



VISION IAS

www.visionias.in

GENERAL STUDIES (TEST CODE : 1419)

Name of Candidate	ARPII SANGAL		
Medium Eng./Hindi	ENGLISH	Registration Number	
Center	ONLINE	Date	5/12/2020

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 (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	10		6. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7	10		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।
8	10		
9	10		
10	10		
11	15		
12	15		
13	15		
14	15		
15	15		
16	15		
17	15		
18	15		
19	15		
20	15		
Total Marks Obtained:			
Remarks:			

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

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

EVALUATION INDICATORS

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

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

1. Highlighting the 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।

Power discoms are companies involved in distribution of power generated to final consumers.

Issues associated with power discoms.

- High amount of debt
- Losses of power due to
 - theft
 - power losses
- Variability in amount of load required by consumers
- Mismatch of demand and supply of power
- Electricity tariffs reduction
 - ↳ due to low auction rates of renewable energy
 - ↳ pressure from political parties to reduce tariffs

Benefits of Privatizing :-

- Better technical expertise
 - ↳ reduction in losses
 - ↳ better demand, supply management
- better infrastructure and managerial skills
 - ↳ effective decision making
- Rational Pricing
- Transfer of large amount of debt
- Innovation - Energy mix

Challenges associated with Privatizing

- Security and sovereignty - as power a critical sector
- Might lead to exorbitant pricing
- Nexus between corporate and politicians

Government has already mandated states to take over 75% of discom debt in 5 yrs. Need is to incorporate changes like smart meters, technology usage and use of power mix. and Public Private Partnership (PPP) can be explored,

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।

Smart Agriculture refers to agriculture incorporating climate efficient practices, newer cropping practices and technological use.

Benefits of Smart Agriculture which can make it a game-changer :-

- Reduced losses - using Big data analytics, weather monitoring systems to pre-empt disasters
- Managing demand and supply :- using satellite communication to predict area under production, expected produce.
- Improving cropping practices - By identifying soil moisture, soil nutrients, water availability of soil health and scheme
- Effective mechanisation and High Quality Seeds
 - ↳ customized machinery
 - ↳ climate resilient seeds.

- Better irrigation practices
 - ↳ Use of drip and sprinkler irrigation
 - ↳ Mapping canals and groundwater levels
- Agro-climatic regionalisation
 - ↳ by data analysis, pattern analysis to ensure crops are planted in areas best suited for them.
- Agricultural marketing - leveraging e-technology to connect buyers to farmers

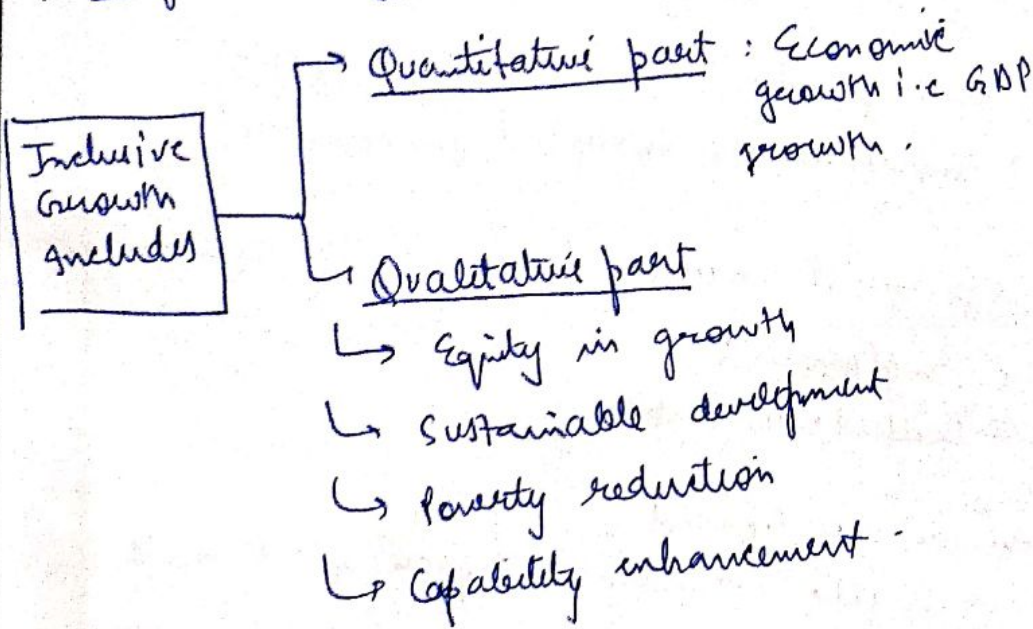
→ low farmer awareness (literacy)
 → High costs
 → farming already at subsistence level.

Along with ensuring increasing size of landholding, credit availability, smart agriculture will increase productivity and well-being. Need is for proper extension services, leveraging ISRO's community projects, and proper targeting

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।

~~Ex~~ Inclusive growth refers to growth in which no one is left behind.



The above components are ensured by focusing on ~~development~~ development which ensures vulnerable groups are not left behind.

Vulnerable groups

- Women
- Children
- Old Age
- Disabled
- Poor
- Socially excluded ex SC, ST.

Inclusive growth is done

key :-

- Social growth
 - Reduce Inequalities
 - ← Gender
 - ← Income
 - ← Wealth
 - Social cohesion
 - Social security net for all
- Economic growth
 - Infrastructure development
 - ← Transport
 - ← Community
 - ← Public Health services
 - Financial inclusion
 - Employment
 - Skill development
- Human development
 - Health → better absorption of all benefits
 - Education → Increased opportunities for participation
- Political empowerment → Rule of law
 - Strong institutional and grievance redressal mechanism.

Inclusive growth can be achieved
by leveraging community participation and
will ensure not only \$5 trillion economy
by 2025 but fulfillment of SAG's by 2030

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।

Atmanirbhar Bharat is a vision launched by Prime Minister during COVID-19 pandemic which includes

- ↳ Better participation in global trade
- ↳ Resilience of economy
- ↳ Decentralised localism
- ↳ Community participation

Core areas crucial for export promotion can be developed if vision of Atmanirbhar Bharat is followed.

Then core areas are :-

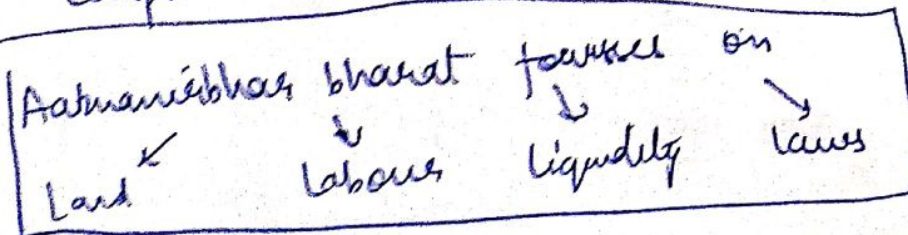
◦ Logistics -

↳ Hassle-free transport linkages - waterways, roads, railways

↳ Storage : Cold chain, warehouses

↳ Tracking of shipments - Technology leveraged

- Credit availability - As export involvement involves larger transactions and more infrastructure
- Availability of land at cheaper rates.
- Efficient labour - Skilled as well as cheap.
- Conducive legislative environment
 - Conducive labour laws
 - Facilitation by financial agencies
- Sanitary and Phytosanitary measures (SPS)
- Cultural products - as they hold comparative advantage.



These will directly impact export competitiveness. Thus Atmanirbhar Bharat will not only ensure greater domestic economy growth but more participation at global levels.

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।

70% of Indian groundwater is polluted by one or more heavy metals like Arsenic, Cadmium as per NITI Aayog's Composite Water Management Index (CWMI) - 2019

Sources of Arsenic pollution

- soil salinisation - leading to capillary action
- leaching of nutrients from soils
- Industrial discharge into water bodies
- Air pollution → mixing of arsenic with rainwater
- e-waste - improper management of e-waste and Biomedical waste
- Shrinkage of water-purifying water bodies eg Mangroves.

Consequences

- Effect human health
 - ↳ especially malnourished poor children
- Threat to biodiversity - both flora and fauna.
- Biomagnification and Bioaugmentation by getting into food chain through soil and animals.
- Threat to marine animals.

Measures to tackle it

- effective availability of data and areas severely polluted → West Bengal and Odisha
 - Restoring waterbodies like mangroves etc
 - Industrial waste and solid waste management rules
 - Central ground water authority (CGWA) working to ensure lower embankments for effective recharge.
- effective solution requires inter-ministerial coordination of water, health, science and Agriculture ministers.

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।

Green Term Ahead Market (GTAM)
 is a market created to deal with
renewable energy sector ~~and~~ related
risk for enhancing its further
 role.

[Role] that can be played by
 GTAM to reinvigorate renewable
 energy sector.

- Increased institutional as well as
 private investments in renewables.
- Efficient market to promote enhanced
 renewable energy usage.
- Attracting entrepreneurs to the
 sector.
- ~~Achieving~~ Achieving India's commitment under
 Intended Nationally Determined Contributions
 (INDC) under Paris Agreement.

• Better implementation of National Plan on energy efficiency.

with global mechanisms like clean Development Mechanism (CDM) and local mechanisms like Perform, Achieve, Trade (PAT), GTAM will prove as a promoter and facilitator to achieve SDG 7 aim of cleaner, affordable energy supply.

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।

Technology can be leveraged to increase understanding of risk associated with disaster. to ensure lower loss of life, property and effective mitigation and preparedness.

Importance of technology for disaster management

- Understanding risk - eg. Big Data Analytics for pattern analysis
- effective mitigation eg drought resilient crops
- Increased preparedness and rescue and relief → eg drone usage for stranded people
- Building Back Better incorporated rehabilitation and restoration
 - ↳ Engineering technologies → energy efficiency

Application of GIS and remote sensing in disaster management :-

- Saving life eg GEMINI device which is GAGAN enabled to alert fishermen about disaster
- Better prediction of disasters → eg Satellite imagery to understand soil moisture levels to predict droughts → eg IRS satellite.
- Effective information dissemination and mapping missing people eg using IRNSS - Indian Regional Navigational Satellite System.
- NDRF personnel deployment, coordination and effective response - using communication satellites -
- Vulnerability assessment and Early Warning System (EWS)

Technology we can not only
be down to deal with disasters but
reduce the effects of RISK MULTIPLIERS like
urbanisation, industrialisation, climate
change etc -

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।

Genome editing refers to removing, adding or replacing genes from the genetic sequence of a DNA.

CRISPR/Cas9

Cas9 - It's a cutting tool

CRISPR - ensures effective gene editing

How it works

- A gene sequence is cut from target
- It's replaced by a new gene generated in the lab.

CRISPR-Cas9 is a revolutionary

technique because:-

- High Precision of cutting tool Cas9.
- Lower risk associated with process
- Cost effective : Can be easily used at large scale.
- Treating multiple diseases,

Applications of CRISPR/Cas9 :

- Treating genetic diseases - like night blindness, color blindness
- Treating embryonic disease during in-vitro fertilization (IVF)
- Cloning without disease transfer.
- Pharmaceutical at personalized level for rare diseases
- Producing new crop varieties - which are climate resilient.
- Development of vaccines

Genome editing field witnessed a great leap forward due to CRISPR-Cas9 which led to its discovery winning Nobel prize. For effective usage need is to focus on availability, affordability and ethical use.

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 निर्भाई गई भूमिका को स्पष्ट कीजिए।

Financial Action Task Force

(FATF) was an organisation created by G-7 nations to deal with money laundering and terror financing.

Role played by FATF to tackle money laundering :-

- International cooperation - sharing of information about possible offenders, use of money laundering for terror financing
- Accountability of countries through various list
 - ↳ Black list - country which is non-cooperative eg. North Korea
 - ↳ Grey list - country under watch to improve eg. Pakistan
 - ↳ Increases country's affects due to diplomatic shame associated

- Highlighting vulnerabilities due to presence of various Tax Havens
- Domestic policy making - both human, technical and financial help.
- Training of revenue officials involved in fighting money laundering
- Inter-organisational participation at international level to bring the issue in world policy making.

■ Along with FATF's support India needs stronger domestic measures to deal with various ways in which money laundering is done - Hawala, organised crime etc. It requires =

- effective revenue intelligence
- Border Management
- Corporate Governance
- Regulatory network
- Trained workforce
- International cooperation

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 Architecture

deals with entire gamut of security related sectors, threats, institutions and provide a overall framework to make India secure,

Recent reforms in National Security Architecture of India -

- Creation of post of Chief of Defense Staff (CDS)
↳ office for ~~effective~~ effective collaboration between army, navy and air force
- Creation of Defense Planning Committee (DPC) - to create overall defense planning with long term and short term aims.

- Promotion of Cyber Security
 - ↳ New Centre on Critical Infrastructures
- Promotion of Border Management
 - ↳ CIBMS - Comprehensive Integrated Border Management.
- Police Modernisation programmes.
- Space related — promotion of Indian Data Relay Satellite System (IDRSS) for communication between satellites.

This measures will help India deal with various ~~of~~ security threats. Need is convergence of efforts and coordination among agencies.

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।

Land Reforms were taken as a policy measure after independence to reduce wealth inequality directly related with land rights.
This included :-

- Land redistribution
- Providing tenancy rights

→ Post 1991 reforms land became a commodity easily sold and purchased. Now land reforms included :-

- Modernisation of land records
- Land acquisition, compensation and resettlement
- Owner-tenancy rules

However be it post independence

or post 1991 land reforms faced

may hurdles :-

- Non availability of conclusive ownership rights
 - ↳ Most people have lost their documents or never made one to avoid tax payment
- Poor digital infrastructure at local and state level.
 - ↳ Untrained personnel
 - ↳ Offices still not, ^{not} digitised → No computers or internet
- Low citizen awareness - about benefits of land reforms.
- Protests against land acquisition for development projects
 - ↳ Improper compensation
 - ↳ Ineffective rehabilitation
- Nexus between politicians, businesses, government officials

However government with its Digital Land Records Modernisation Programme (DLRMP) and Land Acquisition, Settlement and Rehabilitation Act is trying to overcome

these hurdles to reap the following
advantages:

- Income support, subsidy support to tenant, sub-tenant farmers
- Land reforms directly associated with agriculture - sub tenants rights will ensure
 - Increased agriculture productivity
 - More investment
- Development with environmental sustainability and minimum displacements
- Rehabilitation by keeping in spirit of locals → ensuring they get proper livelihood at new place
- Higher tax generation for government
- Reduced black marketing in real estate

Land reforms can be properly ensured by including digital media and digital education in vision and taking multi-stakeholder approach in policy making.

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।

With presence of rights based approach towards food security under National food security Act, 2013, there are still more than 30% children starved, wasted.

This requires focus on :-

- Food security - proper calorie intake
- Nutritional security - proper nutrition
 - ↳ Intake of vitamins, minerals, proteins
 - ↳ Effective absorption of these

Significance of nutritional

security

- effective mental development along with physical development

- Better absorption of education
 - ↳ More skills
 - ↳ Proper livelihood
- Reduction of inter-generational poverty
- Nutritious foods like millets are cheaper
- farmer welfare - as pulses, millets grown mostly in dryland regions.
- Reaping benefits of demographic dividend.

Framework for nutritional self reliance :-

- Promotion of dryland agriculture :- they provide 50% pulses, 90% millets → will ensure sufficiency.
 - ↳ Better marketing ↳ insurance
 - ↳ Soil health promotion
 - ↳ New varieties suited for region.
- Nutritional counselling - leveraging terraprestite cooperation of Aanganwadis,

- Auxiliary Nurse Midwives (ANM) and
ASHA workers
- ↳ Generation of Awareness among people.
 - MSP led procurement of millet, coarse grains and more availability of these on POS shops.
 - Mid-day meal scheme should incorporate providing of pulses and eggs.
 - Local food promotion which are rich in nutrients
 - Increasing digestive health to ensure better absorption of food.

Government has launched POSHAN abhiyan and National Nutritional Mission to deal with the issue. Need is to shift focus from food security to nutritional security which will require support of civil society organisations (CSO)

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 हैं। 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 have decreased in recent times due to poor agricultural performance, rescinding out due to increased fiscal deficit, increased taxes etc.

- Significance of private investments
- To bridge gap due to deficit of government expenditures.
 - Generation of newer employments.
 - Higher gross fixed capital formation.
 - Can lead to industrial growth
 - ↳ solve the problem of missing middle
 - ↳ deal with jobless growth.

- Increased innovation and research and development
- Increased availability of goods and services for customer
- More capital availability for smaller enterprises
- Enhanced agricultural performance
- Improved logistics
 - ↳ Increases productivity and resource efficiency
 - ↳ export competitiveness

Steps taken by government :

- Cutting corporate tax to 22% from 30% in Budget 2020
- Increased focus on digital financial services to miss more
 - Promotion of Digital India
 - Cashless economy promotion.

- more digital and financial inclusion
- Increased impact to FDI
 - ↳ eg - 100% automatic route in FPI.
- Increased private participation
 - ↳ private participation in ISRO and Defence
- Gold Monetization Scheme.
- Increased ease of doing business to start new businesses

challenges
that
exist

- Rising NPA's
- High fiscal deficit.
- Policy uncertainty
- Shocks due to demonetization as COVID-19.

For more private investment government need to be fiscally prudent and revive the falling banking sector.

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।

Due to geographical diversity and large area and decentralisation India has witnessed Imbalanced regional growth

Geographical diversity in India

- 30° latitude and 30° longitude stretch
- 7500 kms long coastline, 15000 kms land border with 7 countries
- Himalayas in north, western ghats in south.
- Islands
- Northern Plains and desert region
- South-eastern India with rugged terrain and forests.

Reasons for varied regional growth:

- Policy imbalance
eg. Green revolution focused on Punjab, Haryana, UP.
- Extremism and Terrorism
↳ In North-East ↳ In Jammu and Kashmir
- Resource imbalance
↳ Rajasthan poor in resource availability
- Pre-colonial policy
↳ development of Madras, Kolkata, Mumbai in their seats.
- Landlocked geography eg. Jharkhand,

However targeted region specific Action plan is needed to ensure:

- Balanced regional growth
- Maximum productivity
- Reduced inequalities
- Reduced poverty

Ways to ensure targeted region specific Action Plan :-

- Resource mapping
- Promotion of industrial as per comparative advantage
 ↳ eg cotton near coasts eg Iron and steel near central India
- Revising rural economy
- efficient migration ensuring rights of migration
- Increased government expenditure to start development in underdeveloped region like North East
- Conducive investment atmosphere
 ↳ eg reducing taxation and terrorism

Targeted region specific Action Plan requires decentralisation, centre-state participation, policy certainty and local community support.

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।

Barrier free-trade ensures
effective marketing, enumerative pricing,
balancing demand and supply and farmers
will bring.

Bottlenecks that exist for
barrier-free trade =

- Compulsion to sell farm produce in
APMC 'market yards'
↳ markets > 450 kms away from each
other
↳ Poor transport availability with small farmers
- Poor infrastructure availability =
↳ Poor condition of roads
↳ No presence of storage, warehousing,
Cold storages.

- APMC problems
 - ↳ Nexus b/w license holders and politicians
 - ↳ Cartelization
 - ↳ Hoarding
 - ↳ Poor infrastructure
- Lack of salable produce availability
- Excessive mandi charges, user charges
- Farmer at disadvantage in Corporate Farming

Three recent legislations and their benefits

① Farmer Produce Trade and Commerce Act,

Provisions → Farmers can sell produce outside APMC mandis w/o mandi charges

- Promotion of e-NAM

Benefits → Inter-state and intra-state sale of agri produce

- More autonomy to farmers
- More customer reach

② Essential Commodities (Amendment) Act, 2000

Provision • Stock limits now allowed only during exception circumstances (eg war) and only in quiet condition (Price not above certain level).

Benefits • Private investment in storage, warehousing, transport.

③ Farmers Promotion of Price Agreement and Farm Services Act, 2000

Provision : Farmer at level playing field in cooper corporate farming.

Benefits - easy availability of inputs
- Risk transfer to corporate.

However government needs to increase consultations with farmer organisations to allay their fears about corporatisation and MSP abolition.

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।

Bihar and Assam gets flooded every year due to rise in water of Ganga (its tributaries) and Brahmaputra respectively.

Reasons for recurring floods :-

① Topological -

- In way of heavy downpour region
- River leaches mark due to overflow.
- low lying plain

② Non Topological.

- Habitations near low lying areas
- Breach of dam structures
- Embankments gets destroyed
- No focus on watershed management

1419

VISION IAS™

11/11/2022
11/11/2022
11/11/2022

- Non-Hasty budgeting
- rising animals pressure due to climate change
- Imperfect land use planning

This leads to :-

- widespread loss of life and productivity
- Livelihood destruction
- Biodiversity loss eg Kaziranga National Park gets flooded every year
- Resource destruction.

The measures should keep non-topological factors to deal with the menace at war footing.

Measures include :-

- Water shed development
 - ↳ promotion of joint taking entire ecosystem in planning - SYSTEMS APPROACH

- ↳ Bottoms-up approach
- ↳ Community participation
- Safety and capacity enhancement of reservoirs and dams
 - ↳ effective implementation of DRIP programme
- Controlling climate change
- removing illegal encroachment near rivers beds.
- enhancing groundwater recharge
 - ↳ increased afforestation
 - ↳ increased soil health.

Along with these measures for longer term focus should be on controlling climate change and reversing it. Meanwhile there is a need to enhance disaster management to reduce loss of life, property and critical infrastructure and threats to threats.

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

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। (250 words) 15

5G technology is an emerging communication technology after 4G for mobile connectivity and internet use.

<u>5G</u>	<u>4G</u>
• <u>Speed</u> of upto 10 Gbps	• <u>Speed</u> of upto 30-40 Mbps
• <u>lower latency</u> < 1ms	• <u>Higher latency</u> ~ 10ms
• Supports more <u>mobile connections</u> in a given area	• <u>lower mobile density</u>

Digital revolution that can be brought about by 5G technology:-

- Increased digital inclusion and financial inclusion

- Faster working in enterprises.
 - ↳ Increased productivity → faster filling of tax returns
 - ↳ Increased GDP
- Support to critical services which requires faster internet connections
eg. government functioning
- Digital education revolution
 - ↳ Increased geographical reach → Inclusivity
 - ↳ Increased affordability.
- Better ~~than~~ health services
 - ↳ Promotion of e-health services especially in pandemic times
- Impetus to e-governance
 - ↳ will lead to better delivery of services eg. passport services
 - ↳ effective grievance redressal mechanisms and inclusivity.

Challenges that wait in adoption:

- Higher cost
↳ More infrastructure needed → more towers as area covered by a tower is less.
- Lower capacity of private enterprises for such large scale rollout.
- Policy gaps - no effective futuristic policy to provide policy certainty.
- Problem of exclusion - It will be very hard to install such towers throughout India ⇒ DIGITAL DIVIDE
- Increased susceptibility to cyber threats

5G technology needs to be incorporated as fast as possible to leverage its benefits. It will require conducive policy environment, healthy private competition and government support.

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 technology is a computing technology that is faster than the conventional computing.

Quantum Computing

- Uses qubits
- A bit can take both values at same time
- ~~The~~ Different solution every time
- Probabilistic model

Conventional Computing

- Using binary bits 0, 1
- A bit can take either 0 or 1 value
- Same solution every time.
- Exact model

Potential of Quantum technology

- Computing
 - ↳ faster algorithm calculations
 - ↳ Benefit for resource intense computing like
 - Artificial intelligence
 - Big data analytics
 - weather forecasting.

• Other areas of application

↳ Space technology - for efficient secured satellite communication due to features of superposition.

↳ Biotechnology

↳ for targeted drug delivery

↳ Gene editing

↳ Security installations

↳ for faster threat analysis

↳ Cryptographic communication

~~It~~ Challenges that exist :-

◦ Requires higher technical expertise
↳ India loses computer experts due to brain drain.

◦ Higher investment required - as they are costlier than normal computers
↳ No incentives for average citizen.

- Non availability of raw material indigenously
↳ Import dependence.
- Currently no manufacturing unit in India

Government has come forward with National Mission on Quantum Technologies for a five year period to leverage the emerging benefits of this technology.

Way ahead

- Increased digital literacy
- Reduced brain drain
- Increased industry-academia-government collaboration

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.
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।

(250 words) 15

North-Eastern India is filled with a lot of insurgent groups with primary states affected being Manipur, Nagaland, Assam and Mizoram

- Examples of insurgents giving up violence :-
- Assam Accord, 1985 : All Assam Student Union (AASU) held peace talks with the government
 - Shillong Accord, 1975 : Naga Nationalist Council (NNC) agreed to give up arms and accept India's constitution
 - Naga Peace Accord, 2015 - NSCN-IM in talks with government.

- Shining Example - Jairpura - Insurgency removal by → Decentralisation
 - Increased employment
 - Higher wages
 - locals in police

Issues that exists :-

- Illegal immigration continues - People feel becoming minority in their own regions.
- Support of neighbouring countries like China - provide safe haven and monetary support
- Porous borders - easy escape to Myanmar
- Lower connectivity with mainland India
- Lower development benefits to the people.
- Emerging issues like NRC and Citizenship Amendment Act.

~~Possible~~

◦ Trust deficit between insurgents and government

Government
efforts

→ Surrender cum Rehabilitation Programme

→ Civic Action Plan for Perception change

→ Reimbursement of security related expenditure

→ Local participation

Way forward

◦ Changing perception - by respecting rights of people eg while applying AFSPA

◦ Security forces capacity ~~and~~ enhancement

◦ Inclusive development

◦ Increased employment

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।

Cyberspace has expanded exponentially due to technological revolution and government's push to Digital India. This has resulted in increased vulnerabilities.

Vulnerabilities in India's Cyberspace :-

- Increased mobile penetration and Internet users due to cheaper data rates.
- Digital illiteracy - about security implications
- Vulnerabilities associated with sub-standard cyberspace devices → compromised devices
- low cyber security workforce - National Cyber security policy, 2013 aims of 5 lakh trained workforce is still unsatisfied.

- Increased ^{presence} ~~presence~~ of foreign companies like those from China in cyberspace
eg. government banned several chinese apps due to security reasons.
- Increased financial inclusion - heightened banks vulnerability eg. PNB cyber attack
- Threat to critical cyber infrastructure
eg. Cyberattack on Kudankulam Nuclear Power Plant.
- Data Privacy Issues
Framework to be adopted in
New cyber security Policy :-
- Increased government capacities.
 - ↳ Trained staffed
 - ↳ Institutional capacity of CERT-In and other agencies but providing them with state of art technology.

- Increased focus on overseas data flow
- Excessive security check on companies involved in cyberspace.
- Increased focus on critical infrastructure like government working, power, nuclear security, space security
- Increased digital literacy - incorporation in school curriculum.

New cyber security should set ambitious yet achievable goals with prime focus on providing incentives for top technical experts to work within India and providing necessary regulatory support.