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GENERAL STUDIES (TEST CODE : 1419)

Name of Candidate	PRASHANT RAJ		
Medium Eng./Hindi	ENGLISH	Registration Number	453247
Center	ONLINE	Date	27-11-20

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	
1	10		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	10		2. There are TWENTY questions printed in ENGLISH & HINDI इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3	10		3. All questions are compulsory. सभी प्रश्न अनिवार्य हैं।
4	10		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	10		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 (वयूरीए) 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	10		
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11	15		
12	15		
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19	15		6. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
20	15		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।
Total Marks Obtained:			
Remarks:			

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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. Highlighting the issues associated with power discoms in India, discuss whether privatizing discoms can help in this regard. (150 words) 10
- भारत में विद्युत वितरण कंपनियों (डिस्कॉम्स) से जुड़े मुद्दों पर प्रकाश डालते हुए, चर्चा कीजिए कि क्या डिस्कॉम्स के निजीकरण से इस संबंध में सहायता मिल सकती है।

DISCOMS refers to distribution companies which supply electricity from thermal power plants to end consumers.

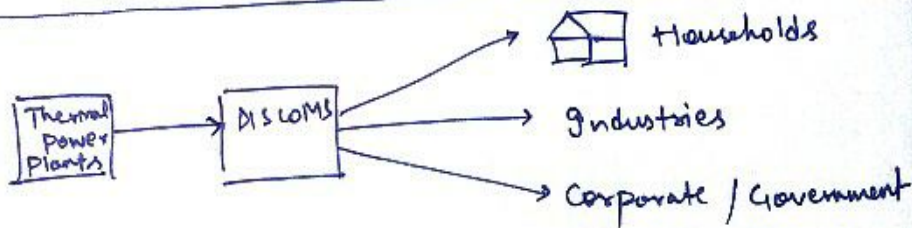


Fig. Transmission

ISSUES IN POWER DISCOMS

- ① Mounting Debt amount - According to Ministry of Power, it stands at ₹1.33 lakh crores.
- ② Technical issues - AT&C losses are high 21.4%, Govt plan to reduce them to 10-15% not achieved
- ③ Political Intervention - owing to demand from different sectors & positions in DISCOMS
- ④ Competition from Renewable energy - which is becoming cheaper & more attractive.

⑤ Lack of efficiency & increased cost of Thermal power plants operation (eg) 48% will become incompatible by 2022 with adequate standards.

Thus, Recently Govt. privatised DISCOMS in Union Territories to overhaul it.

PRIVATISING WILL HELP -

- Increased efficiency of the DISCOMS
- Better marketing & talent will be hired
- make the DISCOMS competitive to emerging sector
- Reduce political postings thus intervention

BUT may pose threats eg

- Loss of jobs
- Social needs of supporting Farmers, companies by subsidies
- Interest of private sector

Hence, "privatisation" can be a way through but must be supplemented by change in Governance

& goal of "maximum Governance, minimum Government"

2. Harnessing Smart Agriculture can potentially be a game-changer for farm productivity in India. Discuss. (150 words) 10

स्मार्ट कृषि का दोहन संभवतः भारत में कृषि उत्पादकता के लिए निर्णायक सिद्ध हो सकता है। चर्चा कीजिए।

Agriculture in India employes around 45%

Population & contribute 17% of GDP as per

Economic Survey 2019-20.

Farm productivity is suffering from high input-output ratio, decreasing yield, labour issues etc.

SMART Agriculture can be a game changer because:

- ① Use of ICT - will keep vigil on crops, prevents damage from stray animals
- ② Use of micro-irrigation technique through sensors can prevent loss of water and leaching of pesticides
- ③ Drone Technology can lead to better productivity in use of fertilisers & pesticides, vigilance etc
- ④ Labour requirement will reduce doing away with Disguised Unemployment.

- ⑤ Use of Artificial Intelligence to estimate best crops for soils
- ⑥ Better weather forecasting & price monitoring accordingly.

However, Challenges will be faced

- ① Poor skill base - as many farmers are illiterate and not aware of these development
- ② Technology aversion - seen as risky and non-reliable by farmers
- ③ Not attracting talents to the Agriculture sector

Need → Government driven public investment
→ NITI Aayog recommended for Agriculture
Advisory Unit for future tech

→ Tech. collaboration with nation (eg) Israel model of Smart Agri.

Smart Agriculture will transform Agriculture into an attractive employment sector & doubling of farmers' income by 2022.

3. Rather than focusing solely on quantity, inclusive growth concerns itself with the quality of growth. Discuss. (150 words) 10

केवल परिमाण पर ध्यान केंद्रित करने के बजाय समावेशी विकास, संवृद्धि की गुणवत्ता के साथ भी अपना सरोकार रखता है। चर्चा कीजिए।

Inclusive Growth refers to equal growth of all based on principles of social justice & equity.

(eg) Focusing on Per-capita income rise instead of Total rise in wealth.

IT focusses on Quality of growth

- ① Better availability of resources to the marginalised sector
- ② Closing of Gender Gap in Labour sector
(eg) Only 24% & decreasing since 2015.
- ③ Development & Growth of Agriculture that employs majority population
- ④ Economic development based on equality of opportunity for all (eg) Stand up India promotes women, SCs/STs.
- ⑤ Amartya Sen described Inclusive growth as a means to ensure "capabilities" to all sections.

Focusing on Quantity is Bad because

- ① Doesn't reflect rise in living standards
- ② GDP growing at average 8% but 22% STU living in poverty
- ② Rise in wealth but inequality is deepening as 1% in India owns 58% of wealth - Oxfam Report
- ③ Doesn't include living standards, women conditions, poverty level, discrimination etc.

Government is taking many steps for inclusive growth like :

- Jan Dhan Yojana • POSHAN Abhiyaan
- Stand up India • Startup India

More such actions are needed for inclusive growth to ensure "Sabka Saath, Sabka Vikas".

4. In the backdrop of Atmanirbhar Bharat, discuss the core areas crucial in export promotion for India to become a manufacturing hub.

(150 words) 10

आत्मनिर्भर भारत की पृष्ठभूमि में, भारत के लिए एक विनिर्माण केंद्र बनने हेतु निर्यात संवर्धन में महत्वपूर्ण मुख्य क्षेत्रों (कोर एरिया) की विवेचना कीजिए।

PM Modi described Atm Nirbhar Bharat not just self sufficiency but increased role of India in post-Covid world order.

India's exports stands at around 1.7% of total which is less than Vietnam's 1.8% of merchandise exports shows the mismatch between potential & goals.

CORE AREAS

- ① Textile sector - India currently exports 1/3 of domestic production & every 10 lakh invested in textiles produces 240 jobs in economy. (ES 2018-19)
- ② Leather Industry - India's role in producing & exporting can be extended.
- ③ Network Products as reco. by ES 2019-20 focusing on recording instruments, laptops etc.

Ans + Marker

④ Dairy sector - can also contribute to increase exports through formalisation of sector & investment in cold chain infrastructure.

⑤ Food processing industry - can transform farmers into 'Agripreneurs' as seen by NITI Aayog.

Challenges that remain

① Skills - inadequate skills as to what is needed. As per Economic Survey only 12% skilled as to ~90% in USA.

② MSMEs driven - marked by lack of credit, poor sanitary conditions, low wages etc

③ Investments - in manufacturing sector constant at 8-10% as to other sectors.

Need - focus on skills through vocational education, Skill India

↓
Declaring 'value chain' as infrastructure as seen by NITI Aayog

Economic Survey's goal of "Assemble in India + Make in India" is the future step to make India "Atmanirbhar"

5. Arsenic pollution is becoming a severe environmental issue in India. Enumerating its various sources, discuss the consequences and measures to tackle it.

(150 words) 10

आर्सेनिक प्रदूषण भारत में एक गंभीर पर्यावरणीय मुद्दा बनता जा रहा है। इसके विभिन्न स्रोतों को सूचीबद्ध करते हुए, इसके परिणामों और इससे निपटने के उपायों पर चर्चा कीजिए।

Arsenic pollution is majorly caused by leaching of Arsenic into ground water sources.

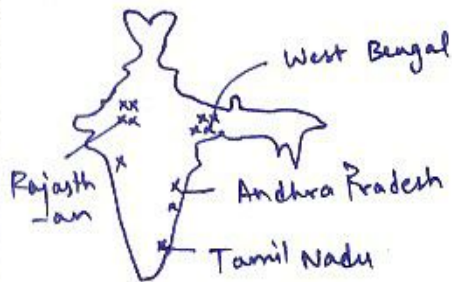


Fig: Arsenic Pollution Hotspots

- West Bengal leads with highest level

SOURCES

- ① Pesticides & fertilisers leaching
- ② Waste from industries
- ③ E-waste on landfills
- ④ Extraction of "ground water" from deep wells.

CONSEQUENCES

- ① Social -
 - Inhibit "cognitive growth" in children
 - Cancer in nearby population
- ② Environment -
 - Fertility to soil is reduced
 - Harm biodiversity.
 - Interferes in Nutrient cycling

- ③ Water -
- poisonous increases with time due to leaching
 - Nutrients less
- ④ Economic -
- Rising in health expenditure of the population
 - Loss of productivity

MEASURES to tackle it :

- ① Check on irrigation - as high irrigation, leads to water logging & deep leaching
- ② Fertilisers should be laid down in deep layers
- ③ Water purification in nearby areas where Arsenic pollution prevails
- ④ Biological methods of soil planting to reverse the potention Arsenic content.

Arsenic pollution poses challenge to health, environment & "Demographic Dividend", a mission-mode approach is needed to tackle it.

6. The Green Term Ahead Market (GTAM) can invigorate the renewable energy sector in India. Evaluate. **(150 words) 10**

ग्रीन टर्म अहेड मार्केट (GTAM) भारत में नवीकरणीय ऊर्जा क्षेत्र को सुदृढ़ बना सकता है।
मूल्यांकन कीजिए।

7. In context of the increasing importance of technology for disaster management, throw some light on the application of GIS and Remote Sensing in disaster management with specific examples from India.

(150 words) 10

आपदा प्रबंधन के लिए प्रौद्योगिकी के बढ़ते महत्व के संदर्भ में, भारत से विशिष्ट उदाहरणों को प्रस्तुत करते हुए आपदा प्रबंधन में जी.आई.एस. और सुदूर संवेदन के अनुप्रयोग पर कुछ प्रकाश डालिए।

Disaster management over the years has been shifting from "Reconstruction - Rehabilitation" approach to "Prevention" approach by minimising losses.

Technology plays an important role in new mode of Disaster management.

Use of GIS Technology

- ① Real time monitoring of information about Disaster, personnels management can be possible
- ② Use of GIS & GPS to tag shelter houses, medical care & Rehabilitation centre.
- ③ Steps taken during Cyclone Ockhi.
- ③ Information dissemination about do's & don'ts of the steps. ④ Local population role in Disasters & empowering Gram Sabhas.

Use of Remote Sensing

- ① Better forecasting of disasters & timely information to stakeholders.
- ② Use of satellite & remote sensing to supply information to fishermen's in oceans.
- ③ Better prediction ability of the authorities wrt floods, droughts, heavy rains.

Urban floods recently in Hyderabad, Kerala, Mumbai have shown importance of tech.

(eg) Mumbai - I-flovs, Chennai - C-flovs to control floods through GIS-GPS-Remote sensing tech.

This along with measures under Sendai Framework and Pan Modi DRR principles can increase 'resilience' & 'sustainability'.

8. The CRISPR/Cas9 genetic scissors have revolutionized the genome editing technique with applications in various areas. Discuss. (150 words) 10

क्रिस्पर/कैस9 (CRISPR/Cas9) आनुवंशिक कैंची द्वारा विभिन्न क्षेत्रों में अनुप्रयोगों के साथ जीनोम संपादन तकनीक में क्रांतिकारी परिवर्तन का संचार किया गया है। चर्चा कीजिए।

CRISPR/Cas9 genetic scissors were awarded

Nobel Prize, ^{recently} & due to its multi-faceted

applications it is a breakthrough in biological development.

It has applications in multiple areas

- ① Disease prevention - customised solutions can be recommended to address "genetic disorders"
- ② Unborn children - can be protected from new genetic diseases that may develop in the future
- ③ Gen Crops - can be prepared which are resistant to droughts, pests
- ④ Artificial babies - customised according to the parents requirements may be a possibility.
- ⑤ Animal-Human interconnection - can ease transplantation in the near future.
- ⑥ Role in COVID-19 shows efficiency in production of vaccine & rapid testing.

ISSUES that remains

- ① Natural order - is destroyed by intervention by Gene Editing.
- ② Commercialisation - may lead to private interests & underground market for these applications.
- ③ Not regulated as such in many countries
- ④ Privacy of the individuals
- ⑤ Customised health characteristics may further increasing inequality (eg) better IQ, more life expectancy for affluent

Hence, inspite of being a "revolutionalizing" tech, some challenges needs to be addressed to regulate its applications.

9. Bring out the role played by Financial Action Task Force in tackling the menace of money laundering. (150 words) 10

धन-शोधन के खतरे से निपटने में वित्तीय कार्रवाई कार्य बल द्वारा निभाई गई भूमिका को स्पष्ट कीजिए।

FATF is an inter-governmental body whose work is to regulate money laundering and terror financing.

It is an independent organisation and functions through OECD secretariat.

ROLE IN TACKLING MONEY LAUNDERING

- ① Putting out best practises that can be adopted by different countries.
- ② Check on organised crimes, terror financing and money laundering linkages. (eg) Drug cartels
- ③ Taking actions against the countries not adhering to given instructions (eg) Black list
Grey list
- ④ Pressurising through different sanctions to adopt clean taxation protocol.

- ⑤ Working with civil societies, NGOs etc to encourage Anti-money laundering measures & creating awareness.

Other than this, FATF also works to

works with
other organi.
like UNODC,
UNTOC, OECD

Other
work

→ check on terror financing

→ sanctions on culprit nations

- ⑥ BEPS.

Hence, FATF remains an important player in tackling menace of money laundering particularly with emerging digital tech, cryptocurrency its role needs to intensified.

10. Discuss the recent reforms that have been undertaken in the National Security Architecture of India. (150 words) 10

भारत की राष्ट्रीय सुरक्षा संरचना में हाल ही में किए गए सुधारों की विवेचना कीजिए।

National Security ^{holds} ~~remains~~ paramount significance in changing global order and technological intervention.

Challenges
to
National
Security

- Hostile neighbours on East & West border
- Poor cyber security infrastructure (eg) Global cyber security index ranks 25/183 countries
- Border security - infiltration, porous border
- Internal security - Left wing extremism, insurgency

Recent Reforms Undertaken

(CDS)

- ① Appointment of Chief of Defence Staff - will act as a linkage between Defence & civil authorities.
- ② NATGRID - though formed in 2009, Government introduced changes through linkage to CCRTNS, ~~CCRTNS~~ real time data availability etc
- ③ Formation of National Space Agency - to protect space assets & strengthen India's role in the emerging ground.

- ④ Adoption of BOLD-QIT - to ensure security of Border areas across Bangladesh Border.
 (eg) Use of LIDAR, smart fencing
- ⑤ Focus on defence indigenisation through Defence Procurement Procedure changes (eg) SRIJAN Portal
- ⑥ NITI Aayog recommended for a separate cadre for cyber-defence with adequate skillset due to D-track attack on Kodaikanal Power plant.

More Steps
needed

- CDS recommended for Integrated Space command & Integrated defence & Civil cooperation unit
- Focus on cyber-security by hiring Data scientists & Developers.
- Mountain strike corps for security of Siachen Border
- Security of A and N islands

Thus, National Security Architecture must be a 'deterrence' to our enemies and 'enabler' for India's global cooperation.

11. Bring out the key hurdles that are being faced in accomplishing land reforms in India. Also, discuss the advantages which can be reaped by accomplishing them in contemporary times. (250 words) 15

भारत में भूमि सुधारों को पूरा करने में सामना की जा रही प्रमुख बाधाओं को स्पष्ट कीजिए। साथ ही, समकालीन समय में इन्हें पूरा करने से होने वाले लाभों की भी विवेचना कीजिए।

MS Swaminathan described Land Reforms as an unfinished agenda.

In spite of many steps like Land Consolidation Act, removal of Intermediaries since independence.

Land Reforms still faces many hurdles

① Social - rise in cases of Benami Transfers, exploitation to buy land at cheap rates due to local-dynastic politics & caste nexus.

② Political - will of the various state govern-ments as Land is a state subject

• Opposition to model laws proposed by the centre

(eg) model Tenancy Act, Land Acquisition Bill.

• Contrary views of the Government.

(eg) Andhra Pradesh - Amravati land pooling issue

left the farmers with no options.

- ③ Bureaucratic Hurdles - poor grassroot connection, exploitation, Red tapism and corruption. (eg) Forest Rights Act issues.
- ④ Lack of Farmers' confidence and exorbitant demands & needs put forth.
(eg) Farmers in Maharashtra asking for Government jobs. in exchange of land.
- ⑤ Issues in Digitisation of land records leading to multiple claims and legal cases.
(eg) J&K only 8% land records digitisation.

⑥ minority land rights.

In contemporary times, accomplishment of Land Reforms will help in:

- ① Inclusive Development - as 85% of the farmers are small & marginal as per Agriculture Census 2017.
- ② Nation's growth - ease of land acquisition for critical infra projects can ease development for infrastructure for future.
- ③ Land valuation - NITI Aayog calls for reforms like Land value tax, vacant lands, in urban areas. etc.

④ Rapid completion of the projects thus decreasing projects costs. (eg) As per MORTH, 48% of projects ends up paying 0.8 to 1.5 times extra budget.

⑤ Doubling of farmers income through land leasing facility, better land rights etc.

Government steps like - Bhuvan ISRO portal

- P Swamitva Scheme

- Formation of National Land Management Cooperation

can go a long way to address them.

This will ensure social justice & inclusive development fulfilling SDG-9 of inclusive & equitable growth.

12. India needs to accord more significance to nutritional security than food security. Comment. In this context, suggest a framework that should be adopted by the government to achieve nutritional self-reliance.

(250 words) 15

भारत को खाद्य सुरक्षा की तुलना में पोषण सुरक्षा को अधिक महत्व देने की आवश्यकता है। टिप्पणी कीजिए। इस संदर्भ में, वह रूपरेखा भी बताइए जिसे सरकार द्वारा पोषण संबंधी आत्मनिर्भरता प्राप्त करने के लिए अपनाया जाना चाहिए।

Food security refers to availability, affordability and accessibility to all at all times (FAO)

Nutritional security means availability of adequate micro & macro nutrients in diets to all people.

Global Hunger Index ranks India 72nd of 113 countries in 2019 & highlighting nutritional needs and differential food availability as core issues

Why Nutritional security more significant

① Triple Burden of malnutrition - UN-FAO explained this in India context with rising undernourishment, over-nutrition and hidden hunger.

② To fight anemia, stunting & wasting as per NFHS-4 report -

- 50% women between 16-50 years are anaemic
- 38% stunted children.
- 20% wasted

③ "Cognitive development" of brain of child occurs 90% before 5 years of age thus nutritious need for vital growth

④ Hidden Hunger - is not a class-problem, all sections suffers due to unavailability of micro nutrients

Government already works to ensure Nutritional security & food security through

- mid day meal scheme
- Public Distribution system
- POSHAN Abhiyan
- ICDS.

Framework to achieve Nutritional self Reliance

- ① Changes in mid day meal - providing pulses, eggs in diet according to age.
- ② Livelihood models - connecting "local farmers" in school area to grow fresh fruits, that can be provided in mid day meal
- ③ School Kitchen Gardens
- ④ Bio-fortified crops - (eg) Golden rice can help to fight Anaemia in women, zinc tablets.

- ⑤ changes in PDS - include pulses, Biofortified Rice, other food crops rich in proteins & vitamins.
- ⑥ Awareness - by making nutrition security a 'Jan Andolan' will ensure addressing it.
- ⑦ Focusing upon hygiene & sanitation will also address push factors of nutritional security.

Thus, SDG-1 of zero hunger must be seen in overlap with Nutritional security to help India's growth in preserving 'Demographic Dividend'.

13. Private investments are key for India to move into a high growth trajectory. Discuss. Also highlight the steps taken by the government in recent times to address the fall in private investments. (250 words) 15

निजी निवेश भारत के लिए उच्च संवृद्धि पथ पर आगे बढ़ने हेतु महत्वपूर्ण है। चर्चा कीजिए। साथ ही, निजी निवेश में गिरावट को दूर करने के लिए हाल के दिनों में सरकार द्वारा उठाए गए कदमों को भी रेखांकित कीजिए।

Private Investments refers to investments made by corporates, individuals & stakeholders other than Government.

- As per Economic Survey, 2019-20, there was a fall of 16% in private investment in 2019.

WHY private investments are important

- Supports infrastructure development which acts as social-overhead capital for other sectors
- Reduces burden on Government and thus public investment can be directed in key areas
(eg) Health only 1.8%, R&D - 0.7%.
- Improves credit ratings \Leftrightarrow Increases confidence of other investors, boosts growth.
- Can bring disruptive & innovative changes.
(eg) Jio transformed Telecom sector

- Kelkar - PPP
- Rajiv Gandhi
- Sunjit Datta

- ⑤ Employment opportunities.
- ⑥ Private sector's efficiency & expertise along with investments.

ISSUES faced by private investors

- Complex labour reforms and taxation structure
- Red tapism and Inspector Raj threat.
- Fear of SCs highlighted by Finance minister.
CVC, CBI, CAG, thus poor credit availability.
- Competition - offered by other developing nations
(eg) Vietnam and Bangladesh
- Laws like Essential commodities Act, DPCO rules etc.

Steps taken to address fall in private investments

- ① Corporate taxes have been reduced to world's best @ 22% & even lower for new companies
- ② FPIs limit of 9% have been increased to 15%.
- ③ FDI ^{tax} sectors have been revisited (eg) 100%.
FDI in Insurance, Defence etc.

- ④ Rationalisation of laws to boost PPP on recommendations of Kelkar committee.
- ⑤ Boosting prospects for foreign investment by GIFT city, SEZs rationalisation - Surjit Bhalla committee
- ⑥ Reforms in Agriculture to focus on contract farming and food processing industry.

Thus, this has resulted in increased FDI in India and in 2019 it was highest in the region.

Steps like - NITI Aayog rec. for 'Infra status' to key industries
 | - Focusing on global value chains
 | Assemble in India by ES 2019-20.

With these reforms, India's private investments will rise making India "Aatmanirbhar" and a \$5 Trillion Economy by 2022.

14. India's geographical diversity and varied levels of development across regions necessitate a targeted region specific action plan to ensure a minimum acceptable level of prosperity. Elaborate. (250 words) 15

भारत की भौगोलिक विविधता और विभिन्न क्षेत्रों में विकास के भिन्न-भिन्न स्तर समृद्धि के एक न्यूनतम स्वीकार्य स्तर को सुनिश्चित करने के लिए एक लक्षित क्षेत्र विशिष्ट कार्य योजना को आवश्यक बनाते हैं। सविस्तार वर्णन कीजिए।

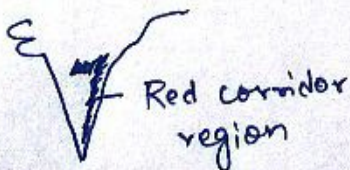
India's geography has been diverse due to features like hills, plains, Forests areas etc., industries conglomeration in certain regions etc.

This is visible through varied development level in different regions:

- Economic Survey 2019-20 talks about spatial distribution of new firms in west & North India.
- Industrial conglomerates in regions like Mumbai-Nagpur, Surat-Ahmedabad belt, Meerut-Gurgaon-Delhi belt.

REASONS for these varied levels

- ① Security issue - States in ~~the~~ Eastern states are affected by Left wing Extremism & Maoism



- ② Population in North India Gangetic region dependent on Agriculture, low wages & poor social indicators. (eg) Bihar states
- ③ Political factors leading to secessionist tendencies in North East makes difficult implementation of development projects & industries.

Thus, a targeted region specific plan can be ensured minimum level of prosperity as:

- ① Tailor made to suit the region - eg North East have been driving force in "Agriculture startups" as highlighted by Economic survey - 2019. Investments in this region will help.
- ② District level focus - by promoting small & medium industries as per ES 2019-20 10% rise in new firms can boost GDP by 1.8%.
- ③ Utilising Aspirational district programs to work on social indicators and boosting skills of the region.

- (4) Local community ownership - by promoting investment in local assets (eg) Van Dhan Scheme for Tribal sector products.
- (5) Focusing on Labour-intensive industries in North India region due to high population pressure & labour availability
- (6) Tourism industry in states of Himalayan region (eg) Sikkim's Home stay model.

- Challenges
- Cooperative federalism is needed
 - Government investment to boost confidence
 - Security issues
 - Skills-deficit in regions
 - Demand for localisation of jobs eg Haryana, MP.

Thus, prosperity of regions driven by a specific plans will boost India's growth by promoting

" Prosperous regions → Prosperous states → Prosperous India".

15. Empowering the farmers by ensuring barrier-free trade in the agriculture produce is critical in doubling their incomes. Enumerating the existing bottlenecks, discuss how the recent legislations can help in overcoming them.

(250 words) 15

कृषि उपज का निर्बाध व्यापार सुनिश्चित करके किसानों का सशक्तीकरण करना उनकी आय दोगुनी करने में महत्वपूर्ण है। वर्तमान बाधाओं का उल्लेख करते हुए, चर्चा कीजिए कि इन पर नियंत्रण पाने में हालिया अधिनियम कैसे सहायता कर सकते हैं।

Boosting Agriculture Trade is vital for the growth of Agriculture sector which remains stagnant for last 5 years @ 3-4%.

How barrier free trade will help

- ① Increasing Exports of Agri products across the world. which stands at around 7% of total world
- ② Bringing FDI & forex in Indian economy & Agriculture, boost investments & thus income
- ③ Boost confidence of the private sector & increases investments in cold chains, refrigeration etc
- ④ Turn Farmers into "Agripreneurs" by facilitating growth from food processing
- ⑤ working on value addition in farm products
- eg) Gujarat Chilli farmers exports growth

But there are multiple Bottlenecks that exist:

- ① Federal issue - Agriculture being a 'state list' subject face challenges between competing Government interests.
- ② APMCs domination - leading to farmers selling produce at cheap rates.
- ③ Absence of cold chain infrastructure and storage facilities as highlighted by Ashok Dalwai committee
- ④ Restrictions posed by intermediaries, multiple state markets as per Ashok Gulati it had led to loss of ₹ 43000 crores since 2011 to farmers.
- ⑤ MSP system have turned out to be 'maximum selling price'. as highlighted by MS Swaminathan.

Government introduced 3 legislations to reform Agriculture marketing.

These will help in

- Boosting private investments into the Agriculture sector through contract farming etc
- Removal of limitations in ECA 1955 would

Improve storage, increase warehouses Investments and boost exports

→ Better private sector participation will address Sanitary & phytosanitary issues at WTO.

→ Freedom to sell produce anywhere will led to freedom of Trade through e-NAM etc.

→ Heralded as '1991 moment' for Agriculture sector.

Issues • Farmers protests & state Government disapproval

- Restrictions on contract farming in many states. with no separate law
- Reduce negotiating power of the farmers vis a vis Corporates.

Hence, issues must be addressed to boost investments in Farming sector to empower farmers & doubling their income by 2022.

16. The reasons for recurring floods in the regions of Eastern India such as Bihar and Assam go far beyond their topography. Discuss. Also, suggest measures to control this menace. (250 words) 15

बिहार और असम जैसे पूर्वी भारत के क्षेत्रों में बार-बार आने वाली बाढ़ के लिए केवल उनकी स्थलाकृति उत्तरदायी नहीं हैं। चर्चा कीजिए। साथ ही, इस खतरे को नियंत्रण में लाने के उपायों का भी सुझाव दीजिए।

Floods in Bihar and Assam have become an yearly phenomenon leading to huge loss of lives and property.

Topography of the region which include perennial flowing rivers, saucer-shaped topography of Assam etc are some reasons given but other

FACTORS RESPONSIBLE

- ① Planning - unplanned growth of cities, aggregating of houses on river bank and poor governance.
- ② Dams & canals management - often remains unregulated and contain water at full capacity even during monsoon.
- ③ Sand mining - which reduces the depth of river bed, increases sedimentation and weakens structures.

- ④ Transboundary river management - between different countries eg India - Bangladesh, India - China presents forecasting.
- ⑤ No preventive approach is taken & rehabilitation is seen as the way forward by Governments.
- ⑥ Perennial Rivers - Brahmaputra in North East, Ganga & Kosi in Eastern India are overwhelmed due to monsoon rains.
- ⑦ Urban drainage issues.
Government has taken steps to control such events through
- Urban Governance
 - Inter-linking project
 - Preventing sand mining
 - Dam management Bill 2019

But more steps are needed

- ① Holds stakeholders accountable for losses
- ② collaborative approach - between different states in addressing issues of floods & damages.

- ③ Better preparedness, of the Disaster management Team, focus on building resilient infrastructure.
- ④ Data sharing through permanent River data sharing agreement (eg) China refused info during hoklam
- ⑤ Building up capacity of local community by focusing on awareness.
- ⑥ Building up Urban drainage system, check on plastic use is the need.

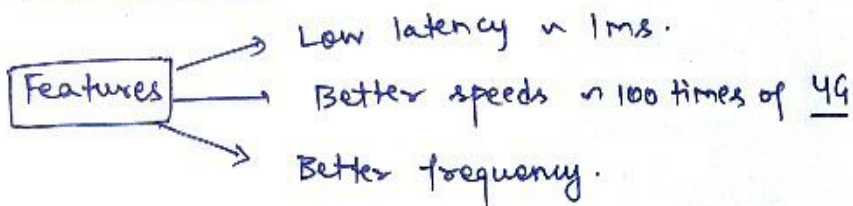
Thus, floods wreck damages & needs to be controlled as annual floods in Eastern India leads to a loss of ₹ 4000 crores & many lives, thus it is not only economical but moral issue for a "RESILIENT INDIA'S FUTURE".

17. How can 5G technology potentially bring about a digital revolution in India?
Identify the challenges in adoption of 5G technology in India.

(250 words) 15

5G प्रौद्योगिकी संभावित रूप से भारत में एक डिजिटल क्रांति कैसे ला सकती है? भारत में 5जी प्रौद्योगिकी को अपनाने में आने वाली चुनौतियों की पहचान कीजिए।

5G technology is the upgraded version from 4G tech. that aims to revolutionise digital infrastr-ucture of the world.



5G Tech. can help in bringing Digital revolution in India through

- ① Boosting digital sector - India is a champion in services & better network will promote its position.
- ② Ease of connectivity - by use of 5G will boost knowledge sharing, addressing concerns of citizens.
- ③ Service Delivery - Government steps like UMANG will further push towards e-Governance goals.

- ④ Digital India mission - will receive impetus leading to transforming India into a "Knowledge Economy"
- ⑤ Internet penetration in India increased from 8% in 2012 to 27% in 2017 as per AT&T VPN Survey showing increasing digital focus.
- ⑥ Governance - Government goal of easing process online will get boost (eg) PRAGATI portal, e-seva portal
- ⑦ Digital, ^{online} Education - in times of COVID-19 & low connectivity showed need for faster connectivity.
- ⑧ Work from Anywhere
In 2019, South Korea became first country to roll out the 5G ~~network~~ network. But India faces

FOLLOWING CHALLENGES

- ① Capital Investment - is very high due to varied regional diversities & challenges.
- ② Geo political issues - USA's push to remove "Huawei" from 5G bid can affect India - USA - China relationship.
- ③ Private Sector - faces challenges due to high cost of "spectrum" & India model of "spectrum bidding"

- ④ Digital Education - remains a challenge, people in some regions don't know mobile - internet use.
- ⑤ Portability - of mobile phones is required which depends on customer buying power.
- ⑥ Cost - high cost of 5G will make its adoption difficult in initial time.
- ⑦ Late convergence - India is still trailing in conducting bids which further derailed due to COVID-19

Still, the Government has taken multiple steps

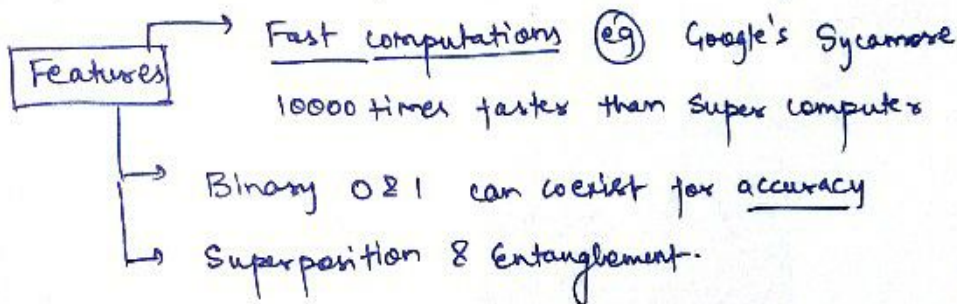
- like:
- Promoting plan for "indigenous 5G" driven by Jio's private investment
 - Working for safe 5G (eg) 5G tech club D-10 formed by UK & joined by India.

Thus, PM goal's of "India driving the bus of Digital revolution" unlike earlier revolution is the goal & 5G will help in this goal

18. Besides computing, quantum technology has potential applications in various areas. Discuss. What are the challenges which lie ahead for effective utilization of quantum technology? (250 words) 15

संगणना के अतिरिक्त, क्वांटम प्रौद्योगिकी के विभिन्न क्षेत्रों में संभाव्य अनुप्रयोग हैं। चर्चा कीजिए। क्वांटम प्रौद्योगिकी के प्रभावी उपयोग के समक्ष आने वाली चुनौतियां क्या हैं?

Quantum computing refers to area of computing based on principles of Quantum physics. First inputs to it were provided by Richard Feynman.



APPLICATIONS

- ① Medical field -
 - Working on new formulations of Drugs
 - Diagnosis of diseases & study of DNA.
- ② Weather forecasting - promote faster calculations by improving accuracy & precision of forecasting models.
- ③ Supporting App Development which can provide better interface & applications.
- ④ Banking sector - by improving security,

assessment of information.

- ⑤ Agriculture - soil compatibility, developing hydrographic & geographic zoning.
- ⑥ Increasing online security & privacy thus reducing frauds.
- ⑦ Applications in military equipments.

CHALLENGES

- ① Quantum Supremacy - This challenge has led to race for supremacy between big tech giants.
- ② monopoly - of private sector driven by Google, IBM etc thus increasing cost
- ③ Capital Intensive - with large investments in data centers, security.
- ④ Skills deficit - very few universities offer courses in Quantum computing & its applications
- ⑤ Rise & clash of Nations - USA & China's competing to be giant in this technology
- ⑥ Pollution & Carbon neutrality issue - pointed out by Stanford Researchers, will increase GHGs emissions.

Hence, there is an need for reducing cost of Quantum Tech. to make it affordable for the world to revolutionalise Humankind.

19. While most insurgent groups in North-East India have given up violence and are engaged in peace talks with the government, a number of issues could create hurdles in the future. Discuss. (250 words) 15

जहाँ पूर्वोत्तर भारत में अधिकांश विद्रोही गुटों ने हिंसा छोड़ दी है और सरकार के साथ शांति वार्ता में संलग्न हैं, वहीं अनेक ऐसे मुद्दे हैं जो भविष्य में बाधाएं उत्पन्न कर सकते हैं। चर्चा कीजिए।

North-East has been volatile due to insurgency and accompanied challenges.

According to Ministry of Home Affairs, since 2013 there is 400% rise in surrender of insurgent groups adhering to PM Modi call for abating nuisance and adopting peace.

(eg) works on Naga peace process, Government signed peace agreement with Bodo insurgents.

WHY GIVEN UP VIOLENCE

① Security - Government consistent efforts through preempt, protect & prevent have decreased loopholes

② Resources - events like Demonetisation and PMCA have worked to reduce funds for insurgent groups.

- ③ Strict vigilance on "havens" & preventing infiltration across Myanmar, China Border
- ④ Development driven approach of the Government shows trust & faith

WHY PEACE TALKS

- ① Damage to insurgent groups is huge leading to loss of life
- ② Democratic processes reducing extortion & illegal taxes.
- ③ "Negotiating table" offered by Government.

ISSUES that may create hurdles

- ① Role of the Interlocutors have not been liked by many groups. (eg) Naga peace process
- ② Degree of Autonomy demanded will also decide future course.
- ③ multiple ethnic groups and their future has to be secured which may cause troubles.
(eg) Greater Nagalim. - Nagas, Mizos, Assamese.

- ④ Demand for separate constitution by Nagas
insurgent groups
- ⑤ Long drawn process & process followed by
changed Government.
- ⑥ Intervention of external actors like China,
Myanmar indirectly through Arms.

- Need**
- Autonomy within constitutional limitations
 - All inclusive growth
 - Focus on development prospects.
 - Creating special provisions (eg) Article 371. etc

This is important to ascertain 'peace' and promote
growth of "New India".

20. Identifying the key vulnerabilities in India's cyberspace, discuss the framework which should be adopted in the envisaged new cyber security policy in India. (250 words) 15

भारत के साइबर जगत में प्रमुख सुभेद्यताओं की पहचान करते हुए, उस रूपरेखा पर चर्चा कीजिए, जिसे भारत में परिकल्पित नई साइबर सुरक्षा नीति में अपनाया जाना चाहिए।

Cyber security refers to tools, techniques and procedures used to secure cyber assets and flow of information.

Global cyber security Index ranks India 23 of 165 countries showing vulnerabilities in India's cyber space :

- ① Infrastructure - lack of investment in cyber infra shows gaps in security.
(eg) D-track attack on Kodakkanal power plant
- ② Cyber warfare issues - emerging as a new threat in India the world due to global digital connectivity (eg) COzybears from Russia
- ③ Skills - Government depends upon private technology & companies to secure data & security.
Poor skills is thus an issue.

- ④ Cyber-colonialism - with data centers located outside India, pose challenges in colonising cyber infrastructure

Cyber Policy at national level was adopted in 2013 by the Government, changing time thus calls for new policy:

FRAMEWORK NEEDED

- ① Personal & Non personal data protection - by identifying stakeholders, ensuring adequate restrictions on private players
- ② Cyber defense force at National & state level for ensuring security. as rec. by NITI Aayog
- ③ Delienate responsibilities and reduce burden of CERT-in and NCIIAC.
- ④ National cyber security Authority can be formed to includes new developments in Cyber technology

- ⑤ Fixing Accountability on players in case of breach & loss of information
- ⑥ Boosting Capital Investment in the Infrastructure through a dedicated fund.

Thus, Cyber space domain is emerging as new area of dominance and countries are using it to influence geo politics.

Hence, a robust policy in need of the hour to secure India's "Cyber space".