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GENERAL STUDIES (TEST CODE : 1244)

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Medium Eng./Hindi	English	Registration Number	14323
Center	ORN	Date	3/08/2019

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	
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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।

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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।

15th Finance Commission has suggested for Independent Fiscal Council (IFC).

Need of IFC :

I Transparency :

1) Fulfilling budget mandate - curb practice of March Rush.

2) Budget Making - focus on outcome based budgeting may be ensured → proprietary spending

3) Assessment of impact of Budget :
check wasteful or ineffective expenditure

4) Adherence to revenue side of budgeting
check unnecessary intervention for dis-investment or cross purchase of stakes in PSUs

II Accountability :

1) Adhere to FRBM Act 2005 mandate -

— like Fiscal deficit within 3% of GDP
debt to GDP ratio — 40% by 2023.

2) For independence of banks — by making
government answerable for borrowings and
repar recapitalisation. In RBI, for reserve
transfer to government.

3) Support CAG — as CAG is restricted
to post-facto audit, only

4) Timely ex course — correction — bring
out any loopholes or issues. for eg:
demonetisation etc.

Challenges : (1) Estimate committee exists
already (2) Composition and function of
IFC, (3) tussle between government and IFC

Way forward :

The IFC shall be brought
after due deliberation with experts, to
achieve fiscal consolidation.

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।

India's share in export at global level is mere 2-3%.

Potential : Employment :

1) Textile - labour intensive, high labour cost even in China, and demand of quality Indian textiles at world → avenue for employment.

2) Food processing : demand for quality packaged food globally

3) Service Sector : Technology disruption - AI, big data etc → India has 2nd largest AI workforce.

4) Manufacturing : Ageing population, in work, and frugal innovation and affordable product in India → job creation.

Challenge to export : 1) Least developed countries enjoy benefit under WTO eg textile - Vietnam.

- 2) Protectionist policy - USA.
- 3) Shift in manufacturing pattern - high-technology product demand.

Steps :

- 1) Implement India's export policy in expedite manner.
 - 2) Convert SEZ into Employment and Economy Enclave for export boost
 - 3) Agri-export zone - to streamline agriculture export - sanitary and phytosanitary measure, etc.
 - 4) WTO reforms - push for mode-I and IV types of service export.
 - 5) Technology upgradation at all stages - raw material extraction (harvester) processing (use AI) and packaging (laser based) and export (port - infrastructure)
 - 6) Predictive export policy - avoid discretionary and frequent changes in custom duties.
- The need is to provide jobs to our young population; And export promotion can ensure it

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।

The main features of National Mineral Policy 2019 are:

- 1) E-auction of mining leases.
- 2) Surveillance on mining process —
Khan Prahasi App. — curb illegal mining
- 3) Right of first refusal to explorers of minerals.
- 4) Environment responsibility : A Share of mining profit for ecology preservation
- 5) Reclamation of area after mining
- 6) Local community development under National mineral Policy through District Mineral Foundations

#Ensure Responsible and Sustainable Mining:

- 1) Surveillance — thus mine only what is mandated
— no illegal mining → no negative

Impact on environment

- 2) Reclamation — the mined area again becomes habitable for human and wildlife
- 3) Foundation will ensure that fruit of resources reaches to inhabitants
- 4) Prevent marginalisation of displaced persons with proper rehabilitation.
- 5) Environmental cons for afforestation, wildlife habitat protection etc.
- 6) Sustainable ~~and~~ mining with minimal damage to ecology.

The need is to implement the policy in earnest manner.
The Mining Act of 2015 will help in it

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, विक्षेपण कीजिए कि यह जैव ईंधन राष्ट्रीय नीति, 2018 की दृष्टि और लक्ष्यों को प्राप्त करने में किस प्रकार सहायक हो सकती है।

Features of PM-JI-VAN Yojana :-

- 1) Production of 2G bioethanol using non-food crops - lignocellulosis - like Jatropha etc, and food wastages
- 2) Mandatory purchase by petroleum industry for blending (10% target)
- 3) Community level and large scale production

Assist in achieving vision of Biofuel Policy:

- 1) 2G Biofuel generation is one of
4 proposed way of biofuel generation
under policy ($\begin{matrix} \text{1G} \\ | \\ \text{food} \end{matrix}$, $\begin{matrix} \text{2G} \\ | \\ \text{non-food} \end{matrix}$, $\begin{matrix} \text{3G} \\ | \\ \text{algae} \end{matrix}$, $\begin{matrix} \text{4G} \\ | \\ \text{CO}_2 \end{matrix}$)
- 2) Sustainable development - with biofuel plants run by community
- 3) Reduce import dependency for oil:

by producing biofuels.

4) Better return to farmers - by encouraging
excessive food produce or waste for biofuel
production

5) Generate employment →

6) Augment Energy Security of India
by alternate fuel - biofuel

7) Vision of 20% ethanol blending can
be achieved with increased
production.

Way forward :

1) Need policy to tap 3G, 4G of
biofuels - dual benefit → climate
change solution and energy security

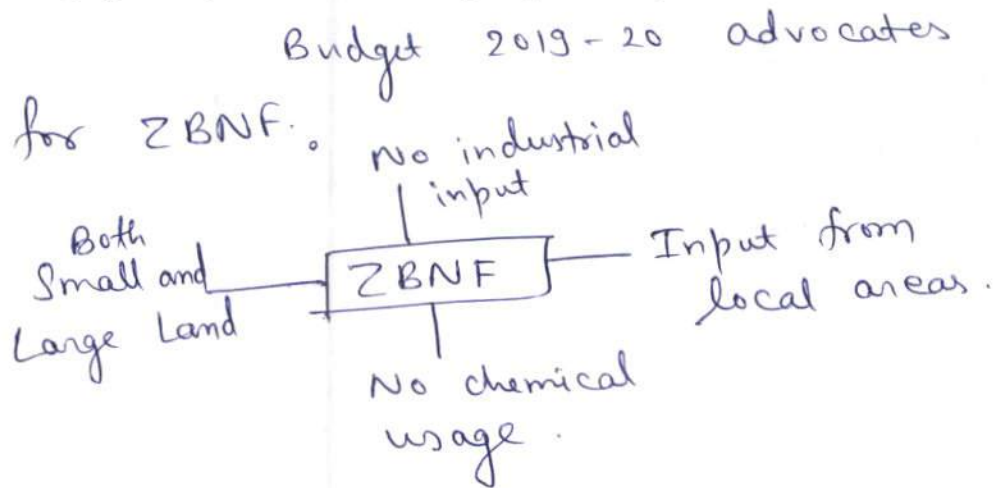
2) Incentives like subsidy for
machine purchase is required.

Energy security is
crucial for New India vision

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।



Alternative to capital and chemical based Agriculture :

- 1) Zero or Low Cost - encourage small farmer for it, high return to them
- 2) Natural farming will address menace of over-use of fertiliser → that led to loss of soil productivity.
- 3) High Demand - due to "Green Consciousness" - healthy and chemical-free food → high export potential.
- 4) Labour Intensive - address disguised employment and support ancillary

farming practices like Bijamitra (seed production) Jiwamitra (micro-organism) etc.

5) Holistic agriculture - livestock, fishing gets ~~food~~ boost as cow urine ~~is~~ or dung is used. Rice-fish pond Combined (Apatani in Arunachal Pradesh)

Challenges:

- 1) Apprehension of decline in yield after some years
- 2) Mass production may not be possible
- 3) Weather vagaries & pest attacks → will still require chemicals and machines
- 4) food security - need large scale production in short time.

Way forward:

The gradual adoption of ZBNF is required — with proper study and rectifying any impediments it can be scaled up.

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।

By 2050, we 'may have more plastic in ocean than fish. (UN). Dead zones, Great Pacific Garbage Patch etc is affecting marine life.

Implications:

- 1) Bioaccumulation - due to non-biodegradable nature of plastic. → may block ~~down~~ blood stream etc. (Microplastics)
- 2) Toxic : Plastic releases toxin that harm corals, fish etc.
- 3) Trapping - plastic may trap wildlife in of ocean ~~in it~~ - suffocation - death.
- 4) Habitat Destruction : corals oxygen and sunlight supply gets block → coral bleaching → loss of habitat for others also

5) Mass extinction = plastic being light float on surface — block sunlight and Oxygen fixation by algae → dead zone creation → death of entire species.

Measures:

- 1) Individual : Vow to not use plastic (single use)
 - 2) Industry : • Not produce non-degradable or single use plastic
• Responsibility to recycle it
 - 3) Government : • Incentivise alternate to single use plastic : edible cutlery, jute bags etc
• Mandate plastic recycling
• Prevent plastic waste dumping
 - 4) Curative : Clean Ocean project to clean plastic debris. — International
- The marine life has equal right over Earth, plastic should not become hindrance to this right

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।

Auto-fuel vision 2020 provided for Bharat Stage (BS) norms : India adopted BS norms by tweaking European Stage norms.

Timeline :

- 1) BS-IV by 2015-16 in all Tier-I cities.
- 2) BS-V - skipped now
- 3) BS-VI - by 2020.

Significance of BS-VI :

- 1) Curb Air pollution : eg Delhi.
- 2) Curb import of oil - as BS-VI fuel are more efficient - less fuel, more output
- 3) Reduce maintenance cost of vehicles due to less particulate matter and SO_2 Content.
- 4) Overall improved efficiency - better mileage - saving of consumer's money

Challenges :

- 1) Unsold Inventory with automobile industry of old norms → difficult to sell now
- 2) Design of vehicles in India - small bonnet size → need to change car design size to accommodate filter.
- 3) Time Taking - BS-VI technology adoption requires overhaul of manufacturing → Automotive industry yet not ready
- 4) Fuel Supply - BS-VI fuel supply is also critical - overhaul refining methods.
- 5) ~~Encourage~~ Encourage more personal vehicle purchase → overall air pollution may remain same.

Solution :

- 1) Tax incentives to industry
- 2) Promote BS-VI adhered public transport
- 3) Flexibility in timeline with expert advice

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 object of space time - infinitesimally small, have infinite density and mass. It has ~~such~~ high gravity. ~~that~~

Challenges in imaging a black hole:

- 1) High Gravity - even light cannot escape it
- 2) Releases very less radiation - difficult to detect
- 3) Non-observable, only presence can be measured.

Event Horizon Telescope :

- 1) It imaged the event horizon, that revolves around the black hole. It is a shining bright phenomena, with black hole at centre.
- 2) Event horizon itself could be

captured by integration of 8 massive telescopes stationed ~~around the~~ across Earth. It then acted as one giant Earth like Telescope.

3) The data received was voluminous and was compiled over year to produce the near perfect image of Black hole.

Such ~~a~~ scientific milestone will help in ~~unveiling~~ unravelling more mysteries of Universe.

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 under negotiation at UN's Conference of Disarmament.

- Objectives :
- Stop proliferation of Arms Trade
 - Ensure Arms don't reach anti-social element like terrorist.
 - 'Arms for Peace'

Challenges to ATT :

- 1) Arms Lobby : USA is against the treaty as its economy mainly rely on arms export and relaxed gun licensing norms.
- 2) State-sponsored atrocities : ~~is~~ demanding to hold State accountable, who use arms against civilians.
- may affect fight against extremists

3) Discriminatory - as developed nations have already achieved high level of sophistication in arms. Arms embargo may affect developing nation like India.

4) Donot address clearly other areas like space and cyber warfare → space weaponisation and cyberattacks may remain out of ATT ambit

5) Power Balancing and ~~Asymmetry~~ Asymmetry → China's rise, USA-Russia rivalry, USA-Iran conflict - may affect ATT

6) Rogue States - like Pakistan.
Way forward :

1) Consensus based approach to bring ATT.

2) Inbuilt flexibility for developing nations to produce and procure arms for national security.

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।

Threats to internal security
are going beyond physical confrontations
to proxy attacks like information war.

Threat Through Communication Networks

- 1) Internet - fake news - child lifting
rumour video.
- 2) Social Media - radicalization of youths
- 3) Epidemics - by exporting biological
weapons through flights/airplane.
- ~~4) Drug smuggling~~
- 4) Hacking of public utilities infrastructure
like electricity grids.
- 5) Hacking of government websites - leakage
of secret information or erosion of public
faith - eg: Andrix ISRO got hijacked.
hacked

Threat to Communication Network :

- 1) Critical Information Infrastructure may be attacked — bring down entire Internet
- 2) Attack on mobile towers
- 3) Attack on communication satellites → Space weaponisation.

Steps Taken:

- 1) National Cyber policy 2013 : for holistic cyber space protection.
- 2) Setting up of Natgrid — for collective intelligence.
- 3) Critical Information Infrastructure is given special protection.
- 4) Cyber Command and Control Centre
- 5) Draft Social Media policy to curtail hate speech, trace originators of fake news

Way forward :

The need is for UN-led international treaty for communication network protection.

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।

Variable Renewable Energy is one whose supply cannot be guaranteed continuously for eg: Solar and wind — depends on weather

Importance:

- 1) India receives nearly 300 day of bright sunlight → huge potential for solar energy → need to be pushed into power grid.
- 2) Wind 2nd largest share in India's renewable energy → localised in space — but generate eco friendly energy — needs to be integrated
- 3) Ocean tidal energy can also add to renewable basket of India.

Challenges:

- 1) Power Grid Stability: High fluctuations in input to grid due to VRE — for eg. cloudy vs clear sky.

2) localised nature of VRE production
→ demand and supply mismatch - for
eg: wind mainly in coastal states

⇒

3) Technology : India lacks in smart
grid adoption that could allow
real time pushing of VRE into grid.
(Net Metering)

4) Lack of grid(power) connectivity to
hinterland where VRE is generated

for eg: Rajasthan Desert
(5) Lack of power storage battery

Steps Taken by government :

1) Smart Grid, Smart Meter adoption
promotion under Power for All

2) FAME policy - incentivise efficient
~~class~~ battery production.

3) ESDM policy - for battery production

4) National Solar and Wind Energy mission.

More Steps Required

1) Incentivise R&D to develop

battery for VRE storage - so that power can be pushed into grid smoothly

- 2) Quick adoption of Smart Grid → to incentivise VRE production by rooftop solar plants and injection of surplus power.
- 3) Micro-grid can be developed - which will be powered by VRE for local energy requirement.

- 4) Power Purchase Agreement smoothing to sell extra VRE to nearby states and so maintain grid stability.

International Solar Alliance was formed to tap VRE potential of sun. Now International VRE integration Alliance at global level is need of hour.

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 when a developing country fails to reach high income status.

Reasons :

1) Present Conditions :

a) Deglobalisation - where countries are adopting protectionist policies

India may fail to ~~to~~ export potential

b) Slowdown - global economic growth is 3.6% → discouraging much investment and trade

c) Technology Disruption - Artificial Intelligence, Big Data, Internet of Things - etc favouring already high income countries due to technology advantages they had

d) WTO norms : Least Developed countries enjoy special benefit — gives ~~di~~ competition to Indian export — for eg: Vietnam for textiles, Kenya for tea etc.

e) Climate Change : India need to divert its resource for adaptation and mitigation process — ~~Huge~~ Huge loss due to disasters

f) Labour cost — advantage gets competition from low income countries like Africa,

g) High population &
Measures can be taken:

1) Invest in human capital:

a) Quality education and skills to students and young — become job creators (Startup India mission), and service export to ageing nations like Japan, Europe.

b) Health and Nutrition : To save longterm cost on disease control → and to have productive human capital (Ayushman Bharat)

2) Technology Revolution by incentivising adoption of AI, 3D-printing etc, NITI

Ayog policy on AI for All can be tapped

3) Shift in manufacturing ~~from~~ towards high end technology production for eg: drones, robots - future demand (Make in India)

4) Food Security Hub - India can act as food guarantor of world by increasing agriculture productivity and food processing (Sampada Scheme; UAE and Saudi Arabia MoU)

5) Alignment with like-minded countries like ASEAN, Africa against protectionism at UN/WTO platform.

6) Sign trade agreement like ~~RE~~ RCEP, BTIA, etc to promote investment and trade.

7) Collective voice of developing nations for implementation of Paris Treaty is required.

India if focusses on realising SDG 2030, then this trap may easily be cut down

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 Transmission
implies how quick and how much the banks and financial institutions transfer the benefit or risk of policy change made by Central banks, to consumers.

Importance :

- 1) Curtail inflation — if tight monetary policy
- 2) Boosting investment — by ease in policy change like repo rate
- 3) Increased Saving — when rate rises
- 4) Increased Spending to boost demand by ease in rates.

Thus monetary policy helps in stabilising and boosting economy.

Major Issues :

- 1) Cumbersome MCLR (marginal cost lending rate) calculation — gives loopholes to bank to avoid policy transmission

2) High NPAs with Banks → banks has become risk averse, so don't transmit policy rate - to avoid lending or ~~is~~ increasing liabilities.

3) Governance challenge - Public sector banks are not autonomous in functioning completely -

4) Lack of enforcement by RBI - as transmission is discretion of banks

Steps Taken by RBI :

- 1) Switch to External Benchmarks like repo rate, in place of MCLR.
- 2) Warning to banks not adhering to monetary policy transmission.
- 3) Prompt Corrective Action framework.

More Steps required :

1) Government : a) Easing control over public banks, with increased accountability to RBI.

b) Strengthening of RBI to punish penalise errant banks.

2) Banks : Link rate with policy rate like repo (SBI did recently) → for smooth transmission (no bank board permission required)

3) Citizen : Public pressure to make policy rate changes on banks.

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।

Nearly 60% of Indian agriculture is rainfed (NITI Aayog).
Rainfed agriculture is in area where irrigation is below 30% coverage.

Constraints faced :

- 1) Weather vagaries - drought and flood, delays in monsoon.
- 2) Intensive Agriculture cannot be practised due to lack of assured water supply.
- 3) Government focus is less in rainfed regions for eg: FCI mainly procure from irrigated large farms (Bihar vs Maharashtra)
- 4) Lack of extension facility to grow high yielding drought resistant crops
- 5) Small farm size - not allow economy of scale. Farmer consumes what get produced - no sell - no income

Some Agronomic practices Adoption:

- 1) Organic farming: With least input, produce quality food — high demand in market. for eg: Sikkim
- 2) Zero Budget Natural Farming & for self-reliance and large production by using local materials, → ~~by~~ product
- 3) Climatic-zone and soil-specific crop production for eg: Maize in Punjab, Ragi in Karnataka.
- 4) Water Conservation — Traditional water irrigation structures like bunds, tanka for reducing rainfall dependency.
- 5) Cooperative farming — incentivise farmer producer organisation (FPO) formation of rainfed farmers — sharing of equipments and knowledge → high collective bargaining

Other Measures required :

- 1) Extend irrigation (micro-irrigation - drip irrigation) to ~~these~~ these areas
PM Krishi Sinchayi Yojana
- 2) Marketing of their produce →
FSSAI mandated logo for organic
and ZBNF is required
- 3) Supply chain linkage - to sell the
produce and process same.
- 4) Agriculture extension Services →
by ICAR to design cropping pattern
for rainfed farming.

To double the farmer
income by 2022, we need to
pay attention ~~to~~ to development of
rainfed agriculture also.

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 sector caters to nitrogen fertiliser requirement of agriculture.

Steps Taken by government :

- 1) National fertiliser policy
- 2) Affordable supply of power to fertiliser industry (captive power production)
- 3) Neem-coated urea for better usage
- 4) fertiliser subsidy - DBT mode

[Problems] continue to persist :

- 1) Irrational application on agriculture → loss of fertility of soil - as urea is highly subsidized
- 2) Diversion of urea for chemical industry - corruption, leakage.
- 3) Does not reach to all farmers - lack of supply chain, infrastructure

- 4) Erratic power supply → due to power purchase agreement cancellation or coal block allocation challenge.
- 5) Timely procurement is not done
- 6) Underwriting of fertiliser subsidy - delays in subsidy payment by government to fertiliser company

Reforms Required :

- 1) Integrated production of urea, phosphate and potassium fertiliser as per required ratio $N:P:K :: 4:2:1$.

- Address irrational usage
- Prevent diversion of fertiliser - as difficult to use for other purpose

- 2) Effective supply chain mechanism from power procurement, to supply of phosphate or potash to distribution of fertiliser to all farmers.
- Tap PPP model for building supply chain

- Incentivise fertiliser company to open retail outlets in rural areas or APMC mandis

3) Timely payment of subsidy using GEM platform

4) Assured coal linkage for urea industry for power production.

5) Incentivise use of bioethanol or solar energy by urea industry (National Renewable Energy Policy)

6) Gradual phase out of fertiliser subsidy in favour of direct income support to farmers (PM Kisan)

Components of promotion is 2018-19 talks of farming)

The fertilisers from critical agriculture. Organic fertiliser need of hour (Budget of Zero Budget Natural farming)

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 and Benefit Sharing
is envisaged under Biodiversity Act 2002
It mandates that benefits of biodiversity
usage for commercial purpose shall be
shared with the keeper, and inhabitants
of that biodiversity. [for eg:] knowledge of
a wild plants is shared by tribals,
that led to a medicine. Then the
profit earned from sell of medicine
shall be shared with tribals.

Aids in sustainable use of biodiversity:

- 1) Due payment to conservator of biodiversity
encourage its conservation further
- 2) Checks that biodiversity is not
used irrationally, as conservators keep
eye on its usage.

3) Benefit shared is invested to conserve and promote the biodiversity - for eg afforestation.

Global Mechanism :

- 1) Convention on Biodiversity →
 - a) Access and Benefit Sharing
 - b) Conservation
 - c) Sustainable use.
- 2) Aichi Targets for 2020 - Safeguards and benefit sharing
- 3) Nagoya protocol on access and benefit sharing
- 4) Cartegena protocol - to protect biodiversity from living modified organism (LMOs)

National Mechanism :

- 1) National Biodiversity Act :

3 tier mechanism for ensuring :
I. National Biodiversity Board

II State Biodiversity Board

III District Biodiversity Committee

2) People's biodiversity register — to prevent biopiracy and codification of biodiversity richness

3) Traditional Knowledge Digital Library for codification of biodiversity knowledge

Steps required :

1) Strengthen Gram Sabhas in biodiversity rich regions. — form people's biodiversity register expeditely,

2) Empower district biodiversity board for preventing biopiracy

3) International collaboration for post 2020 biodiversity target (post-Aichi target)

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
is ability to withstand the disaster
with little or no loss.

Significance :

- 1) for sustainable development
- 2) for protecting life and property - as building kills, not earthquakes.
- 3) for avoiding obstruction to normal life or economic functioning during disaster - eg communication network

Challenges :

- 1) Technology required - Smart technology of building requires special knowledge and construction material.
- 2) Paucity of funds - as such infrastructure is costly to build → discourage

citizens to adhere to building codes

3) Assessment of resilience that an infrastructure ~~proj~~ project is required → it may still tumble.

4) Unpredictable disasters (like Tsunami in past) may fail even resilient infrastructure

5) Lack of knowledge to construction players and citizens.

6) Lack of political will to enforce these standards of resilient infrastructure

7) Apathy of municipalities → take post-disaster relief measure mainly - hardly focus on disaster preparedness.

Suggestion :-

1) Education - disaster resilience shall be taught in school and civil engineering

2) Bring laws for disaster impact assessment of all public infrastructure

- 3) Encourage R & D for affordable disaster resilient technology and construction
- 4) Tap traditional knowledge - like mud houses in Earthquake prone region - tree shelters along coast.
- 5) Awareness drive on ~~BEE's~~ BIS's National Building Design code for disaster resilience.
- 6) Quality Environment Impact Assessment to ensure project is not in disaster prone region, or if there then adheres to disaster resilience norms.

Sendai Framework 2015-30

gave special emphasis on disaster resilience infrastructure. National Disaster Management Act 2005 and DM policy 2015 talks of same.

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 is the process to store all data generated in a region, within that region only.

Significance for India :

- 1) Privacy - (K.S. Puttaswamy case) to prevent data breach.
- 2) Security of nation : the critical data doesnot get misused by foreign interests (USA's Prism)
- 3) Criminal Justice System : Quick investigation and trial, as Law enforcement agencies now donot wait for foreign country response on its data request.
- 4) Data Sovereignty → government and citizen shall have authority over its data.

5) Data Economy - It will promote indigenous industries to tap on data and come up with innovative products like smart transportation.

6) Investment in data servers will be promoted - employment generation

7) Prevent Brain Drain, now startups or youth will be preferred to stay back to tap data potential for business or research.

Challenges with data localization :

1) Technology capacity - India lacks quality server capability to store data

2) Prone to hacking - high cyberattack in India

3) Breach of data integrity by States for vested interest, when State control data

- 4) Opposition from other nations and MNCs — may invite WTO disputes or drive away investment.
- 5) Deglobalisation get promoted, as free flow of data is curtailed.
- 6) Law enforcement agency may still face delays due to local regulations like privacy frameworks.
- 7) Such centralisation of data is dangerous, as technical failure will lead to ~~per~~ permanent loss of loss.

Way forward :

- 1) Adopt B.N. Srikrishna committee recommended Data security framework.
- 2) Data protection Law.
- 3) Data localisation of mainly personal and sensitive data.
- 4) Rather promote data mirroring.

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 is a phenomena where ~~ex~~ money earned through illegitimate sources is entered into formal economy by layering, and integration.

[Menace] :

- 1) fund terrorism and organised crimes
- eg: Hawala transaction aided the Mumbai 1993 attack
- 2) Devoid the government from tax revenues and public resources.
- 3) Harms social capital when money laundering funds drugs addiction etc.
- 4) Black Money funds electoral process harms democratic credentials of country.

5) Vicious cycle :Measures Taken :Domestic :

- 1) Prevention of Money Laundering Act.
- 2) Foreign Contribution Regulation Act
- 3) Enforcement Directorate to investigate money laundering

International :

- 1) UN Convention against-organised crimes.
- 2) Financial Action Task Force

under G-20 for money laundering
curtailment.

3) OECD's Base erosion and Profit
shifting.

The need is for more
concerted effort to curb menace
of money laundering. SWIFT system
and digitalisation of financial
transaction may help.

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।

The primary motive of terrorism is to instill fear in society and delegitimise the authority of nation states. (Socio-political-cultural)

While organised crimes is done with profit orientation (economic mainly)

Symbiotic Relation between Terrorism and organised crime (OC)

- 1) The proceed of crime used to fund terrorism. (Taliban gets support from drug sale)
- 2) The organised crimes provide safe havens to terrorists.

3) OC provide manpower for terrorism like disenchanted youths or girls for logistic or suicide bomber.

Terrorism aid to OC :

1) Terrorism create instability in country - diversion of law enforcement agency attention to security - create safe haven for organised criminal activity like sex-trafficking.

2) Terrorism act as market for OC's sale and investment.
- arms purchase etc.

The need is to break this nexus and curb both through

1) Strict crackdown on organised

crimes like drug and arms smuggling

2) International collaboration under FATF or UN to curb terrorism and organised crime.

3) Crackdown on rogue states that provide safe haven to both OC and terrorism.

4) Passing of Comprehensive Convention on International Terrorism.

§ For World peace, the OC and terrorism are biggest ~~to~~ challenge, that need to be cracked down on war footing.