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GENERAL STUDIES (TEST CODE : 1419)

Name of Candidate	MAMTA YADAV		
Medium Eng./Hindi	ENGLISH	Registration Number	936371
Center	ONLINE	Date	10th Dec 2020

INDEX TABLE		
Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
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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:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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

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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।

The Government introduced the scheme UDAY (Ujjwal Discom Assurance Yojana) with the aim of revitalising power discoms. However, various problems still persist.

Issues associated with Power Discoms

→ **Liquidity Crunch** - Due to continuous changes in government policies, delay/repayments, ~~et~~ NPA, Twin Balance sheet, DISCOMs lack funds.

→ **AT&C Losses** - Lack of structural reforms to reduce distribution losses.

→ **Technology Enhancement** - Due to lack of resources, investment made in raising technology quotient remains low.

→ **Politicisation of Prices** - DISCOMs often can not decide sustainable pricing due to low charges for domestic customers on account of politics.

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Privatising DISCOMS

YES

→ They will bring greater technical expertise.

→ They can undertake resource minimisation by laying-off employees; ~~er~~

→ They will bring new investment for new technologies, moving to renewable sources, etc.

NO

→ Privatisation is no panacea. Structural Reforms for Reducing AT&C losses & transparent pricing model is key.

DISCOM reforms are necessary to fulfil SDG 7 on Affordable & Clean Energy.

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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।

Indian Agriculture amounts for 49% of employment in India. Cotton & Pulses Production of India amount for 25% of World production. However, due to low productivity agriculture is unremunerative with 52.5% agricultural households in debt (NABARD).

Challenges to Achieve Farm Productivity

→ Small size of operational land-holdings. It has reduced to 1.08 hectare as per agricultural census (2015-16)

→ Low Private / Corporate Investment. According to Niti Aayog, it is below 2%.

→ Use of Canal or Tube-Well Irrigation which have poor efficiency.

→ Undiscriminate use of fertilisers and pesticides. Ideal N:P:K use is 4:2:1, at present, it is 10:4:1.

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Harnessing Smart Agriculture

→ Precession agriculture to increase the efficiency of Fertiliser & Pesticides.

→ Soil Testing Kits to determine quality & type of input needed.

→ AI can be used to detect Seed Quality & hence improve productivity.

→ Micro & Irrigation for improving water productivity.

→ Using AI & Super Computer based weather forecasting

→ Bio-technology for Salt-Resistant, Drought Resistant seeds in backdrop of Climate Change.

Niti Aayog has signed an MOU with IBM for AI in Agriculture. This is a good step.

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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 can be defined as Economic growth that is shared by all sections of society & all regions of the country.

components

- Poverty Alleviation
- Sustainable Development
- Capacity Enhancement
- Equitable Growth

Recently, Government has set a target of achieving $5 Trillion economy by 2024-10 nos. However, this should not be limited ~~but~~ but must incorporate inclusive growth. This includes -

Physical Development

→ Infrastructural Development in rural areas. PM Gram Sadak Yojana is a good step.

→ Under SAUBHAGYA, all villages have been electrified. Now focus should be on providing

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Electricity by creating decentralised gridlines.

Human Development

→ Health - Expediting establishment of 1.5 Lakh Health & Wellness Centes under Ayushman Bharat.

→ Education - Focusing on achieving better learning outcomes by implementing National Education Policy in Letter & Spirit.

→ Skill Development

Sustainable Development → Mitigating Climate Change.
→ Strengthening EIA

Social Development - ensuring mobility of Women, SCs/STs, Minority Communities, Border Areas.

Only when all these gains are made in achieving $5 Trillion Economy will this be an effective victory.

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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।

The government unveiled the Atmanirbhar Bharat Abhiyaan in the backdrop of Chinese agression along LAC & the Corona pandemic, to achieve self-sufficiency in manufacturing sector & overall economy.

Core Areas crucial in Export Promotion for India

→ Pharmaceuticals - India supplies 50% of vaccines & 70% of generic medicines to the world. However, it is also dependent on import of medical devices & Active Pharmaceutical Ingredients, foussing their domestic production & export is important.

→ Electronics & Semi-conductors - Government has recently unveiled scheme for promotion & manufacturing for these with financialassistance.

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→ Labour Intensive sectors for example - textile, leather, furniture, etc. This is necessary to even increase employment opportunities.

→ ~~Solar~~ Food Processing Industries and export of Produce. This will create decentralised employment & also reduce rural distress.

India has recently withdrawn from RCEP (Regional Comprehensive Economic Partnership). This has created doubts over India becoming protectionist.

For ensuring export promotion, it is necessary to bust this myth & ensure that Invest see Atmanirbhar Bharat is not a closed economy policy but Export Promotion. India should also reconstitute Bilateral Investment Treaty (recently ended) with countries for greater FDI.

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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।

Various studies have highlighted the presence of aresenic in ground water of North-Western states beyond safe & permissible limits -

Various Sources of Arsenic Pollution

→ Arsenic is natural present in ground-water but indiscriminate exploitation of resources beyond natural capacity ~~has~~ has led to increased proportion.

This is especially in agricultural states of Punjab, Haryana & Western UP.

→ Inscientific use of Fertilisers & Pesticides leaves residues.

→ Lack of Proper Disposal of e-waste in unsanitary landfills leads to leaching in Ground water & soil.

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Consequences

→ Increased incidence of Non-Communicable Diseases like Cancers.

→ It will raise the health ~~burd~~ expenditure of households causing stress to vulnerable sections.

→ Novel Skin, Lung diseases.

→ New challenges from Bio-accumulation & Bio-magnification.

Measures to tackle

→ Cause of ground-water exploitation is subsidised electricity & water supply. This needs to be corrected with fair pricing.

→ Community Participation to check exploitation of resources.

→ Municipal Bodies need to ensure proper dismantling of e-waste before disposal.

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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 क्षेत्रक को सुदृढ़ बना सकता है। मूल्यांकन कीजिए।

Renewable Sector is vital to achieve India's INDC (in Paris Climate Agreement) of 40% ~~Power~~ Installed Power Capacity from Renewable Sources. At present, it is only 22%.

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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।

Hazard Risk Mapping & Zonation is an important component of Disaster Risk Preparedness as envisaged in National Disaster Management Act, 2005.

↳ For this technology adoption, for eg., GIS (Geographical Image System) & Remote Sensing is important.

GIS and Remote Sensing in DM in India

→ Remote Sensing is used to better determine the movement of cyclone & location of landfall. This enable relocation of people and reducing deaths.
for eg. Recently seen in Cyclone NISAR & AMPHAN.

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→ GIS system can enable better management of Urban Drainage System to minimise the havoc of Urban floods.

→ These ~~aft~~ technologies are used in the new Integrated Flood Warning System (IFLOWS) of Chennai & Mumbai.

→ They can be utilised in mapping in Glacial Lakes which can cause possible outbursts.

→ Enable mapping of sensitive topographic ancient faults which can witness earthquakes.

Greater collaboration of Ministry of Earth Sciences, State Governments, Private Sector for utilising these technologies in DM is the way forward.

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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/Cas 9 is a tool which enables precise, safe, easy, cheap editing of Genes. This discovery was rightly awared with Nobel Prize.

Application of Genome Editing technique in Various Areas

Health

→ Cancer therapy by tools like Gene Silencing, SiRNA, etc.

→ The Mitochondria Replacement Therapy uses gene-editing.

→ Diagnosing of embroyos for posible genetic diseases & subsequent editing.

Agriculture

→ Developing new Salt, and Drought Seed Varietys.

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→ High Yield Variety Seeds for eg. Bt. Cotton to increase farmers' income.

Food

→ Food fortification to tackle nutrition deficiency for eg. Golden Rice with Beta-Carotene to overcome Vitamin-A Deficiency.

Gene editing is a very useful tool. However, unregulated use can cause ethical concerns, biodiversity destruction &, widening gaps between haves & have nots and biological warfare.

Therefore, Policy Guidelines to balance misuse of technique and good growth in the field is important.

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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।

Financial Action Task force is an international organisation with 38 members and European Union. It takes steps to curb Terror financing and Money Laundering.

Role Played by FATF in tackling menace of Money Laundering

→ It imposes sanctions by listing countries in the grey & black list.

Grey List	Black List
eg. Pakistan → The sanctions imposed are not very strict.	eg. Iran, North Korea → The sanctions prevent any dollar-trade & aim at maximum-pressure for policy changes.

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FATF has played important role in curbing money laundering via Shell Companies, Radical Sympathisers, Shady NGOs, etc.

~~Ot~~ Given the important role played by the agency, it is important to ensure that International Politics doesn't diminish its effectiveness.

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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।

The National Security Architecture of India encompasses Border Security, Coastal Securities, Cyber Space security to ensure protection of National Sovereignity & Integrity.

Border Security

→ CIBMS - Comprehensive Integrated Border Management System. It integrates technology, human capacity development, border area development to better protect the frontiers of the India.

Coastal Security

→ Use of Space ~~Se~~ Technology to better equip the fishing community from straying into foreign territory ~~or~~ and reporting any suspicious activity on sea.

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Cyber Security

→ National Critical Information Infrastructure Protection Centre (NCIIPC) for better protecting sector like Defence, Space Technology, Banking, Telecom, etc.

→ Computer Emergency Response Team (CERT-in) as first defence for cyber security breaches.

Legislative

→ The recent reforms in National Investigative Agency (NIA) Act and Unlawful Activities Prevention Act (UAPA) to better equip ~~the~~ agencies & governance.

Given the evolving nature of Technology, having ~~a multi-fo~~ adequate focus on all spheres of security has been a good step & should be further reinforced.

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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।

Given that 49% of Workplace is employed in agriculture, Land Reforms are very important to economic growth. The need has only increased with rising pressure on land from Industrialisation & Urbanisation.

Historical Land Reforms

- Zamindari Abolition Act
- Land Ceiling Act
- Tenancy Laws
- Cooperative farming

Key Hurdles in accomplishing Land Reforms in India

Administrative

→ Lack of conclusive land titles hinders various land reforms.

→ Slow pace of Digitalisation of Land Records.

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Legal

→ Various Constitutional provisions over Right to Property have created legal complications.

→ Legal disputes over compensation under Right to Acquisition Act

Political

→ Often Political aims prevent formulation of effective land reform policies.

Advantages which can be reaped by accomplishing land reforms

RURAL

→ Land reforms to ensure sustainable land holding with each farmer (at present, 86% have less than 2 hectare) is key to improving land productivity.

INDUSTRY

→ Delayed Land Acquisition leading to time & cost overruns is one of the key hurdles to manufacturing sector & infrastructure development

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URBAN DEVELOPMENT

→ Land reforms will Enable creation of affordable spaces for Migrant population.

→ Necessary to create modern infrastructure like Metro, Bus-Coridors, etc. for Urban Areas.

Land Reforms is necessary from diverse perspective. Some key reforms in this direction is → Digital Land Records & Digital Maps of Regions

→ Reforms for having Conclusive Land titles

→ Flexible Land Conversion Rules

→ Liberal Floor Space Index in Urban areas.

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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।

According to the Nation Family Health Survey, NFHS-4, ~~21%~~ 35.8% of India Children suffer from under-nutrition. This causes problem of stunting (38.4%), Wasting (21%), Child Mortality (32/1000), etc.

More significance to Nutritional Security than Food Security

→ The Public Distribution System is limited to Rice, Wheat.

→ Lack of focus & schemes for enhancing production of Millets, Pulses, Fruits, Vegetables.

→ Lack of focus on balanced diet of Mother (Pregnant, Lactating) & children.

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These bends need to be changed to ~~fa~~ make India, a Nutrition Secure country from a Food Secure. To achieve this a multi-pronged Strategy focussing on Agriculture, Reaping Technology, Gender Empowerment is needed.

Framework to be adopted to achieve Nutritional Self-Reliance

Agricultural Production

→ MSP for Millets, Pulses, Cereals to incentivise their production.

→ Bio-technology for creating new quality seeds to improve nutritional quotient of produce.

PDS System

→ Shanta-Kumar Committee recommends Decentralising Procurement & Distribution. This will allow States to expand PDS to incorporate Local demands, production & eating habits.

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Technology

→ Food - Fortification to tackle micro-nutrients deficiency.

Gender Empowerment

→ Better health & education of women is important for improving Eating patterns of family & especially new born..

→ Intervention on first 1000 days from Conception of Child to Two-years (Niti Aayog's Strategy @ 75) for Best Results. This is important because subsequent initiatives give less results & 85% of brain development takes places by 3-5 years of age.

Recent initiatives like Poshan Abhiyan, Bhartiya Poshan Krishi Kosh are good steps. Further steps like Capacity enhancement of Anganwadi Workers Restructuring ICDS are also important.

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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।

~~Due~~ Due to various economic problems like NPAs, Twin Balance sheets, Rising cost of funds, subdued demand (due to inadequate job growth), Private Investment in India has been declining. Reversing this trend at the earliest is very important to move into a high growth trajectory because of following reasons :—

Agricultural

→ Agricultural sector has seen stagnant economic growth. Simultaneously acrodig to Niti Aayog, Corporate Investment is less than 2%.

→ Private sector is necessary for creating cold supply chains, forward & backward linkages to increase incomes & reduce post-harvest losses.

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Industry

→ Important for creating new employment opportunities.

→ Achieving the goal of 25% of GDP from Manufacturing (Curent - 16.1.)

→ Exports from India account for 1.7% of world (Vietnam ~ 1.75.1.). This can be enhanced by Private Investment only.

→ Infrastructural growth - eg. - Inland Water-ways, New Major Ports, Highways, expressways etc.

Steps Taken by the government in recent times to address fall in Private Investments

→ The Corporate Tax Rate has bee reduced by 22% (at par with G20 countries). The Minimum alternate tax is reduced from 17.1. to 15.1.

→ Angel Tax which was levied on startups has been removed.

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→ Various emerging sectors like Solar Manufacturing, Technical Textiles, PPI are given Infrastructure Sector Tag with Corresponding Benefits.

→ Codification & of Labour Laws into only 4 Codes

→ New Production Linked Incentive Scheme for about Rs 1.46 Lakh Crore to about 10 Sectors.

These steps are good initiatives in the right direction. However, further Structural reforms in Banking, Land, Skill ~~Govt~~ Development are also needed.

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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 growth story has largely been regionally imbalanced. This has also resulted in different literacy rates, health indicates, age composition across states. Such diversity necessitates Decentralised Policy Making for Welfare & Development.

Geographical Diversity & Varied Levels of Development

Economic Perspective

→ North-eastern & eastern states have seen little industrial growth & remain agrarian economies.

→ Coastal States & Cities have greater Industrial Growth & problems are also related to these.

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Human Perspective

→ Age-Composition of Kerala resembles that of a Modern Developed Nation whereas those of UP, Bihar resembles Under-developed Nation.

→ 13 States have below Replacement Level Fertility Rate.

→ Literacy Rate of Kerala is 93.1 whereas Bihar is 63.1. Kerala faces problem of better employability.

Such Differences necessitate a targeted region specific action plan to ensure a minimum acceptable level of prosperity.

Some examples are as follows -

⇒ Policy for Local Employment Opportunities in Eastern States from sectors like Food Processing, etc.

⇒ States should have Migrant Commissions to address concerns as Source or Destination state.

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→ Policies for Ageing Population & their challenges in Southern States.

→ Policies for tackling malnutrition, Infant & Maternal Mortality in Northern States.

→ Land Reforms in Eastern States like Bihar, Chattisgarh for enhancing agricultural productivity whereas in Southern States for Industrial Growth.

→ Better Educational Infrastructure in Northern whereas Skill Development should be focus in states like Kerala.

Cooperative & Fiscal Federalism is very important to achieve this targeted policy making. Niti Aayog can play a good role here.

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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।

The government has recently brought three new legislations

- Farmers Produce Trade & Commerce (Promotion & Facilitation) Act, 2020
- Essential Commodities (Amendment) Act, 2020
- Farmers (Protection & Empowerment) Services & Price Assurance Act, 2020

~~Provisions made by~~

Barrier to trades & removing them for doubling incomes

→ APMCs levy various commission charges & market fees which ~~are~~ lack transparent.

→ Cartelisation of traders prevents new competition from coming in farm trade.

→ Farmers get barely 30% of price paid by final customer.

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→ Barrier to agricultural trade has prevented private investment in the sector.

→ Enable materialisation of the goal of One - Nation - One - Market.

Recent Legislations ~~and~~ to overcome barriers to agricultural trade

→ Allow sale or purchase outside APMC without any levy.

→ Creation of Specific Trade Area to establish Private Markets.

→ Essential Commondities (amendment) act does ~~away with bar~~ creates possibility of creation of new infrastruture in storage, value chain, cold supply.

→ Farmers can enter into direct agreements with Private Buyers. This reduces risk of price fluctuation to farmers & cost of marketing.

→ Contract Farming will enable access of

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better seeds, machines, fertilisers, etc. to farmers.

However, various farm groups have raised various concerns -

→ Move towards doing away with MSP & ~~Mark~~ Government Procurement

→ The new 'specific trade areas' have little regulation & can lead to exploitation of farmers by private players.

→ Fear of Capitalist - Bureaucratic Nexus in Conciliation Process making them vulnerable

Agricultural Reforms are necessary, especially given the stagnancy of growth rate & various socio-economic problems emanating from them. ~~However~~ Therefore, government start take steps to allay these fears.

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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।

While entire India was facing the menace of Corona Pandemic & Lockdown to control it, Bihar had to face an additional challenge of floods which caused destruction of property, crop & forced relocation of people.

The region is the pathway of various Himalaya Rivers for eg. Testa, Kali, Mechi, Kosi, etc. & Brahmaputra in Assam which come with great force from steep slopes. However, the reasons for recurring floods go beyond topography.

Reasons beyond Topography

→ Lack of Catchment Area Treatment as Deforestation in upper reaches causes high erosion & sedimentation leading to floods

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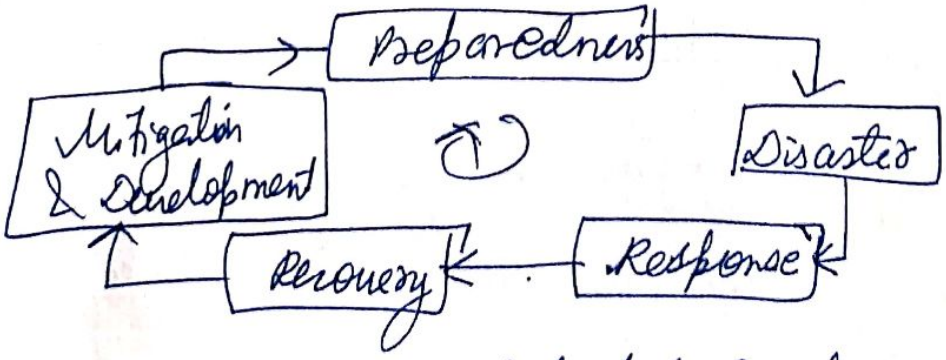
→ Traditional approaches of creating ~~flood b~~ river banks, flood levees have shown little utility

→ Creation of Dam changes flow patterns.

→ Low investment in Disaster Risk Reduction.

Measures to control the menace of Recurring Floods

National Disaster Management authority recommends a life-cycle approach



~~Sho~~ → Focus on Watershed Development and Catchment area treatment.

→ Decentralised Structures like Farm Ponds Bandis, etc. which increase downward percolation & reduce flow.

→ Afforestation done in ~~Upper~~ Upper areas

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to reduce sedimentation.

→ Timely Data Sharing with Nepal, China & Bangladesh to ensure flow from Dams is regulated. → Regular Desiltation

→ **Build Back Better**

- Bye Laws of Hazard resilient Material, Design of Houses
- Regulation of Construction Activities in Small Towns & Villages
- All Weather Connectivity Roads

Hyogo-Framework & Sendai Framework recommend incorporating Disaster Risk Consideration in planning & policies. This is important for sustainable resolution.

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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।

The World has entered the 4th Industrial Revolution which is Knowledge Economy is the driver. Digital Revolution is important component of it & 5G, a tool to materialise it.

Digital Revolution in India by 5G-Technology

Education

→ Digital education became very important during corona lockdown. 5G ensures sharing of videos, assignments, etc. at greater speed.

→ 5G will ensure dissemination of quality lectures to across the country.

Health → Distance Surgeries, Tele-Medicine are data heavy ventures & need 5G.

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Agriculture

→ It can benefit from 5G based Weather forecasting

Industry

→ New technologies like Robotics, Internet of things, Artificial Intelligence, Machine Learning are all based on 5G.

Smart Cities

→ With Traffic Management, Data Security, e-governance

Challenges in adoption of 5G Technology

→ The Telecom Industry is facing liquidity crunch. It is burdened by huge loans by court ruling in Aggregate Gross Revenue (AGR). Therefor, it may not have ~~that~~ appetite for investment.

→ Challenges in foreign policy, data security with allegations on Huawei (a Chinese

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company) by USA.

→ According to Niti Aayog's Strategy for India @ 75, Digital Literacy in India is less than 7% 10%.

→ India lacks skill required to reap benefits of 5G. ~~Acc~~ Only 4% of engineers are ~~ski~~ equipped for employment in knowledge economy.

5G's

Given ~~th~~ various benefits, it is necessary that Government augment resources of ~~5G se~~ Private sector to accelerate its adoption. Industry-Academia links are needed for better skilling.

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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?

Recently, in the Budget, the government has unveiled plan for Quantum Technology of Rs 8000 Crore for 5years.

Quantum Technology is based on the principles of Quantum Physics. According to it, ~~it~~ determination of state of a particle precisely is not possible.

Quantum Technology use Qubits which unlike, ~~analog~~ Binary Systems can be both 0 or 1. This is further used with superimposition & Quantum Entanglement.

Computing → Quantum Computers can perform complex mathematical operations in very small time (about minutes) which even super computer can not perform in any reasonable time.

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Applications in Various Other areas

→ It can be used to enhance capacities of Weather Forecasting Systems.

→ Given it powers in speed & Storage, it can create new & advanced data security systems.

→ Better & faster results ~~by~~ from machine learning. This has application in Health, Banking, etc.

Challenges for effective utilisation of ~~Qu~~ Quantum Technology

→ Poor learning outcomes of Indian Higher education sector ~~has~~ are great impediment.

→ Low Investment in R&D by government, stagnant at 0.6-0.7 % of GDP for decades.

→ Inadequate share of Private Sector in R&D at 35% (Developed Nation

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see 65-75% private investment)

⇒ STEM fields are considered unremunerative by ~~your~~ youth & therefore, see less participation.

To ~~read~~ give competition to nations like China, USA & Israel in Quantum Technology, which already have an early start, India must focus on augmenting quality & quantity of investment in R&D.

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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 India has seen insurgency since Independence due to various social, historical & Geographical Reasons. Multi-Pronged Strategy of subsequent governments has brought most insurgents to the table. However, various ~~challen~~ issues could create hurdles in the past. These are :-

Geographical

⇒ Rugged Terrain & Porous borders do not allow proper border security causing problems of migration & fear in local populace.

⇒ Separated from mainland India via the Chicken Neck.

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Social

→ Presence of diverse tribes makes effective resolution of demands of all difficult.

→ Cross Border Tribal ties create additional problems.

→ Fear of Demographic Changes due to cross-border migration.

→ Fear of loss of Tribal Identity.

→ Feeling of Relative Deprivation, Marginalisation vis-a-vis rest of India.

→ Discrimination & Harassment while travelling to other parts of India.

→ Proximity of Golden Triangle causing Illegal Drug Trade.

Economic

→ Poor Infrastructural Connectivity

→ Lack of Digital Connectivity.

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A Multi-Pronged Strategy based on Development, Promotion of Culture of North East, Governance Reforms & Strengthening Border Management is necessary.

Recent Steps

- Bobigeel Bridge
- Scheme for Scholarship ~~like~~ to Students of North East
- Decentralisation like Bodo Territorial Councils

These steps are good & further need to be continued.

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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।

According to various reports, India sees the 3rd highest cyber threats in the World. This, along with rapid expansion of use of ~~tele~~ Mobiles & Internet emphasises the need for ~~cyb~~ new cyber security policy.

Key Vulnerabilities in India's CyberSpace

→ Massive expansion in usage from 4% in 2009 to 48% of population now.

→ Lack of Digital Literacy make people vulnerable to cyber threats.

→ Citizen Data generated by companies like Amazon, Facebook is stored & processed outside India

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→ Various Critical Information Infrastructure exist ~~on Cyber~~ in Cyberspace for eg. Military, Banking, Telecom, governance, etc.

→ Fear of Radicalisation of youth.

The Cyber Policy of 2013 aimed at creating a safe, free & inclusive cyber-space for citizens, businesses & government agencies. However, given new & emerging challenges constitution of a new Cyber Security Policy is a good idea.

Framework to be adopted for new Cyber security Policy

Infrastructure

→ Investing to Cloud Computing & Edge Computing to enable data-localisation.

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Human Capacity

→ Bringing in ~~new~~ skilled workforce from Private Sector for CERT-IN, CDAC, NCIIPC & other agencies.

→ Capacity Development of Government Servants

→ Initiatives for Digital Awareness of Populace.

Legislative

→ 2nd ARC recommends creating a legislative mechanism for enforcing better ~~better~~ National Critical Information Infrastructure Asset Creation.

The government should also legislate ~~new~~ Data Protection Bill to ensure security of vast data of citizens created.