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GENERAL STUDIES (TEST CODE : 1244)

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Medium Eng./Hindi	ENGLISH	Registration Number	111460
Center	KAROL BAGH	Date	1/09/19

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
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9	10	
10	10	
11	15	
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15	15	
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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

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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.

All the Best

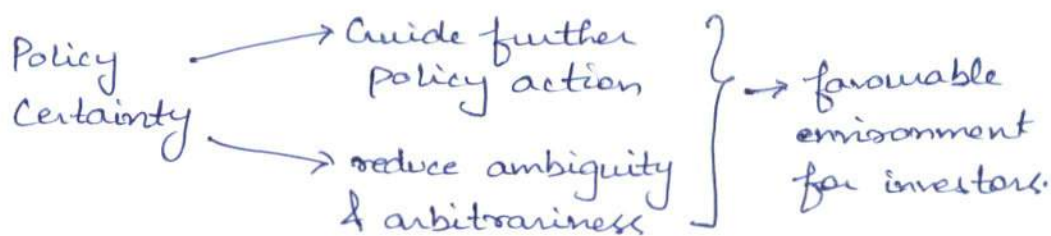
1. Discuss the need of an Independent Fiscal Council (IFC) in bringing about transparency and accountability in fiscal processes in India. (150 words) 10

भारत में राजकोषीय प्रक्रियाओं में पारदर्शिता और जवाबदेही का समावेश करने हेतु एक स्वतंत्र राजकोषीय परिषद (IFC) की आवश्यकता की चर्चा कीजिए।

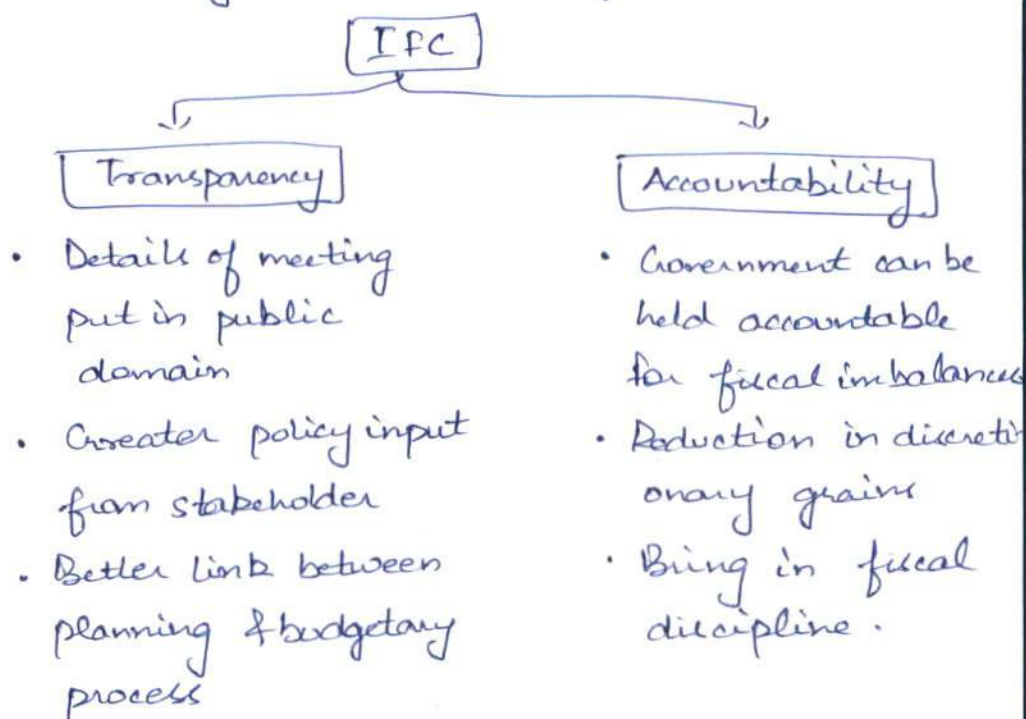
Finance Commission (Article 280) has been the balancing wheel of fiscal federalism in India. However, with greater government reliance of on off budgetary resources & discretionary grants, there is need to create an independent fiscal Council.

Need of Independent Fiscal Council

- (1) Rising Current Account Deficit & Fiscal Deficit
CAR of 2.6% of GDP & FD of over 3% is destabilising the economy
- (2) Control fiscal populism - Fiscal Council will have control over devolution of resources
- (3) Better planning & ~~expenditure~~ expenditure control
- (4) Optimal utilisation of resources
- (5) Strengthen investor confidence - will help in bringing much needed investment.
- (6) Fiscal Council will bring much needed policy certainty in fiscal domain.



- Independent fiscal Council will strengthen transparency & Accountability in fiscal process

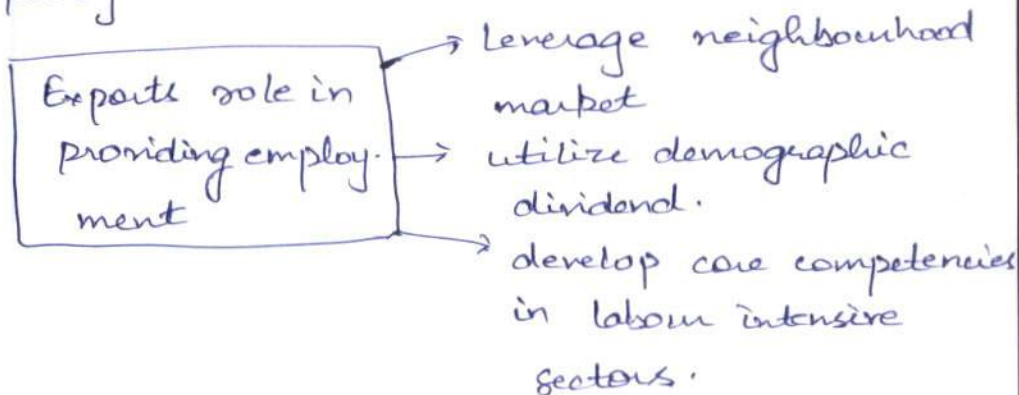


NK Singh panel on FRBM Act also recommended to create an Independent Fiscal Council, thus, it is high time to create an IFC to usher transparency & accountability in fiscal processes

2. Recognizing the potential of exports in generating employment, a number of steps need to be taken to address India's weakening export competitiveness. Analyze. (150 words) 10

रोजगार सृजन हेतु निर्यात क्षेत्र की क्षमताओं की पहचान करते हुए, भारत की कमजोर होती निर्यात प्रतिस्पर्धा को संबोधित करने हेतु कई कदम उठाए जाने की आवश्यकता है। विश्लेषण कीजिए।

Between 2021 & 2031, 9.7 million people will need employment annually, to address this issue, exports can be an important policy tool.



However, exports in India suffer from certain weaknesses.

Weakness (1) Poor infrastructure & technology adoption that increase the cost & reduce competitiveness.

(2) Restrictive labour laws again hurt efficiency & increases the cost of production.

(3) Absence of FTA in securing overseas market
(RCEP is still not concluded)

(4) Competition from Bangladesh & Vietnam in capturing export market.

(5) Lack of skilled workforce

~~the~~ Steps needed to enhance export competitiveness of India.

(1) Infrastructure - give credit support for creation of infrastructure. Special Economic Zones needs to be leveraged.

(2) Skilling to enhance labour productivity.

(3) labour reforms to cut unnecessary cost in ~~scaling~~ of business.

(4) Negotiate FTAs to ensure market access.

Government has taken number of steps like MEIS, SEIS, recapitalisation of Exim bank to promote exports.

To achieve the target of \$5 trillion economy by 2024-25, exports holds the key.

3. Highlighting the main features of National Mineral Policy, 2019, discuss how it can help in ensuring sustainable and responsible mining.

(150 words) 10

राष्ट्रीय खनिज नीति, 2019 की मुख्य विशेषताओं पर प्रकाश डालते हुए, चर्चा कीजिए कि यह संधारणीय और उत्तरदायित्वपूर्ण खनन सुनिश्चित करने में कैसे सहायता कर सकती है।

Minerals are the base of manufacturing system in any economy. India is endowed with great mineral wealth but still mining sector has failed to realise its potential.

Need for Mineral Policy

- (1) Obvious Geological Potential only 10% is explored & only 1.5% mined
- (2) Restrictive licensing regime - stall private participation
- (3) Delays in land acquisition, environment & forest clearance.
- (4) Infrastructure shortage - issues in evacuation.
- (5) High taxes & royalty - reduces attractiveness for corporates.

To address these challenges National Mineral Policy 2019 was unveiled.

Features of NMP, 2015

- (1) Creation of Dedicated Mineral Corridors
- (2) Creation of Exclusive Mining Zones to encourage private participation.
- (3) Rationalization to taxes, royalty.
- (4) District Mineral Foundation funds to be utilized for welfare of affected population
- (5) Intergenerational equity - by carrying out sustainable & responsible mining

NMP role in sustainable mining

- intergenerational equity
- environmental pollution to be taken care of
- DMF - help in inclusive development.
- Make mining a zero waste activity.

NMP needs to be substantiated by
'Explore in India' to attract investors
in the mining sector & unlock the
unrealised mineral wealth of India.

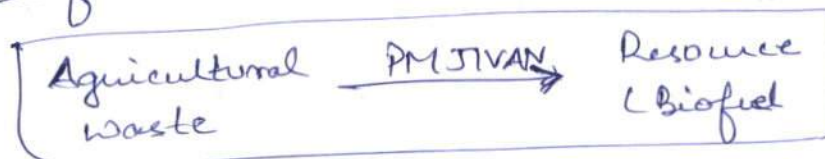
4. Highlighting the salient features of the PM JI-VAN Yojana, analyze how it can assist in achieving the vision and goals of the National Policy on Biofuels, 2018. **(150 words) 10**

“प्रधानमंत्री जी-वन योजना” की मुख्य विशेषताओं पर प्रकाश डालते हुए, विश्लेषण कीजिए कि यह जैव ईंधन राष्ट्रीय नीति, 2018 की दृष्टि और लक्ष्यों को प्राप्त करने में किस प्रकार सहायक हो सकती है।

PM Jaiw Indhan Vatavanan Anukul Krishi Anasesh Nirvanan (PM JI-VAN) Yojana is a gamechanger in tackling agricultural residue and create additional income for farmers.

Features

- (1) Provides incentives for in situ crop residue management
- (2) Biofuel based cogeneration plants.
- (3) fiscal incentives to oil Marketing Companies to procure biofuel produced under PMJIVAN
- (4) Address rural wastes & income support for farmers.



PMJIVAN can help in ~~assisting~~ achieving the vision & goal of National Policy on Biofuel 2018.

National Policy on
Biofuel

- (1) 20 % ethanol blending by 2030
- (2) Categorization of biofuel into basic & advanced
- (3) Use of Surplus food grains
- (4) Reduce impact of petroleum
- (5) Additional income to farmers.

Role of PM JIVAN

- Generation of biofuel & procurement by OMC
- Generation of basic as well as advanced biofuel (biodiesel)
- agricultural waste can be utilized to produce biofuel
- Domestic generation of biofuel for blending
- Help realise the dream of doubling farmers income by 2022.

Thus, National Policy on Biofuels and PMJIVAN complements each other & can address energy security as well as rural distress in India.

5. Zero Budget Natural Farming (ZBNF) provides an alternative to capital and chemical intensive agriculture currently being practiced in India. Analyze.
(150 words) 10

जीरो बजट प्राकृतिक कृषि (ZBNF), भारत में वर्तमान समय में प्रचलित पूंजी और रसायन गहन कृषि का एक विकल्प प्रदान करती है। विश्लेषण कीजिए।

ZBNF was introduced by Subash Palekar in Karnataka & later adopted by Andhra Pradesh. It involves farming activity with the use of chemical inputs & the farmer uses no outer inputs.

- Components (1) Soil treatment - with ^{cow} urine & manure
(2) Seed treatment with cow urine (Bijamurt)
(3) Soil aeration to promote growth of desirable microbes (Piramurt)
(4) Soil mulching to prevent moisture loss.

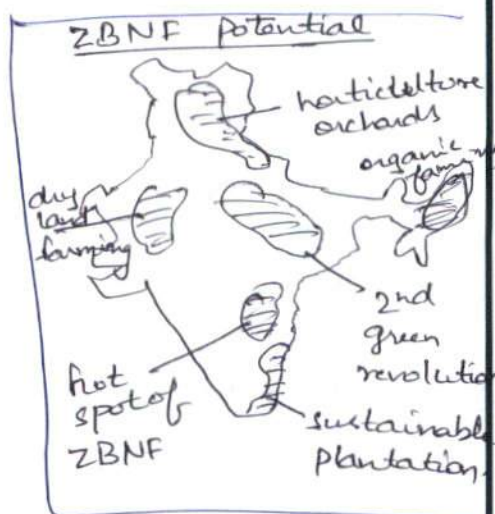
It provides an alternative to capital & chemical intensive farming.

- Benefits (1) Increase yield - yields are found to increase in ZBNF
(2) Reduce input cost as no market inputs used
(3) Resilience to Climate Change & pest attacks
(4) Ecological integrity is balanced.

- (5) Resource Sustainability - less use of water resources.
- (6) Manage soil fertility - as no excessive pressure is created.

Challenges

- (1) Small holdings make ZBNF unviable.
- (2) high initial cost beyond capacity of Small & Marginal farmers.
- (3) Yield begin to decline after initial few year.
- (4) No price differential for ZBNF products.
- (5) No Research & Extension activities carried out.

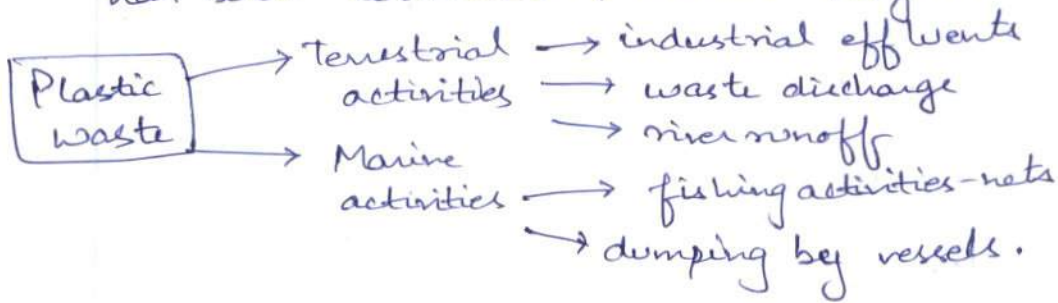


ZBNF needs to be provided credit support & link with KVKs for better yield & sustainability.

6. Marine life is facing 'irreparable damage' from the millions of tonnes of plastic waste which ends up in the oceans each year. In this context, examine the implications of plastic pollution on marine ecosystem and suggest some measures for addressing this problem. **(150 words) 10**

समुद्री जीवन, प्रति वर्ष समुद्र में पहुँचने वाले लाखों टन प्लास्टिक कचरे के कारण 'अपूरणीय क्षति' का सामना कर रहा है। इस संदर्भ में, समुद्री पारिस्थितिकी तंत्र पर प्लास्टिक प्रदूषण के प्रभाव का परीक्षण कीजिए और इस समस्या के समाधान हेतु कुछ उपाय सुझाइये।

Today, the oceans receive 1.3 million tonne of plastic waste per day. It has both terrestrial & marine origin.

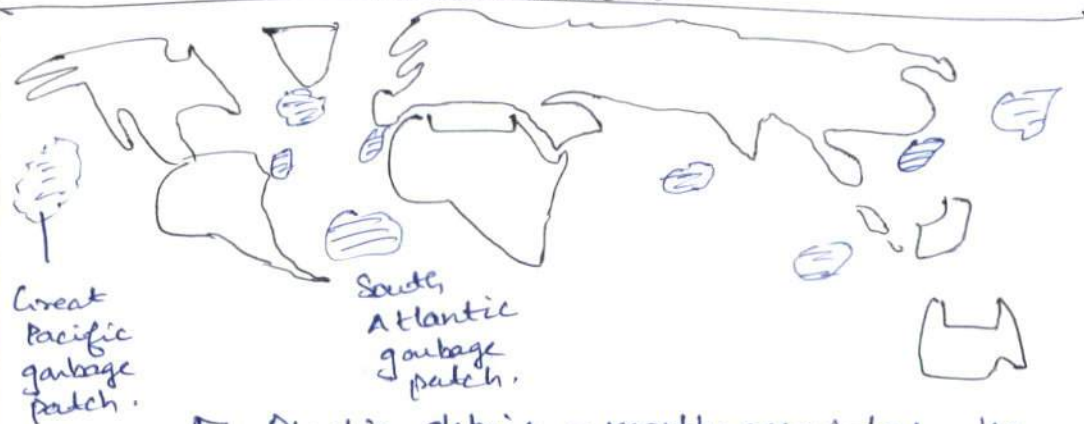


All this waste hampers marine ecosystem & creates several challenges.

Implications of plastic waste on marine ecosystem

- (1) Bioaccumulation - it enters marine food chain & threaten the survival of species.
- (2) Non degradable - thus break into microbeads & affect the marine biodiversity.
- (3) Enhance acidification & coral bleaching as plastic pollution give rise to various pathogens.
- (4) Impact on reproductive cycle, migratory rhythms

of marine species

Plastic PollutionGreat
Pacific
garbage
patch.South
Atlantic
garbage
patch.

Plastic debris - mostly associated with coastal urban agglomeration.

- Measures
- (1) Waste Treatment Plants to ensure industrial waste is treated before disposal.
 - (2) Implementation of Honolulu strategy to tackle marine debris.
 - (3) Alternative to Plastics - bioplastics or any other safer alternative.
 - (4) Global commitment to tackle this hazard.
 - (5) Awareness to reduce plastic footprint.

Ocean Cleanup Project ~~is~~ started to clean Great Pacific Garbage Patch. In order to achieve SDG 14 Life below Water, we need to address the issue of plastic debris.

7. Write a short note on the evolution of Bharat Stage norms in India. Also discuss the significance and challenges posed by the planned introduction of BS-VI norms in India from the year 2020. **(150 words) 10**

भारत में भारत स्टेज मानकों के विकास पर एक संक्षिप्त टिप्पणी लिखिए। साथ ही, वर्ष 2020 से भारत में BS-VI मानकों को योजनाबद्ध रूप से लागू किए जाने के महत्व और उसमें आने वाली चुनौतियों की भी चर्चा कीजिए।

Transport sector is one of the largest emitters of greenhouse gases due to burning of fossil fuels. India has adopted Bharat Stage norms - regulating emission of pollutants from Internal Combustion Engine of vehicle.

Evolution of BS Norms

- (1) Linked with European norms adopted with first in 1990s.
- (2) later India shifted to BS III & BS IV norms in 2010.
- (3) India skipped BS V norms & will adopt BS VI norms in 2020.

Significance of BS VI norms

- (1) Selective catalytic Reduction Technology reduce amount of NO_x released & more effective combustion.
- (2) 80% fall in Sulphur content from 50 ppm to 10 ppm.

- (3) PM 2.5 & PM10 amount will also reduce significantly,
- (4) Real Time monitoring of emission
- (5) On board diagnostics.
- (6) It will help in achieving INDC (reducing emission intensity of GDP by 33-35% by 2030 of 2005 levels)

Challenges

- (1) for automobile companies - large inventories of earlier vehicles
- increase in cost reduce their competitiveness.
 - (2) for customers - increase cost of vehicles
 - (3) for economy - stress in an already damp automobile sector → reduce future growth
- Need of policy incentives like tax sops for transition ~~off~~ to BS VI norms as well as early rollout of EVs will address the emission from transport sector.

8. What are black holes? Highlight the challenges in imaging a black hole? How were these challenges overcome by the Event Horizon Telescope project? (150 words) 10

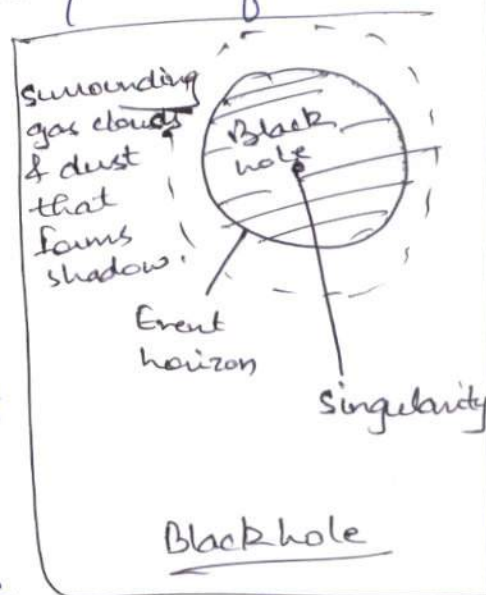
ब्लैक होल क्या हैं? ब्लैक होल के चित्रण (इमेजिंग) में आने वाली चुनौतियों पर प्रकाश डालिए। इवेंट होराइज़न टेलीस्कोप प्रोजेक्ट द्वारा इन चुनौतियों को कैसे दूर किया गया?

Black holes are remnants of an early star that have extremely high gravitational force that even light can't escape it. Thus, it becomes very difficult to map or take image of a blackhole.

Recently, Event horizon Telescope has been successful in taking a photo of blackhole

Event Horizon Telescope

Network of telescopes ~~of~~ on earth surface that has used the surrounding gas & dust of black hole to take photo of blackhole



Challenges overcome (1) Strengthened the Einstein's theory of relativity.

- (2) First tangible evidence of black hole - till now only theoretical concept.
- (3) Further the understanding of universe & cosmic matter.
- (4) EHT utilized network of 8 telescopes to map surrounding region

Black holes can be very significant in altering the Standard Model of Physics & thus, needs more scientific Research.

9. While mentioning the objectives of the Arms Trade Treaty (ATT), discuss the challenges which are hindering the utilization of the ATT to its full potential. (150 words) 10

शस्त्र व्यापार संधि (ATT) के उद्देश्यों का उल्लेख करते हुए, उन चुनौतियों की चर्चा कीजिए जो ATT को इसकी पूर्ण क्षमता से उपयोगित किये जाने में बाधक हैं।

Arms trade treaty regulate the trade of conventional arms among the nations of the world.

Objectives (1) Non proliferation of arms to terror groups.

(2) Prevent use of arms against civilian population

(3) A global framework to regulate arms trade.

(4) Regulate dual use technologies from their potential adverse use.

Challenges in adoption of Arms Trade Treaty are

(1) Non equity rules rather than being negotiated are dictated by western world.

- (2) US-Russia conflict & their support to opposing groups in Middle East.
- (3) Economic dependence of US, Russia on arms export will be severely handicapped due to arms trade treaty.
- (4) lack of transparency in rules of treaty.
- (5) Seen as a tool to restrict weapon access to developing world.
- (6) Avoid technology transfer.
- (7) Hamper nascent Chinese arms industry.

So, a global consensus based on transparent ~~eq~~ rules will help in adoption of Arms Trade Treaty.

10. Threats to internal security of India may be posed both through the communication networks and also to the networks. Discuss. Also, highlight the steps taken by the government in making the networks more secure.

(150 words) 10

भारत की आंतरिक सुरक्षा को खतरा संचार नेटवर्कों के माध्यम से एवं स्वयं संचार नेटवर्कों को खतरा होने, दोनों ही प्रकार से हो सकता है। चर्चा कीजिए। साथ ही, नेटवर्कों को अधिक सुरक्षित बनाने हेतु सरकार द्वारा उठाए गए कदमों पर प्रकाश डालिए।

Internal security of India is facing multidimensional threats from state/non-state actors. The emergence of cyber space has added new dimension to security vulnerability of India.

Threat through communication network

- (1) Cyber warfare
- (2) Hacking
- (3) Spreading rumours, fake news - creating panic - exodus of North Eastern from Bengaluru
- (4) Issue of anonymous perpetrators.
- (5) Undefined space - 5th dimension of warfare.
- (6) Snooping & espionage

Threat to communication networks

- (1) Threat of critical infrastructure - like financial infrastructure - SBI data hacking
- (2) Threat to IT infrastructure of defence installations & nuclear power plants
- (3) Disruption to network by malicious malware like Saposhi, Denial of Services, privacy violation.

Steps taken by government

- Institutional
- (1) Computer Emergency Response Team to secure network and act in case of emergency.
 - (2) National Cyber coordination Center.
 - (3) Pin-CERT, NIC-CERT, National Critical Information, Infrastructure Protection Center.

Legislative & Policy (1) IT Act 2008 to prevent hacking & cyberterrorism (Sec. 69)

(2) National cyber security Policy 2016 - create workforce, infrastructure etc.

International Cooperation - Mulling adoption of Budapest Convention & Tallinn Manual

Private Sector - cyber security audits

- technology upgradation
- cyber insurance framework
- standard devices & ethical hacking

Thus, India has taken multipronged steps to address its vulnerability both on defensive & offensive sides.

Defensive - Institutional framework

Offensive - Defence Cyber Agency

11. Highlight the importance and challenges related to integration of Variable Renewable Energy (VRE) in India. Mention some steps that can be taken for its smooth integration with the synchronized Indian grid. (250 words) 15

भारत में परिवर्तनीय नवीकरणीय ऊर्जा (VRE) के एकीकरण के महत्व और इससे संबंधित चुनौतियों पर प्रकाश डालिए। ऐसे कुछ कदमों का उल्लेख कीजिए जो समक्रमिक (सिंक्रनाइज्ड) भारतीय ग्रिड के साथ इसके सहज एकीकरण के लिए उठाए जा सकते हैं।

Renewable Energy constitute 22% of India's energy mix & India has set a target of 175 GW of Renewable Energy generation by 2022. However the Renewable Energy sources are variable in India & pose several challenges in its integration.

Challenges in ~~Indge~~ Integration of VRE

- (1) Low tariff Discovery - due to rapid technology advancement.
- (2) Cancellation of Power Purchase Agreements
- (3) Load variability leading to challenges for transmission of infrastructure.
- (4) Year round availability
Solar energy April to September
Wind energy, seasonal (low in winter) as well as spatial high in coastal states

(5) Interoperability of infrastructure

Significance of Integration of VRE

(1) Colocation address

load variability as well
as challenges for
transmission infrastructure

(2) 24x7 power for consumers

(3) Choice to consumers

(4) Better financial incentives
for private participation.



Steps to be taken

(1) Reduce ATC losses ← operational measures
technical - smart meters

(2) Grid connectivity of solar rooftop

(3) Technological advancement to secure
interoperability of common infrastructure.

(4) Policy incentives for private
sector participation.

(5) Better risk sharing in PPP framework

(6) Innovative funding mechanisms PAT,
Renewable Energy Certificates

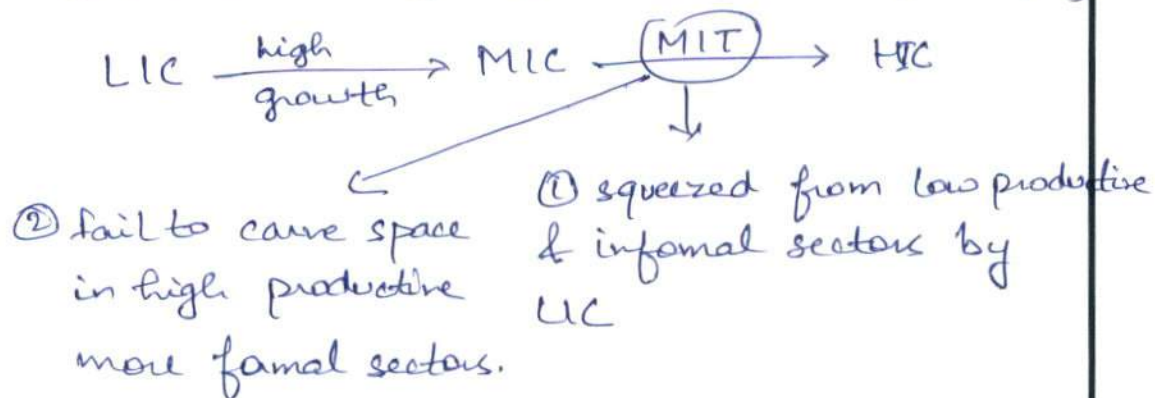
(7) Renewable Purchase Obligations to
have another category of Variable
Renewable Energy.

URE is important for achieving
INDC (40 % Energy from Renewable
sources by 2030) & SDG 7 clean &
affordable energy.

12. There have been arguments that India could fall into a 'middle income trap'. Explaining the phenomenon, highlight the reasons behind such arguments. How can India avoid it? (250 words) 15

ऐसे तर्क दिए गए हैं कि भारत 'मध्यम आय पाश' में फंस सकता है। इस परिघटना की व्याख्या करते हुए, ऐसे तर्कों के लिए उत्तरदायी कारणों पर प्रकाश डालिए। भारत इससे किस प्रकार बच सकता है?

Middle Income Trap refers to condition when an low Income country due to rapid growth transforms into MIC but fails to rise upward into High Income country. (1000\$ - 12000 \$ per capita)



Reasons for MIT

- (1) Failure to transform from Resource driven growth → Productivity led growth
- (2) Recurring cycles of bust & boom and procyclic policy
Ex-Latin American countries.

India is in a 'Late Convergence Stall' & could fall into Middle Income trap due to

(1) Hyper globalisation repudiation growing protectionism worldwide

Ex- trade war between China-US

(2) Human capital regression fail to adjust to technology intensive workplace.

Ex- Automation threat - World Bank says 66% jobs will become obsolete by 2030 in India

(3) Thwarted structural transformation premature deindustrialisation.

Ex- falling manufacturing growth.

(4) Climate Change induced agricultural stress - NABARD says 1°C rise in temperature will lead to 13% fall in agricultural income, more severe for rainfed areas.

Measures to avoid it

- (1) Diversification $\longleftrightarrow$ Specialisation
to ensure high productivity & develop
core competency in niche sectors.
- (2) Social security schemes to target
middle class - as they are the drivers
of consumption led growth.
- (3) Technological advancement adjust to
changing workplace & take lead
in Industry 4.0
- (4) Competitiveness to increase growth.
Steps like Make in India, Digital India
National Mission on Artificial Intelligence
& Cyber Physical Systems are steps
to avoid India from falling in
Middle Income Trap & achieve SDG 10
Reduce Inequalities.

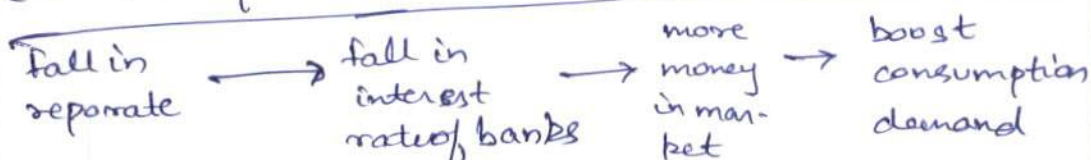
13. Highlighting its importance, discuss the major issues that plague effective monetary policy transmission in India. Also, mention the steps taken by RBI to improve it. (250 words) 15

भारत में मौद्रिक नीति संचरण के महत्व पर प्रकाश डालते हुए, उन प्रमुख मुद्दों पर चर्चा कीजिए जो इसकी प्रभाविता को बाधित करते हैं। साथ ही, इसमें सुधार के लिए RBI द्वारा उठाए गए कदमों का उल्लेख कीजिए।

Monetary Policy refers to use of tools of monetary policy like Repurchase, Open market operation to influence money supply in the economy & achieve monetary policy objectives.

Importance of effective monetary policy transmission

- (1) Tackle inflation - doesn't hurt vulnerable sections of society
- (2) Promotes investor confidence
- (3) long term objectives & sustainable economic growth.
- (4) Address liquidity issues in market.
- (5) Prompt action & address forex volatility



However, this effective transmission is not observed in real life scenario.

Issues

- (1) Overdependence of banks on deposits nullify changes in repo & reverse repo rates to change money supply.
- (2) Locking of funds
 - ~~PR~~ Priority Sector Lending
 - Reserve requirements (SLR, CRR)

Reduce funds available to banks
- (3) Rising NPAs 10% of total outstanding deposits, reduce availability of funds for lending.
- (4) Failure of MCLR system to achieve optimum results.

Steps taken by RBI

- (1) Capital availability with banks recapitalisation, resolution of stressed assets (Project Sashakt)
- (2) PSL certificate - to address PSL

shortfalls.

- (3) End to administered interest rate - to be based to market forces.
- (4) Reducing reserve requirement - SLR to 19%.
- (5) Moral Suasion persuading banks to follow effective policy transmission
- (6) Recent decline of 35 Basis point in repo rate is subsequently followed by fall in interest rates of SBI.

Thus, effective monetary policy transmission is necessary to achieve long term economic objectives as well as achieving immediate stability in the economic sphere.

14. Highlight the constraints faced by rainfed agriculture in India. Discuss some agronomic practices that can be adopted for stabilizing agricultural production in rainfed areas. (250 words) 15

भारत में वर्षा सिंचित कृषि में आने वाली बाधाओं पर प्रकाश डालिए। वर्षा सिंचित क्षेत्रों में कृषि उत्पादन को स्थायित्व प्रदान करने हेतु अपनाई जा सकने वाली कुछ कृषि-वैज्ञानिक पद्धतियों की चर्चा कीजिए।

Rainfed agriculture (61% farmers & 55% of gross cropped area) suffer from natural as well as policy neglect. It is important for addressing food & nutritional security

40% of cereals	} Rainfed agriculture.
75% maize	
85% oilseeds	
90% jowar & bajra	

Constraints

- (1) Natural low rainfall below 75cm
- ↳ sandy soil - prone to soil erosion
 - ↳ low groundwater availability.
 - ↳ prone to desertification & drought.

- (2) Policy. no special policy for rainfed area
- Policy for irrigated area → Extended to rainfed area → Neglect their special climatic needs.

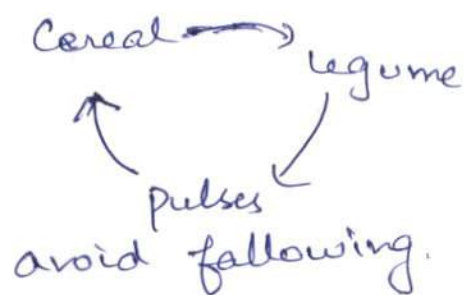
(3) Small & Marginal farmers poor technological adoption, lack of quality inputs

Ex- Rate of use of certified seeds is only 9.4%

(4) Poor resilience absence of alternative livelihood options

Agronomic practices

(1) Crop rotation



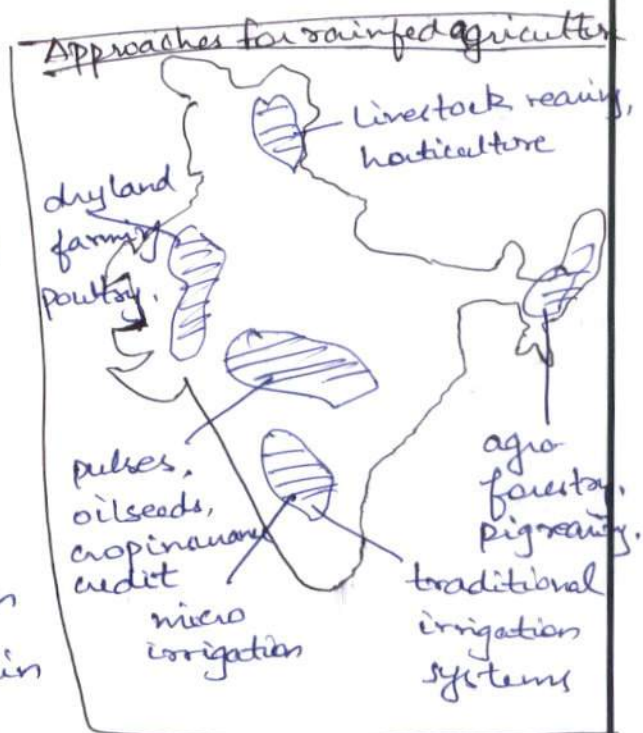
(2) Deep ploughing

before rainy season

(3) Mulching to retain

moisture & adopt

micro irrigation practices



(4) Livestock productivity better breeds as well as quality fodder.

(5) Agro forestry & Social forestry

additional income as well as protect

against desertification.

(f) Credit & insurance facilities

↓
adoption
of technology,
quality input,
irrigation etc.

→ reduce vulnerability
& poverty, prevent
marginalisation.

National Mission on Sustainable
Agriculture aims to reduce vulnerabili-
ties of rainfed agriculture. Greater
Research & Extension by integration
with Krishi Vigyan Kendra will help
in achieving SDG1 No poverty,
SDG2 Zero Hunger and the idea of
inclusive development.

15. Despite the steps taken by the government in recent years, a number of problems continue to persist in the urea sector in India. Discuss. What reforms should be taken to address the persisting problems?

(250 words) 15

हाल के वर्षों में सरकार द्वारा उठाए गए कदमों के बावजूद, भारत में यूरिया क्षेत्र में कई समस्याएं निरंतर बनी हुई हैं। चर्चा कीजिए। मौजूदा समस्याओं के समाधान हेतु क्या सुधार किए जाने चाहिए?

India is the largest consumer of urea and also a leading producer, but has to meet its demand by import of urea. In recent years, government has taken number of steps to address issues ^{it} persisting in urea sector.

Steps - Pricing - gas pooling method.

- (1) Neam coated urea to reduce diversion of urea.
- (2) Integrated Nutrient Management to rationalise use of urea in field.
- (3) Soil Health Card to use urea according to the requirement of crop.
- (4) DBT in fertilizers to address inefficiency in transmission of subsidy.
- (5) Corakhpur fertilizer plant restarted to

address shortage of urea.

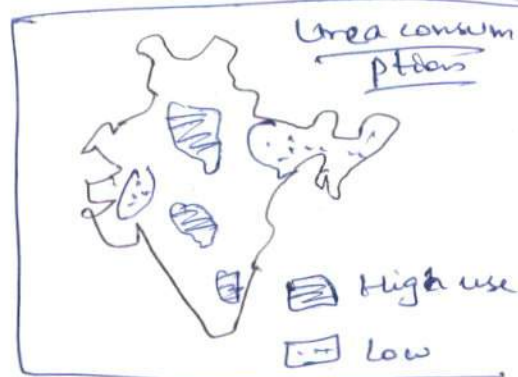
Despite this problem persists

(1) Irrational use due to subsidized cost

(2) Diversion of urea due to corruption & leakages.

(3) Regional imbalance

Eastern India neglected.



(4) Pricing of urea inhibiting participation of private sector as it is not still based on gas pooling

Reforms needed

(1) Fertilizer response ratio has fallen

from 13.4 to 3.2% → need to promote rational use. → Need complete rollout of SHC & educating farmers about efficient use.

(2) Pricing of urea - needs to be competitive

- (3) Curb subsidy on urea to end its inefficient use
- (4) Enhance production revival of sick units.
- (5) Ensure supply overseas agreement with Oman, Iran.

Urea is important determinant of agricultural productivity in India. Thus, the sector needs to be revived as early as possible to achieve food & nutritional security.

16. What is Access and Benefit Sharing? Explain how it aids in sustainable use of biodiversity. Also, mention the different global and national level mechanisms for ensuring Access and Benefit Sharing. (250 words) 15

पहुंच और लाभ साझाकरण (एक्सेस एंड बेनिफिट शेयरिंग) क्या है? यह जैव विविधता के संधारणीय उपयोग में किस प्रकार सहायक है, स्पष्ट कीजिए। साथ ही, पहुंच और लाभ साझाकरण सुनिश्चित करने हेतु वैश्विक और राष्ट्रीय स्तर की विभिन्न प्रणालियों का उल्लेख कीजिए।

Access & Benefit Sharing refers to sharing of benefits arising out of commercial use of biodiversity and traditional wisdom with the indigenous community. It has been institutionalized by Nagoya Protocol of Convention on Biological Diversity.

ABS → sustainable use of biodiversity

- (1) Give indigenous population their due share
- (2) Address issue of indiscriminate exploitation
- (3) Protects biodiversity - from commercial interests
- (4) Inclusive development - share with locals

International Mechanism for ABS

(1) Convention on Biological Diversity - Nagoya Protocol - mandates Access & Benefit sharing
↳ sustainable use of biodiversity.

(2) Sustainable Development Goals Goal 17

Peace, Justice & Strong institutions



Access &
Benefit
Sharing

National Mechanism

(1) National Biodiversity Act, 2002 ensure ABS

↳ Biodiversity registers at district level to register local biodiversity.

(2) Traditional Knowledge Digital library.

(3) Geographical Indication Act, 1999 though not explicitly but it indirectly secures the rights of locals over their produce.

ABC promotes bioprospecting and
a culture of responsible commerce
among the business community. It
ensures sustainable use of biodiversity
and has to be properly implemented.

17. Stating the significance, discuss the challenges in achieving disaster resilience of infrastructure. Suggest some ways for mainstreaming it in the development paradigm. (250 words) 15

अवसंरचनाओं का आपदाओं के प्रति सुनम्य (रेजिलिएंट) होने के महत्व को स्पष्ट करते हुए, इससे संबंधित चुनौतियों की चर्चा कीजिए। इसे विकास प्रतिमान की मुख्यधारा में लाने हेतु कुछ उपाय सुझाइये।

Disaster Resilient infrastructure - that can withstand large damage to any disaster, has both structural & non-structural components.

Significance

- (1) DRI → reduce damages due to disaster
→ huge fiscal cost of disaster (\$306 bn)
→ increasing frequency & intensity of disasters.

- (2) Address vulnerabilities of population
(3) Reduce cost of recovery & reconstruction

- (4) DRI → hazard zoning } → mitigation of disasters.
→ vulnerability assessment

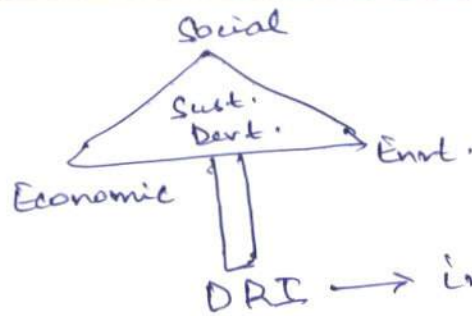
- (5) DRI → disaster proof communication → better relief & rescue.

challenges

- (1) Finances - the cost of DRI acts as a barrier - however, in long run, the returns are greater.
- (2) Lack of awareness among people as well as authorities about DRI
- (3) Disaster Risk Assessment is often neglected at planning stage
- (4) Poor implementation of existing rules
Standard Building Codes by BIS are neglected, similarly, floodplains are encroached.

Ways to mainstream it in development paradigm

- (1) Sendaiframework for Disaster Risk Reduction calls for understanding & investing in Disaster Risk Reduction. DRI is a component of Disaster Risk Reduction.
- (2) 4th pillar of sustainable development that balances other pillars.



DRI → in absence of
this, all these
pillars fall down.

(3) Monitoring & Compliance mechanism
to ensure implementation of rules.

(4) Funding - innovative mechanism like catastrophic bonds or budgetary support.

DRI can help in mitigation & adaptation to disasters and has to be based on Build Back Better principle.

18. Highlighting the significance of data localization for India, discuss various challenges associated with data localization. (250 words) 15

भारत के लिए डेटा के स्थानीयकरण के महत्व पर प्रकाश डालते हुए, डेटा के स्थानीयकरण से जुड़ी विभिन्न चुनौतियों की चर्चा कीजिए।

Data localization refers to ~~refers~~ restriction on crossborder processing of personal data of residents of a country.

Recently RBI guidelines, draft e-commerce policy & draft data protection bill provided for data localisation.

Significance

- (1) Economic Data is the new oil

4th Industrial Revolution → data driven → need to ensure control over data

- (2) Security = security & intelligence agencies need to have ~~control~~ ^{access to} data to strengthen national security.

Ex IB under Operation Chapranyuh monitoring web activity to address LWE threat.

(3) Citizen's privacy over personal data is important under Article 21 ^{cle}.
meaningful existence requires privacy.

(4) National Sovereignty & Information Security - data can be misused by other nations to thwart the interests of nation.

Ex- allegations of Russian interference in US Presidential election (2016)

Challenges

(1) Protectionism restriction on cross border data flow are against the idea of globalisation.

(2) Corporates - additional cost due to set up of data processing infrastructure
→ IT/ITES sector thrives on cross border data flow - severe loss.

(3) Security - domestic storage doesn't

ensure data access to security agencies

Ex- Whatsapp data encryption

(4) Need of Mutual Legal Assistance treaty
for access to data

(5) capacity building of Data center &
lack of data processing guidelines

Way forward India needs a robust

data protection laws clarifying about
data localisation and need to

qualify ~~under~~ under CLOUD Act of US
to have access to data.

There is need to ^{maintain} balance between

data sovereignty & commercial dataflow

to ~~achieve~~ remain competitive in
technology intensive world.

19. Money Laundering as a socio economic offence is a menace especially for developing countries like India. Comment. What measures have been taken at the domestic and international levels to deal with this menace?

(250 words) 15

एक सामाजिक आर्थिक अपराध के रूप में धन शोधन विशेषकर भारत जैसे विकासशील देशों के लिए एक खतरा है। टिप्पणी कीजिए। इस खतरे से निपटने हेतु घरेलू और अंतरराष्ट्रीय स्तर पर क्या उपाय किए गए हैं?

Money laundering refers to the appearance of making large scale money from illegitimate sources to appear from legal route



Social Impact

- (1) Increase in crimes
- (2) Issues like drug trafficking, human trafficking emerge
- (3) Threat to marginal sections like slum dwellers, poor children etc.

Economic Impact

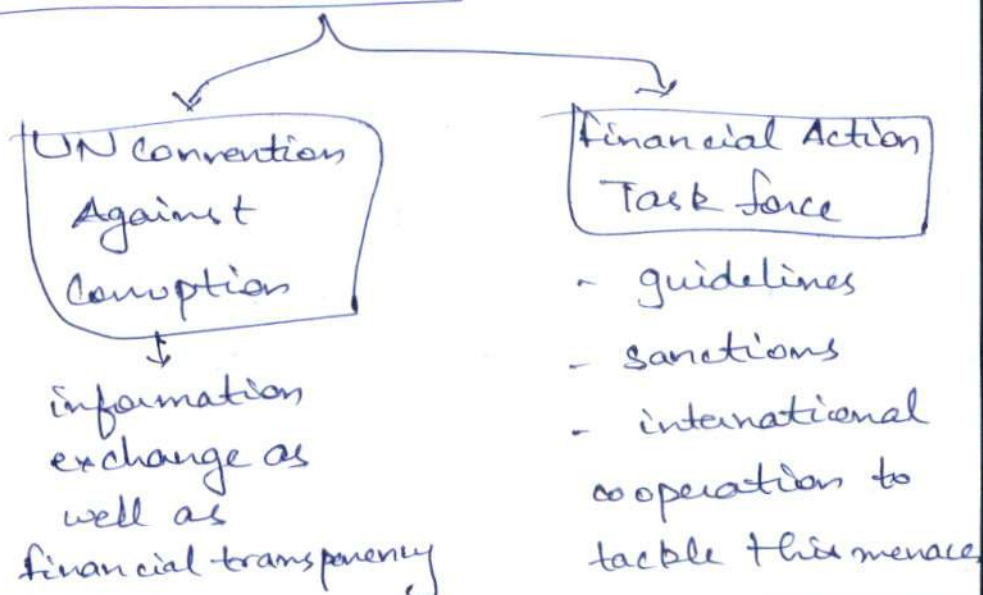
- (1) Tax evasion
- (2) Genuine business hurt as can't compete with money laundered business front
- (3) Fiscal bubble - inflate certain sector like Real Estate

Though it is true that developing country like India is more vulnerable to Money laundering, However, developed world is not completely immune from money laundering

Case study \$530 drugs market & \$800bn prostitution industry in US is largely driven by laundered money. It has linkage with developing countries like Mexico, Colombia but economy of cities like Las Vegas also depend on it.

Measures

International level



- Multilateral Comptent Authority Agreement - automatic information exchange will combat money laundering.

Domestic measures

- Prevention of money laundering Act provides for confiscation of assets. However, ML is a predicate offence.
- Enforcement Directorate - to follow cases of ML.
- KYC norms & enhanced disclosure norms for financial institutions.

Money laundering requires global cooperation to address it & to make world a safer & more rules based place.

20. The primary motive of terrorism differs from that of organised crime but there exists a symbiotic relationship between the two. Discuss.

(250 words) 15

आतंकवाद का प्राथमिक उद्देश्य संगठित अपराध के उद्देश्य से भिन्न होता है, किन्तु दोनों के मध्य एक सहजीवी संबंध पाया जाता है। चर्चा कीजिए।

Terrorism - systematic use of violence to achieve a political, ideological/religious goal by overthrow of existing government.

Organised Crime
group of people acting in concert to make great financial gains by use of illegal means.

Both these differ in primary motive

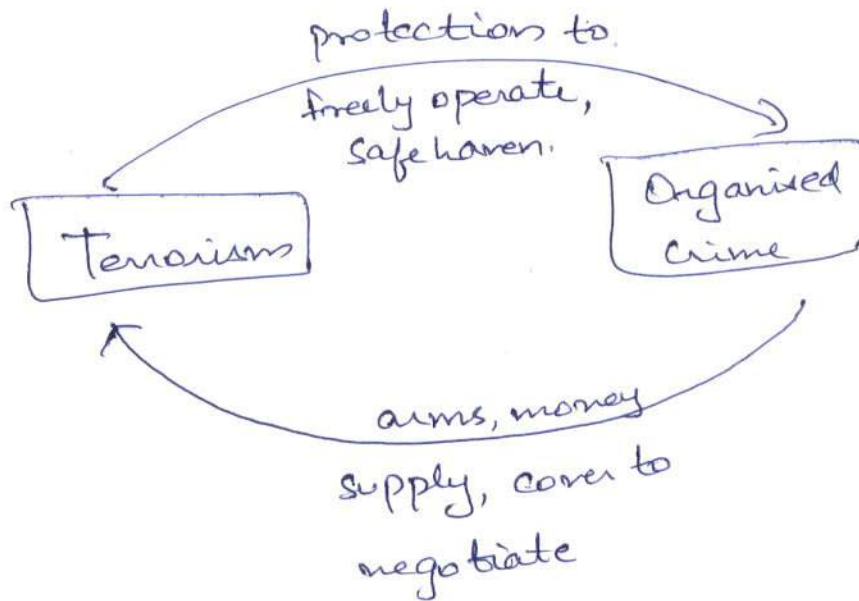
- overthrow of existing government
- political motives
- indulges in violence to achieve their goals

Ex- Mumbai attacks, 2008

- work with Status quo
- economic profit is main goal
- avoid violence, except odd belligerence

Ex- drugs trafficking, arms dealing, human trafficking

But despite these difference these exists a symbiotic relationship between the two.



This unholy nexus is the root cause of existence of both.

Ex- Afghanistan - Taliban has control over opium production & regulates its trade across golden crescent and this money help it in sustaining its armed struggle ~~bet~~ against the American forces.

So, to end terrorism, we need to cut ~~the~~ its link with Organised Crime that ensures its financial sustainability.

To achieve a terror free society & a just world, we have to address the issues in entirety rather than working in silos.