can be seen in various global
climate multilateral conferences e.g. UNFCCC.

Issue based Coalition gaining traction

(1) Indo Pacific - Coalition like QUAD,

Axius are more effective to deal with free, fair, rule based, open trade in Indo Pacific.

② Success of European Union, ASEAN, grouping.

③ G20 - More innovative solution such as Osaka track, Global minimum taxation

④ Various Free trade agreements to boost trade in place of WTO.

⑤ New Development Bank, contingency Reserve fund by BRICS is more targeted and inclusive for developing countries.

Conclusion

Though issue based coalition important but global multilaterals are crucial to uphold world peace, development of even least developed, global efforts for environment change and upholding principles of 'Vasudhaiva Kutumbakam'.

12. India intends to achieve a balanced and optimal development of energy infrastructure in the South-Asian region through mutual understanding and cooperation. In light of this statement, discuss the need as well as existing gaps in South Asia's energy cooperation. (250 words) 15

भारत पारस्परिक समझ और सहयोग के माध्यम से दक्षिण-एशियाई क्षेत्र में ऊर्जा के बुनियादी ढांचे में एक संतुलन और उसका इष्टतम विकास सुनिश्चित करना चाहता है। इस कथन के आलोक में, दक्षिण एशिया में ऊर्जा सहयोग की आवश्यकता और इस संदर्भ में विद्यमान कमियों पर चर्चा कीजिए।

India is the 3rd largest consumer of energy in the world and understands its role as a responsible producer and consumer of energy.

India : Intention of achieving balance and optimal development of energy infrastructure in South Asia

① to meet its own energy requirement in sustainable manner such as Renewable energy focus 'Panchamita' target in CO26

② To help neighbours meet their energy needs so that they don't overdepend on China and their debt trap policy. under Neighbourhood first policy and piral Doctrine.

Need for Energy Cooperation

① To attain continuous supply. Such as India has coal potential and solar [International solar Alliance] which is abundant in Summers.

Nepal and Butan → Hydroelectricity.

Pakistan and Bangladesh → gas abundance.

If these can be integrated it will create self reliance in the region and decrease import bills and current account deficit.

Existing gaps

- ① Slow pace of development projects
India helped Nepal in Pancheshwar
hydroelectricity project, Bhutan to
develop Ratle hydroelectricity project
 - ② Bilateral electricity sharing
agreement not signed in details
leading to conflicts such as
India - Bhutan on prices
 - ③ Motihari - Amlekhgarh gas pipeline
[India - Nepal] but yet not used
to its optimum capacity.
 - ④ India - Pakistan rivalry.
 - ⑤ More nuclear collaboration such as
Reppur in Bangladesh.
- Conclusion | SAARC should be made functional
for better cooperation and
rule based energy cooperation
to develop South Asia on lines
of European Union.

13. Not only is the Indo-French bilateral relationship the key for unlocking the synergies with the European Union but it is also crucial for a sustainable and stable world order. Do you agree? **(250 words) 15**

भारत-फ्रांस द्विपक्षीय संबंध न केवल यूरोपीय संघ के साथ सहक्रियाओं के सहयोग बढ़ाने की कुंजी है, बल्कि यह एक स्थायी और स्थिर विश्व व्यवस्था के लिए भी महत्वपूर्ण है। क्या आप इससे सहमत हैं?

France is heading European Union for present texture and it opens gate for India to be more participative in European Union.

Indo-French Bilateral Relationship

- ① Defence - Rafale helicopter, deals for joint development under Make in India, military exercises
- ② Indo Pacific - French own presence through Reunion Island make them more supportive for secure rule based order
- ③ Trade - Bilateral as well as through EU
- ④ Diaspora - Education, culture, etc.

Relation: Key for unlocking synergy with EU

- ① Geostrategic - France being important nation can help India sign BTIA (FTA) with EU.
- ② Economic - More Investment, trade. EU presently is 2nd largest export destination for India after US. France can help India achieve more FDI from Union.
- ③ Energy cooperation - International Solar Alliance ~~between~~ line with Initiative of France and India highlights soft power and India's dedication to green climate. EU and India together can work on this

India - EU relation crucial for
Sustainable and stable world order

① Increased development:

Infrastructure in Africa, Indo Pacific safety and security and a alternative to China's Belt and Road Initiative. It become more crucial being Sri Lanka's economy.

② Environment collaborations:

With US uncertainties in climate change initiatives with changing regimes it become crucial that top 3 and top 4 energy consumer contributor to take action together.

Conclusion

It is crucial to sign BTIA as soon possible and together work in multidimensional spheres.

14. A mix of internal and external factors poses security threats in North-East India. Discuss. What steps has the government taken to maintain peace and stability in this region? (250 words) 15

आंतरिक और बाह्य कारकों के मिश्रण ने पूर्वोत्तर भारत में सुरक्षा संबंधी खतरे उत्पन्न किए हैं। चर्चा कीजिए। इस क्षेत्र में शांति और स्थिरता बनाए रखने के लिए सरकार ने क्या कदम उठाए हैं?

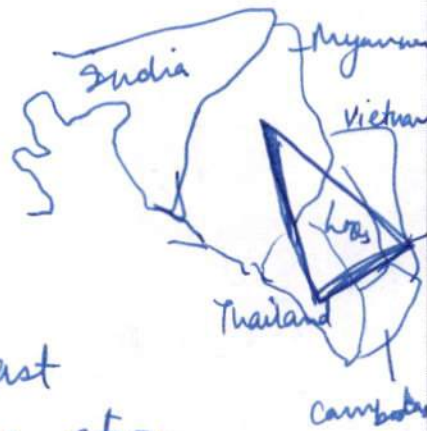
The North East India once ahead of other parts of India in terms of GDP and having immense potential is witnessing various threats.

Internal factors :

- ① Secessionist tendency eg: Nagaland demanded
- ② Ethnic conflicts.
eg Naga vs Kuki vs Meities
- ③ Left Wing Extremism
against underdevelopment, poor governance, land issues.

External factors

- ① 1) Fake Indian Currency
by bordering nations such as Bangladesh, Nepal, Myanmar.
- ② 2) Insurgency and Refugee
due to porous borders.
- ③ 3) Drug trafficking
Prohibit to Golden triangle
- ④ 4) Arms smuggling
By Pakistan to North East region through bordering nation.



Steps by government

- ① 1) Collaboration with neighbouring countries
such as Royal Bhutan Army helped Indian force to trace and tackle,

Insurgents .

- ② Integrated border check posts,
border heat, searchlights,
lood lights, border development.
- ③ Road Requisitionment Plan I and II
- ④ Project Koshini - Skill development
and increase employability.
- ⑤ Hydroelectricity projects to boost
self sufficiency in agriculture and
energy.
- ⑥ 50th schedule area, inner line
Permit etc .
- ⑦ Dedicated forces - 'Commando,'
Bastara Battalion.
- ⑧ 'BAMADHAN' - holistic effort .

Conclusion

Due to these efforts insurgency
have decreased by 20% since 2014
and other threats have also come
down .

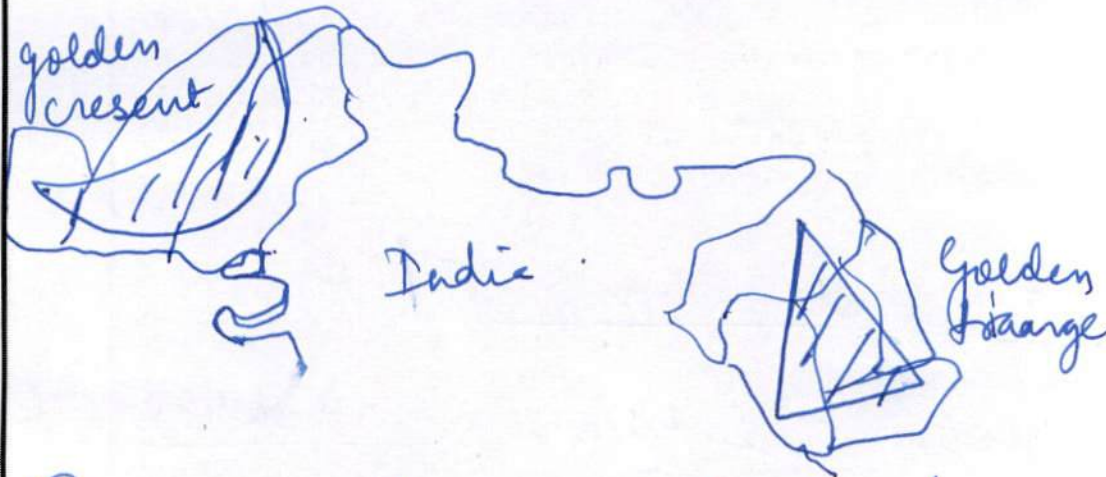
15. Discuss the extent of the problem of narco-terrorism in India. What measures have been taken by the government to counter and control this problem? (250 words) 15

भारत में नार्को-आतंकवाद की समस्या के प्रसार पर चर्चा कीजिए। इस समस्या से निपटने और नियंत्रित करने के लिए सरकार द्वारा क्या उपाय किए गए हैं?

Narco-terrorism is the connection between narcotics, drug trafficking with providers of terrorism and vice versa

Extent of problem: Narco terrorism

① The organised crime such as drug trafficking through golden triangle and golden crescent is used to fund the activities of terrorism



② terrorist use drugs to brainwash youth of their own nation of in 'India' to use them as sleepers cells, front workers or as love invol attackers.

Steps by government

① Governance measures :

Better connect with citizen,
grievance redressal, confidence
building measures.

② Education, Health and other social security;

To increase employability better vitals are ensured along with skill development schemes like Nai Pakal, USTAD, Roshini.

③ Rehabilitation, reemployment, counseling to those who surrender

④ Mental health helplines, Nasha Mukti Kendras to get rid of drugs.

⑤ Institutional Measures - Narcotics Department, law, Intelligence team such as IB, RAW!

Conclusion

More use of technology such as drones, electric fencing to stop border supplies. Bottom up approach and empowerment of citizen will help deal with this menace.

16. In light of the increasing security challenges faced by India, state the need for achieving self-reliance in defence manufacturing. Also, discuss the challenges in this context. (250 words) 15

भारत के समक्ष बढ़ती सुरक्षा चुनौतियों के आलोक में, रक्षा निर्माण में आत्मनिर्भरता प्राप्त करने की आवश्यकता का उल्लेख कीजिए। साथ ही, इस संदर्भ में चुनौतियों पर भी चर्चा कीजिए।

India is promoting Atmanirbhar Bharat which is not cutting off the global world but in principle of contributing more to the global world.

Increasing security challenges and need for achieving self-reliance

- ① India and hostile neighbours:
Pakistan and China (creating border issues, situation of conflicts (recent dada, Pangong Tso stand off)).

② Refugee crisis - With Rohingya issue and new civil war like situation in Sri Lanka highlights danger (Bihar bomb blast by Rohingya refugee)

③ Indo-Pacific - To promote SAGAR (Security and growth of all in the region) and deal with piracy, illegal, unregulated and unrestricted fishing near Horn of Africa and coastal states.

70% trade by value and 90% trade by volume through this area.

- ④ Overdependency on Russia (49%)
and US, France (Rafale), Israel
causing dictated terms eg
fear of CAATSA by US undermines
principles of Non alignment.
- ⑤ Increasing import bills.

Challenges:

- ① Poor Research and Development
- ② Lack of private players
participation.
- ③ Poor manufacturing base,
lack of technological transfer,
joint development

Conclusion

India need to diversify export
partners in ASEAN, Central Asia,
Africa etc and undertake more
joint development, technology transfer,
more Indigenous Content, required project.

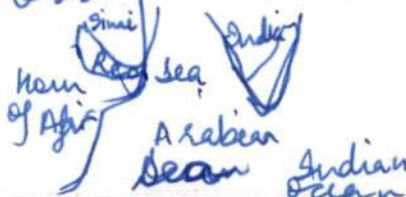
17. India faces a number of security threats and challenges that originate from the seas. Discuss. Also, give an account of the initiatives taken to strengthen the coastal security of India in recent times. (250 words) 15

भारत समुद्र से उत्पन्न होने वाले अनेक सुरक्षा खतरों और चुनौतियों का सामना करता है। चर्चा कीजिए। साथ ही, हाल के दिनों में भारत की तटीय सुरक्षा को मजबूत करने के लिए की गई पहलों का विवरण दीजिए।

India has a coastline of more than 2000km in the Indian Ocean and depends on seas for 95% trade by volume and 70% by value.

Security threats and challenges

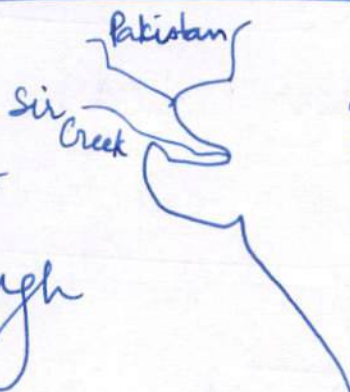
① Piracy - Near horn of Africa. This endangers trade and lives leading to people choosing alternate means.



② IUV - Illegal, Unregulated and Unrestricted fishing -
Near Tamil Nadu where
fisherman are caught on
both sides.

③ Porous Border and Insurgency

Mumbai Attack
26/11, Terrorists
entered through
sea.



④ Drug trafficking, arms trade
through seas become easy.

⑤ Spying, naval bases as
China naval ships are openly
reported in nearby water
being security threat. Challenge
is to prove such claims.

Initiatives :

- ① Indian navy accompanying commercial ships into some charges for safe trade.
- ② Indian Ocean Naval Symposium
- ③ BAGAR initiative -
- ④ Military exercises such as Malabar exercise.
- ⑤ QUAD for safe Indo-Pacific.
- ⑥ Indian Pacific Ocean Rim Association for better collaboration with neighbouring countries.
- ⑦ Naval bases such as Durgam (Oman)
- ⑧ Ballistic use, ^{Indian} coast guards, Navy etc.

Conclusion

India to become a global leader needs to keep safe herself as well as nearby regions.

18. What is Gamma Irradiation Technology? Highlight its various applications, with special focus on food preservation. (250 words) 15

गामा विकिरण प्रौद्योगिकी क्या है? खाद्य संरक्षण पर विशेष ध्यान देते हुए, इसके विभिन्न अनुप्रयोगों पर प्रकाश डालिए।

Gamma Irradiation Technology
is use of Gamma rays
to eliminate unwanted
organism for better preservation.

Various Application

① It can be used in Agriculture facilities to keep crops safe from pesticides, by eliminating unwanted weeds etc.

② Industrial use :- In cleaning process, dealing

with intricate spaces where
tough to deal manually,
radiations can be used.

- (3) In Health sector in
dealing with disease like
Cancer, various rare disease
more Research and Development
can better develop the use.

Food Preservation

- ① It helps in controlling
growth of bacteria, fungus
or any other microorganisms
leading to food preservation
without the need of
any preserving agent.

(2) This can be especially useful in preserving food products such as tomatoes, vegetables which otherwise could not be stored in cold storage.

(3) This will boost food processing industry and double farmers income

Conclusion :

It will help secure India's food insecurity and further research and development and global collaboration will enhance its application in other fields.

19. Recently, the WHO has declared antimicrobial resistance (AMR) as one of the top 10 global public health threats facing humanity. Comment. Also, discuss the measures taken to counter this threat in India. (250 words) 15

हाल ही में, WHO ने प्रतिसूक्ष्मजीवी प्रतिरोध (AMR) को मानव जाति द्वारा सामना की जा रही शीर्ष 10 वैश्विक सार्वजनिक स्वास्थ्य खतरों में से एक घोषित किया है। टिप्पणी कीजिए। साथ ही, भारत में इस खतरे से निपटने के लिए किये गये उपायों पर चर्चा कीजिए।

Anti Microbial resistance is a condition in which the body is no more responding to usual anti microbial drugs such as antibiotics not working etc.

AMR: A threat

① It leading to decreasing immunity as a person fall ill again and again for longer duration due to non functioning of medicine

② steroids become last resort which are harmful to body and remains in body.

Other global ^{Health} threats

① Non-communicable diseases:
obesity, hypertension, heart diseases.

② Communicable diseases:
Tuberculosis, malaria, dengue
etc.

Measures taken in India

① Over the counter sale of drug of certain category only with prescription
eg Drugs X, red line on

such medicines.

② Ban on use of antibiotics
such a collusion by animal
farms for their growth.

③ Strict monitoring and
triple data such as with
medical patient, hospital and
pharmacy.

Conclusion

More vigilant auditing,
verification on electric orders
through apps, survey and
checking of animal farms
is needs along with global
effects to deal with this

20. What are Hypersonic Weapons? Highlight their significance and discuss the challenges in their adoption and use. (250 words) 15

हाइपरसोनिक हथियार क्या हैं? उनके महत्व को रेखांकित कीजिए तथा उनके अंगीकरण और उपयोग में आने वाली चुनौतियों पर चर्चा कीजिए।

Hypersonic are machines that travel faster than 5 Mach [1 Mach = speed of sound]. These weapons are fast making them more tough to detect.

Significance

- ① Faster - target hit before detection serving their purpose. Only countries having specific technology can detect.

eg Brahmos is hypersonic
scramjet engine jointly develop
by India and Russia.

(2) Accuracy: More accurate
to hit target or hit
target before significant changes
in position.

(3) Deterrence: Help create
peace and order with
deterrence theory.

Challenges

(1) Create a divide in world
with crises and have nots

(2) Arms race promoted.

- ③ Costly
- ④ Need skilled manpower for use, repair, building.
- ⑤ Can lead to global instability, fear atmosphere.
- ⑥ Margin of error can create chaos.
- ⑦ Can be mishandled if terrorist get to have this

Conclusion

Prohibition of use of weapons promoting global peace, etc should be aim and such weapons used be only for deterrence and no actual use.