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27 AUG 2019 NO. 03

GENERAL STUDIES (TEST CODE : 1244)

Name of Candidate	SIMI KARAN		
Medium Eng./Hindi	ENG	Registration Number	577826
Center	ORN	Date	27/08/19

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	
12	15	
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14	15	
15	15	
16	15	
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18	15	
19	15	
20	15	
Total Marks Obtained:		
Remarks:		

INSTRUCTIONS	
1.	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)।
2.	There are TWENTY questions printed in ENGLISH & HINDI इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3.	All questions are compulsory. सभी प्रश्न अनिवार्य हैं।
4.	The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5.	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।
6.	Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7.	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।

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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.

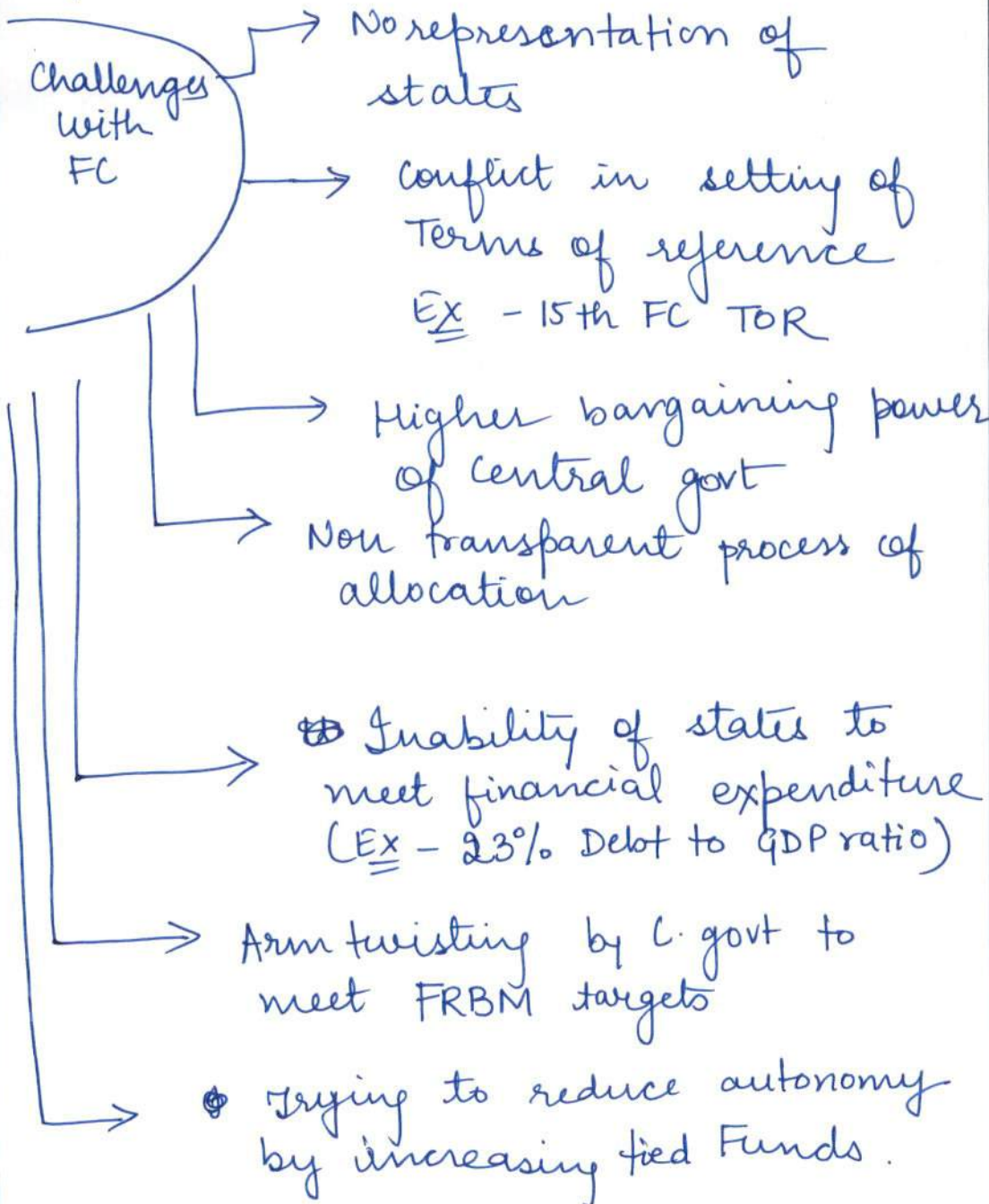
6.

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।

Indian Finance commission is often blamed for following reasons-



Independent FC will ensure the following -

- 1) Increase trust & confidence of states in allocation process
- 2) Greater clarity in TOR and formula used for giving awards
- 3) Dialogue & negotiation possible to build consensus Ex - GST council
- 4) Ensure no political influence
- 5) Help set yearly targets rather than once in 5 yrs exercise
- 6) Help coordinate & increase state FC working
- 7) Ensure populist policies discouraged

~~As~~ In a federal country like India, an independent FC will be the right step to ensure cooperative & collaborative federalism.

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

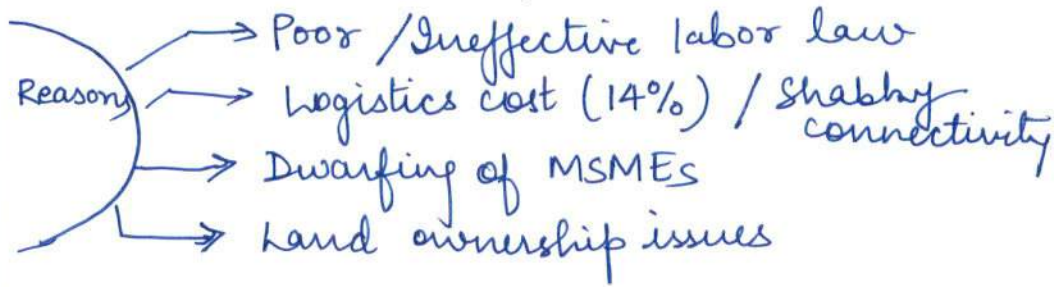
रोजगार सृजन हेतु निर्यात क्षेत्र की क्षमताओं की पहचान करते हुए, भारत की कमजोर होती निर्यात प्रतिस्पर्धा को संबोधित करने हेतु कई कदम उठाए जाने की आवश्यकता है। विश्लेषण कीजिए।

The recent stiff competition faced by Apparel companies from Vietnam & Bangladesh indicates the challenges ~~faced~~ falling performance of Indian export companies.

Potential of exports in generating employment-

- 1) 40% exports by MSMEs - generate 80% employment with 20% export
- 2) Agro exports - 17% which employs 44% of ~~the~~ workforce
- 3) High competitiveness in textile, leather, pharma sector due to cheap labour
- 4) Service sector - ~~IT~~ IT/ITES/BPO services can employ good amount of labour

Reasons for weakening competitiveness



Steps to address weakening competition-

- 1) Massive boost to big ticket reforms like Make In India, Startup India etc.
- 2) Improve skill by Skill India, PM Kaushal Vikas Yojana, Industry - Academia linkage (She Means Business - Facebook)
- 3) Age-based policies for MSMEs to enable them to enhance efficiency, competitiveness
- 4) Relaxing & streamlining export policy, invest in R&D
- 5) Relaxation of labor laws - "Hire & Fire while setting min wage rate policies"
- 6) ~~Set~~ Create FTA while looking at export competitiveness synergies - NITI
- 7) Remove Inverted Duty structure

The Economic Survey 2019 considered export as the growth driver and needs a "Blue Sky Thinking" to enable India to become Jagat Guru.

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।

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 JI-VAN Yojana is a scheme to enable energy generation from dead & decaying biomass. It includes 4 generation of biofuels -

~~Ist Gen Crop residue~~

It focuses on 3rd & 4th gen biofuels like biomass generated & algae generated fuels.

National Policy on Biofuels desires to increase the production of energy from biomass by 10 GW. and mixing of biofuels with petrol.

PM JI-VAN enable to achieve goals of NP on Biofuels as -

- 1) Enable & accelerate usage of waste & biomass for ~~energy~~ biofuel generation
- 2) Enables creation of an envt with policies to promote usage

- 3) Enable creation of Methanol Economy
- ~~3) Enables to achieve INDC target of 40% RE by 2030~~
- 4) Reduces wastage & pollution due to decaying mass
- 5) ~~En~~ Reduce environmental pollution
- 6) Reduce dependence on excessive imports leading to high CAD & FD.

Thus it is imperative that accelerated implementation is achieved to ensure climate change risk reduced.

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।

~~case~~ The Green Revolution despite increasing production also led to heavy soil erosion, land pollution & depletion in ~~grass~~ ground water. These effects are becoming visible now.

Current practice in Agriculture issues -

- 1) Very high cost of inputs such as HYV seeds, fertilizers, pesticides etc
↳ unaffordable by small & marginal farmers
- 2) High irrigation requirements →
Water stress increasing (only 1550 cc/pc available)
& depleting ground water (0.3m/yr)
- 3) Heavy use of chemicals leading to leaching, eutrophication, degradation, desertification → Reduces renewal capacity
- 4) Increased mechanism & capital requirements like tractors, harvestors etc → Reduced Economic opportunities
- 5) Environmental ~~of~~ impact - on flora & fauna, geographical diversity etc.
6) Monoculture

Zero Budget Natural Farming is a practice being encouraged in Telangana where all inputs are met naturally & at minimal costs.

Benefits as an alternative

- 1) Encourage livestock rearing for manure & also diversification
- 2) Usage of left over stubble, zero tillage practices etc to reduce wastage & burning
- 3) Biofertilizers & pesticides (Neem) enable to retain organic quality, no effect on flora & fauna → further usage of legumes in inter-cropping
- 4) Reduces agrarian distress, possibility of take up by small & marginal farmers
- 5) Organic products fetch higher prices in markets → Reach the aim of Doubling Farmers' Income

Along with such practices, the post-harvest production chain for food processing also needs to be developed, APMC reform etc. introduced to ensure better remuneration in the market.

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।

Microplastic in oceans apart from ~~and~~ single-use plastic has led to huge patches with severe concentration in the oceans causing irreparable damage.

Ex - Great Pacific patch.

Implications of on Marine Ecosystem

- 1) Leads to choking of wind/food pipes, asphyxiation etc among marine animals
- 2) Blocks access to sunlight, depositions on controls hinders growth of weeds & algae → greenhouse of oceans
- 3) Disturbs to food chains & webs leading to huge no.s of fish washing up dead ashore
- 4) It often collects in their guts & causes irreparable damage
- 5) Gets stuck in beaks of birds leading to slow starvation

Measures to address the issue -

- 1) Circular economy with recycling of the plastic generated
- 2) ~~Reduce~~ 3R- Reduce, Refuse, Reuse to plastic
- 3) Adopt a zero waste lifestyle
- 4) Segregation of waste at source
Ex - Japan
- 5) End usage of single-use plastic
- 6) Filters on drains, pipelines carrying waste to reduce draining to oceans
- 7) Reduce microplastic usage in cosmetics
→ shift to natural methods
- 8) Build a robust sewage disposal & solid waste mgmt system
→ strict implementation of laws
- 9) Apply Polluter Pay principle
- 10) Create awareness, strict regulatory framework
- 11) Filters to remove plastic from oceans Ex-By ^{Australia}
Various schemes & laws like Swachh Bharat Mission (ODF++) & Plastic Waste mgmt laws must be implemented in mission mode. World needs to come together to fight this.

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।

Bharat stage norms were introduced to check the sulphur & nitrogen content in the ~~at~~ fuels and to reduce pollution.

India directly jumped from BS IV to BS VI to align with the global standards ~~by~~ from 2020.

Significance of BS VI norms introduction-

- 1) Transport sector second highest polluter & GHG emitter
(90% from roadways) → Reduce
- 2) Severe air pollution curtailed (14/20 most polluted cities in India)
- 3) Severe health risks - Nasal & skin ~~of~~ infections & increasing OOP expenditure (60%)
↓
Decline

4) Improve productivity, commutation of workers

Challenges in introduction -

- 1) Motor vehicles not been aligned to the fuel requirements
- 2) Lacklustre implementation in past & poor regulation
- 3) Technology development, R&D etc to introduce the norms
- 4) Huge costs for poor & sections
- 5) Higher costs of fuels

BS VI norms are crucial to reduce the severe risks of pollution. Encouraging individuals with subsidy & rewards to shift to new scheme & phasewise implementation is crucial.

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?

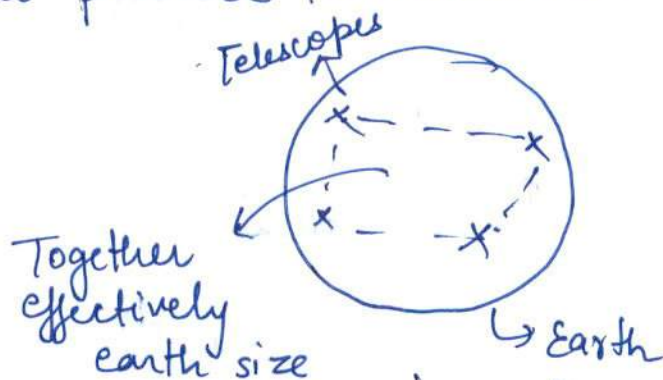
Black Holes are the dead remnants of super-massive stars which have such a high gravity that even light cannot escape from it.

Challenges in Imaging -

- 1) Requirement of a telescope of the size of Earth
- 2) Very far distance / location of the holes
- 3) Radiation emitting difficult to capture
- 4) Since even light cannot escape, only boundary can be seen
- 5) It distorts Time & space which is poorly understood

Issues overcome by Event Horizon Telescope as -

- 1) It uses 8 satellites & deductive techniques to create an effective Earth size aperture
- 2) Perfect synchronisation & huge data collection & processing
- 3) Effective codes to put together all the info
- 4) Create a network of satellites to picture the outermost ring



This is a ground breaking ~~discovery~~ ^{invention} as it proves the scientific proposed theory of black hole existence.

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 is an agreement to regulate trading in arms & ammunitions & to prevent its usage by non-state, rogue actors or for disruptive purposes.

Challenges in achieving full potential -

- 1) ^{some} countries have not ratified
- 2) Existence of Rogue nations like North Korea
- 3) Blooming of Non-state actors (ISIS, Al-Qaeda) & state sponsored terrorism (Houthis in Yemen supported by Iran)

- 4) Disagreement over its proposals
- 5) Ineffective monitoring & transparency mechanism
- 6) misuse of loopholes

Proactive approach is needed from the countries to ensure effective implementation.

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।

India faces several internal security threats as is evident from its rank of 7th in Global Terrorism Index.

Risks Through Communication Networks -

- 1) ~~These~~ Faceless, borderless, anonymous
- difficult to track
- 2) Risks of several crimes like Denial of services, Wannacry, Petya, Bank Fraud 2016, cyber bullying
- 3) Risks of cyber espionage, identity thefts (EX - CBI website hack)
- 4) Mode to promote cyber terrorism
EX - Pathankot airbase attack planned
~~on~~ on internet
- 5) Cyber warfare between nations
EX - Stuxnet, US - China
- 6) Radicalisation, propaganda, funding of terrorism by internet

Risks to networks -

- 1) Disruption of crucial infrastructure & reduce ~~data~~ service delivery capacity
- 2) Data stealing & risks to privacy
Ex - Cambridge Analytica
- 3) Cyber frauds to ~~steal~~ & stealing of credit card data

Steps by Govt

- 1) Set up NIA, NSG, NATGRID & cell
- 2) Cyber force, set up proposals
- 3) International conventions like Budapest convention, Mumbai joins CCIT network
- 4) Modernisation of police force & exclusive training to deal with ~~cybercrime~~ cyber crime
- 5) Data localisation demands - Sri Krishna committee

cyber is now considered as 4th domain of warfare. ~~Steps~~ Holistic reforms to tackle it are needed.

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 targets for production of India in the Paris Climate Agreement (INDCs) is 40%. Excluding big hydro projects, only 22% is achieved. A major roadblock is integration of VRE in the grid.

Importance of integration of VRE -

~~Dem~~ ~~is~~

- To achieve SDG target 7 - Affordable & Clean Energy
- Saubhagya target - Energy for all
- 2 cr households still without electricity access
- To ensure nation-wide supply & integrated mkt for energy
- Regional imbalance - south & west energy surplus and 7 states has 75% potential of RE - correct it
- ~~Env~~ Environmental challenges due to thermal power generation

challenges

1) Production -

1.1 Variability & erraticness of RE production

Ex - Solar not at night, Tide specific times of day

1.2 Location far away from main cities & distributed production

Ex - Solar in desert, Rajasthan

1.3 Unable to handle demand variability

2) Network for grid connection -

2.1. Gross lacking in grid infrastructure converters from HV → LV etc.

2.2 Stress in DISCOM companies (40k cr debt), corruption, non price realisation

3) Demand -

3.1 Opportunistic RE ~~or~~ generation by consumers

3.2 Variable demand from network - surplus and black out at same time

3.3 stealing ~~over~~ electricity, unmetered

3.4 captive generation (80% w) unconnected to grid

Way Steps for Smooth Integration

- 1) Establish a smart grid
- 2) Introduce smart meters & net metering
- 3) Consumers as "PROSUMERS" via Captive Generation
- 4) Generate demand aggregators by schemes like KUSUM
- 5) Regional collaborations to set up SAARC grid - export excess generation
- 6) Identify & connect new households to generate demand - electricity consumption $\frac{1}{3}$ of the world average
- 7) Reduce cross-subsidisation & start dynamic pricing
- 8) Subsidies, tax exemptions etc. to bring down charges

VRE needs to be integrated with the grid to ensure "access" to all, affordable & clean energy, efficiency, envt protection & Ease of doing business

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~~ India per capita income is ~ ~~₹ 2,000~~ 2,000\$ per year and is classified as lower middle income country.

• "Middle Income trap" refers to a phenomenon where a country is unable to grow into a higher middle income or higher income country due to various deficiencies in economic & ^{structure} global environment. Hence upward income mobility is reduced.

Reasons -

- 1) Population growth - India set to become highest populous country by 2030 and has not reached the replacement birth rate (Current - 2.4)
- 2) Jump from agriculture to services
 - 2.1 → Jobless growth
 - 2.2 → High unemployment (6.1%)
 - 2.3 → Lack of low skilled & unskilled jobs & "informal" nature of jobs
- 3) Threats from automation - Further reduces employment potential
- 4) Rising protectionism & fall in Intl trade - Reducing potential for economic growth
- 5) Extreme Agrarian distress - Falling per capita income in this sector

Way Fwd to avoid the trap-

- 1) Fast-track implementation of Big-Ticket reforms like Startup India, Digital India, Make in India
- 2) Increase share of manufacturing to 25% by 2022 via labor reforms, infrastructure & investment bottlenecks etc.
- 3) Invest in Health, education & skill development - social infrastructure to ensure ~~the~~ demography prepared for Next-generation jobs
- 4) Reduce logistics challenges (14% cost) & connectivity issues (via fast implementation of Bharatmala, Sagarmala etc)
- 5) Inclusive growth envt - include opportunities for women (Raising LFPR), MSMEs etc.
- 6) Job-seekers to Job-creators - promote self employment & Entrepreneurship

Holistic reforms are necessary to ~~into~~ bring "New India-2022" and break the trap & increase prosperity

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 the ~~interest~~ rates set by RBI and other parameters like CRR, SLR, base rate etc to determine the interest rates^{IR} in the country. India follows the method of inflation targetting ($4 \pm 2\%$).

MP Transmission refers to the rate at which changes brought by RBI are reflected in the IRs set by banks.

Importance -

- 1) Determines cost of credit & growth rate
- 2) Essential tool to control inflation
- 3) Determines earnings of static earners like old age, pensioners etc.
- 4) Determines foreign investment attraction
- 5) Boost for^{all} sectors of economy like infrastructure

6) Cost of borrowing for govt as 95% is within the country borrowing

~~Major issues in~~

1) Ineffective transmission leads to poor capital growth & "crowd-out" of pvt sector

Major issues in MP Transmission-

- 1) Conflict of interest for RBI as the IR setting agency & debt agency for govt
- 2) Slow or ineffective transmission • — higher IR quickly transferred while lower IR-averse attitude shown
- 3) Dual repression (Asset & liability) & Twin Balance sheet problem of Banks (10% NPA)
- 4) Poor monitoring of Regional banks, local area Banks, Small Finance Banks etc.
- 5) Tussle in determining IR between Govt & RBI

^{by RBI}
Steps to Improve -

- 1) Monetary Policy committee set up with representatives of both govt & RBI to determine IR - veto with Governor
- 2) shift from base Rate to MCLR (Marginal cost of lending Rate)
- 3) Consideration of recommendation of various committees to set external benchmarking of IR
- 4) Creation of an independent Public Debt Mgmt Cell within RBI
- 5) several rounds of talks to resolve issues with govt
- 6) Various measures like "Project Sashakt", PCA, AQR, Indradhanush etc. to resolve TBS problem

with global growth rate & trade declining it is crucial that recent fall in IR are effectively transmitted to public to ensure high growth rates (7%), attract foreign investment.

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।

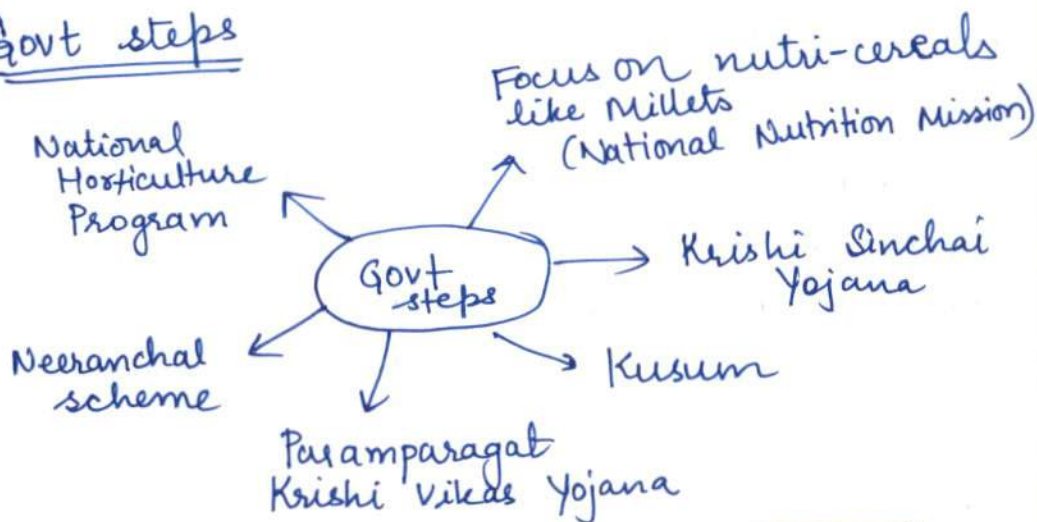
55% of Indian agriculture is rainfed with 40% agro-output, 50% workforce, 60% livestock production from these areas.

Yet several constraints faced are -

- 1) Geographical - seasonal rainfall, erratic & drought years, El-Nino effect
- 2) climate change - leading to extreme climatic conditions, increasing vulnerabilities
- 3) Govt focus - extremely poor with few schemes catering to them
- 4) Groundwater depletion - extremely high - NASA - reports 0.3m per year fall rate
- 5) low productivity & o/p

- 5) Poor usage of modern inputs - like HYV seeds, fertilizers, pesticides etc.
- 6) lopsided MSP policies - Forcing them to grow water-intensive crops like wheat, rice, cotton (Ex - Marathawada, Vidarbha, Tamil Nadu)
- 7) High agrarian distress - Due to poor incomes, low options to connect with the mkt, global value chain etc \Rightarrow leading to farmer suicides (3lakh in last 20 yrs)

Govt steps



Agronomic practices to stabilize production -

- 1) Introduce organic farming (Sikkim), Zero Budget Natural Farming (Telangana)

- 2) Revive traditional water conservation practices like Kuls, Bhandaras
- 3) Increase coverage of area under irrigation - "Har Khet Ko Pani"
- 4) Introduce precision farming, drip irrigation, night time irrigation etc to improve water-use efficiency
- 5) Encourage growth of Millets, Pulses, oilseeds etc via schemes like PM - AASHA
- 6) Ensure sustainable & remunerative prices, explore new markets for such crops → connect to global value chain
- 7) Food processing based on growing health consciousness, GI tags, brand marketing - "Brand India"

The success of ~~agro~~ agrarian growth in these regions is crucial for overall growth of economy & reaching the aim of Doubling Farmers Income by 2022.

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?

Urea is the only fertilizer for which govt provides (base + cost) subsidy which has led to excessive & indiscriminate usage compared to other minerals.

Problems in Urea Sector -

- 1) Oligopoly of few companies - control production, import etc.
- 2) Huge import dependence for raw materials
- 3) Encouraging inefficiencies in cost due to ~~twisted~~ poor govt schemes
- 4) Rising subsidy bill of govt (~30k cr)
- 5) Bounties to well off - No cap on no. of hectares of farmland for subsidy scheme

- 6) Indiscriminate use leading to
- 6.1 ↳ Poor N:P:K ratio (ideal 4:2:1) as high as (28:4:1) in Punjab
 - 6.2 ↳ Over-irrigation leading to salinity
 - 6.3 ↳ Eutrophication & pollution
 - 6.4 ↳ Falling organic minerals in soil
- 7) Poor guidance on usage leading to overusage, high inputs costs but poor results

Govt initiatives

- 1) Setting up of SEZ in Iran for production of Urea
- 2) Reductions in subsidy provided
- 3) Neem-coating to slowdown release
- 4) Encouraging organic production - Paramparagat Krishi Vikas Yojana
- 5) Increase water supply coverage - Krishi Sinchayee Yojana
- 6) Exploring pvt sector role in production

Reforms to address problems

- 1) Gradually move towards balancing the lop-sided mix of N, P, K minerals
- 2) Introduce efficiency in production by setting a maximum cap
- 3) Explore biofertilizers, leguminous crop (intercropping) etc. to restore natural growth
- 4) Tie ups to directly procure urea or set up factories where cost of raw materials low
- 5) Educate farmers using Soil Health Card, Kisan TV etc. on balanced & correct usage
- 6) Increase R&D expenditure to explore more effective & cheaper production methods
- 7) Put a cap on maximum quantity per farmer on subsidised urea.

Addressing the regional imbalance in urea consumption will go a long way in ensuring that "Agrarian distress" is reduced while also protecting environment & 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
ensures that the Biodiversity
is used in

- ↳ Fair
- ↳ Equitable
- ↳ unsustainable

manner to prevent its
exploitation

It is given in Convention of Biodiversity
in Rio Summit, 1992

It enables sustainable use
as -

- 1) It builds transparency & regulatory framework to prevent misuse

- 2) It involves local communities in protection, conservation & usage
- 3) It ensures that biodiversity does not fall below critical levels & it is preserved for future generations

~~4)~~

Global & National Mechanism-

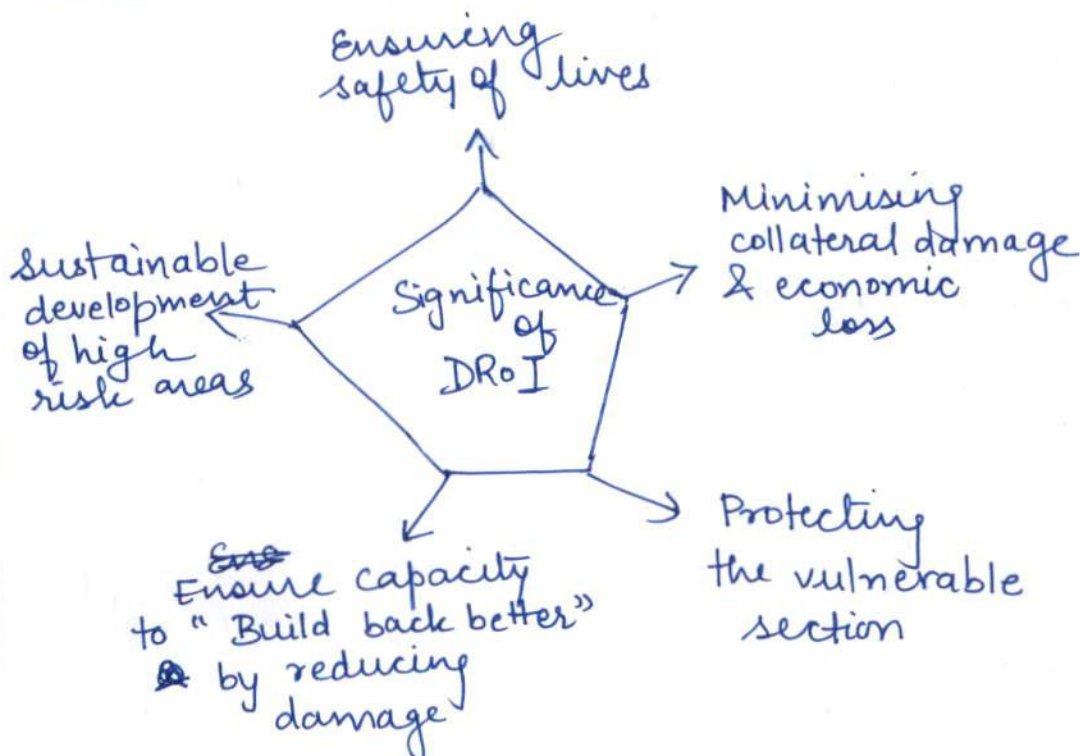
- 1) CBD
- 2) National Biodiversity Act
- 3) FRA Acts
- 4) ~~PP~~ Protection of Farmers Rights & Plants Variety
- 5) Recent treaty signed in Sharm - Al - Sheikh
- 6) Protection of forest mechanisms in India

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 Resilience of infrastructure (DRoI) refers to developing ~~such~~ such infrastructure which reduces hazard risk & vulnerability propensity thus ensuring minimal damage in case of disaster occurrence.

Significance of DRoI



Challenges in achieving DRoI-

- 1) Poor investment - Very low levels to develop such designs as it requires higher costs
- 2) Lacklustre Attitude - Towards risk of both govt and citizens especially in high risk areas
Ex - unsustainable tourism in Western Ghats
- 3) Poor R&D - In developing indigenous designs for resilience & unplanned sprawling
- 4) Poor Mapping - Of vulnerabilities sensitivity, reduces ability to estimate potential risks Ex - Delhi - NCR region
- 5) Local area participation - Not considered while designing & building mega cities
Ex - Soil inundation in Mumbai, poor urban planning - Chennai floods
- 6) Capacity building - Low investment in health, nutrition etc. leaving them exposed to vulnerabilities Ex - Urban poor, island areas

Steps to mainstream it in development paradigm

Steps given by PM Agenda -

- ① Vulnerability & risk mapping
Ex - Flood Hazard Atlas, Odisha
Himalayan Mapping
- ② Building infrastructure using climate-change & hazard resilient materials
Ex - Plastic ~~etc~~ & other light weight materials
in Earthquake prone areas
- ③ International collaborations with Japan, Israel etc. to learn best practices
- ④ Capacity building & involving vulnerable sections - who are most affected in planning, designing etc.
- ⑤ Exploring new modes & techniques of development under schemes like Make in India, PM Awas Yojana
- ⑥ Invite private investment, issue tax-free Green Infrastructure bonds etc.

Taking cue from the Sendai Framework & NDMA guidelines while designing & developing infrastructure will boost resilience & reduce vulnerability.

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 localisation means that ~~all~~ data of the citizens of India will be stored within Indian boundaries or atleast a copy (data mirroring)

Significance -

- 1) Large number of internet users (560mn) - huge repository of data
- 2) Ensuring Right to Privacy under Art 21 - constitutional mandate
- 3) Risks of misuse / abuse by companies (MNCs like Facebook, Amazon) - better ^{regulatory} control
Ex - Cambridge Analytica
- 4) Enable easier access to data by govt - to track individuals, delivery of services, evidence based policy making

- 5) Data warfare - due to storing data outside ~~countries~~ India & removing/stopping access
- 6) "Data as the new oil" & increase in Big data, AI etc - Huge market
- 7) ensure no espionage (stealing of data), identity theft & other cyber crimes

Challenges -

- 1) Infrastructure - Requires huge data centres, server capacities, cloud computing etc ⇒ India grossly underprepared
- 2) Weather - Tropical conditions & high humidity increases storage costs (cooling requirements)
- 3) Conflicts in WTO - By USA etc. to reduce such compliances
- 4) Costs on companies - without compensation, discourages ~~usage~~ setting-up in India
Ex - Amazon fighting against it.

- 5) Restrictive regulatory regime & strict control - Demand for breaking end-to-end encryption by Facebook
- 6) Risk of misuse - & development of surveillance state
- 7) Absence of data privacy laws - leading to poor public confidence

GDPR regulations of EU also ask for data-localisation meaning that the world is shifting in this direction.

B.N. Sri Krishna committee report -

- 1) Asked for critical data storage in India
- 2) Fast-track implementation of privacy law
- 3) Right to Reject, to Access & to be Forgotten - Paramount for individual
- 4) set up the critical infrastructure reqd

Switing private investments, setting up a clear regulator & a holistic privacy law will be the right step to ensure "sovereignty" of data and encouraging localisation.

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 tax-evasion of legal money or illegitimate generation of money & circulating it through various channels before bringing back to the economy as white money.

~~Chatter~~ Menace for developing country like India -

1) Economic -

1.1) low tax-base, leads to leakage further ⇒ Poor delivery of services ⇒ Break down of social contract

1.2) Creation of Parallel Black Economy

1.3) Diversion for non-productive uses like real-estate, gold etc ⇒ Hampers GDP growth

1.4) High inflation \Rightarrow Affects poor the most

1.5) Reduces growth of industries, competitiveness etc. \Rightarrow Middle Income trap

2) Social -

1.1) Used to further fissiparous forces like separatism, regionalism, casteism etc.

Ex - N-E groups like NSCN - K
1.2) Terror financing & mass destruction Ex - Pulwama attack

1.3) Drug & human trafficking, ~~money laundering~~ counterfeit money

1.4) Encourage social cleavage, riots etc Ex - Mumbai blasts

1.5) Criminalisation of politics

1.6) Crony capitalism, unholy nexus, 2G, 3G scams etc.

1.7) Increase in corruption
Ex - PNB Scam

Steps taken -

Domestic level -

- 1) Fugitive Economic Offenders Act
- 2) Benami Transactions Act
- 3) Amendments to NIA Act, UAPA act
- 4) Prevention of Money laundering Act
- 5) Setting up of NATGRID, NSG etc for intelligence gathering & crackdown
- 6) Income disclosure Act, Demonetisation

International -

- 1) Financial Action Task Force
Ex - Pakistan in Grey list
- 2) Asia-Pacific Group Money laundering
- Tracks at regional level
- 3) Shanghai Corporation (SCO) - RATS

Ensuring that wilful defaulters are cracked down & heavily punished & creating regional sub-groups of like-minded nations to pressure countries promoting such activities is essential.

Review of DTAA with Singapore, Malaysia must be expedited.

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 refers to acts of violence on citizens to forward ideological or political aims.

Its prime motive is Capture of

Power.

organised crime is a network or syndicate in illegal activities and bypassing the formal economy.

Its main aim is Generation of money or Economic Motive

Terrorism	organised crime
① uses radicalisation, propaganda etc for recruitment	① uses attraction for money, threats etc for recruitment
② creates	

Existence of Symbiotic Relationship

- 1) Terror grps require huge sums of money while organised crime provides them in hard cash
- 2) Overlap in geographical proximity
Ex - Afghanistan - Huge Opium cartels & Taliban
- 3) Fearful & threatened environment created by terror grps enables ~~it~~ ~~to grow~~ organised crime to grow
Ex - Huge poverty, political instability in Myanmar, existence of terror grps like Kachin etc. & part of ~~area~~ golden triangle
- 4) Technological, arms support, recruitment base by organised crime to terror grps
- 5) Usage of terror grps to carry out transactions
Ex - India - Bangladesh border
NSCN, ULFA involved in smuggling

b) Both together undermine Rule of Law, Govt control etc.

7) ~~Transfer~~ Movt of goods, humans etc. from one grp to other
Ex - Existence of sleeper cells

Thus there exists a strong nexus & they feed off each other.

So the crack down mechanism needs to monitor both as both usually owned and run by same person Ex - Dawood Ibrahim - Terror blasts, Mumbai & smuggling cartel

Setting up of NIA, NATGRID, NSG is a right step up for intelligence gathering.