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GENERAL STUDIES (TEST CODE : 1419)

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Medium Eng./Hindi	ENGLISH	Registration Number	799194
Center		Date	25-12-20

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
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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।

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EVALUATION

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।

The COVID-19 induced moratorium on bill payments to DISCOMS once again brought to focus the issues that they face.

Electricity is a state subject and distribution of power is done by state govt. through DISCOMS.

* Issues:

(1) Heavy transmission losses.

(2) Pending bill payments with the consumers.

(3) Reluctance of political leaders to increase charges.

(4) State subsidies are NOT timely repaid to discoms. (eg. agri subsidy for irrigation)

(5) Losses due to illegal connectins.

(6) Corruption at field level and lack of monitoring.

* Privitising discoms:

* Benefits:

(1) Increased efficiency of conveyance and management of lines

(2) Regular bill collections through legal measures. (Lok Adalalats)

(3) can implement prepaid meters

(4) Use of technology like AI, blockchain can enhance monitoring of losses.

* Drawbacks:

(1) Power is a critical infrastructure and cannot be easily privitised.

(2) Political govt. cannot face the public if such measures are taken.

Thus, enhancing autonomy, modernizing infrastructure and training the staff would be the way forward to deal with discom issues.

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।

According to Mckinsey, Indian agriculture can be made 60% more productive if smart techniques are incorporated.

SMART agri refers to using technologies, satellites and data processing to make farm management more efficient & productive.

* Game-changing technology:

(1) Precision agriculture:
When recommendations are based on individual crop needs. This would save inputs, production costs and damages.

(2) Use of GIS & RS:
Geographic Info. system and Remote sensing can effectively advise on crop nutrition, soil

moisture, pests & diseases, etc. they can provide for weather forecasts & related planning.

(3) Use in Market Intelligence: to derive precise market signals to direct choice of enterprise. Also, save from distress sale.

(4) Drones : Use of drones to monitor plant growth in real-time basis.

(5) Mobile apps like PUSA Krishi, Khetibadi, etc. can advice farmers on regular basis.

(c) To become resilient for Climate Change

~~Thus,~~

Thus, smart agriculture opens up a totally new dimension to hitherto traditional agriculture and this should be support to double farmers incomes as suggested by Dalwai Committee.

margin

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 a state of development which is equitable and just where all the population participates and reaps benefits of development.

* Inclusive growth: features :

(1) Development for all; both social and economic.

(2) Level playing field for everyone.

(3) Targets last man in the queue. (Gandhiji's Talisman)

* focus on QUALITY of growth:

(1) Inclusiveness does NOT mean mere expansion of financial institutions. It extends to features like Priority sector lending, opening branches in rural areas, payment banks, et.

(Jan Dhan accounts).

(2) It does NOT means distribution of foodgrains. It extends to distributing fortified food, protein based (pulses), coarse cereals (millets = nutriceuals), etc.

(3) Inclusiveness extends to making right to internet a fundamental right rather than just providing it.

eg. PM-WANI scheme.

(4) Right to work as in MGNREGA not only guarantees 100 days employment but also provides for social auditing.

(5) Inclusivity is based on human capital formation rather than on a mere animal existence.

Lastly, it directs a broader goal of sabka sath, sabka vikas & sabka vishwas for all Indians.

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।

NITI Aayog suggest an export expansion from current USD 480bn to a targeted USD 800bn for India to become Atmanirbhar.

* Core Areas for manufacturing:

(1) As economic survey 2019 suggests 'Assemble in India for world' to be merged into already running Make In India.

(2) Pharma sector has great opportunity as MNC's are leaving Chinese borders and looking forward to invest in India.

(3) Automobiles has remained our strength in export sector.

(4) Horticulture & fisheries: Alfonso mangoes, grapes, oranges have global demand. Vast coastline

of 7500 km also provides for fisheries. Thus, food processing needs to be boosted.

(5) MSME sector: contributes to 45% of manufacturing and (28% in exports). This should be provided with credit & easy business policies to boost exports.

(6) Traditional wooden toys, handicrafts, etc

* Public policies to promote export:

(1) Export credit guarantee scheme.

(2) PM-formalization of micro-processing enterprises.

(3) PM-Employment generation prog.

Manufacturing is the only way through which we can move towards rising exports and boarding the busto Industrial Revolution 4.0.

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।

Recent cases of Black foot disease in eastern states have alarmed the policymakers towards arsenic pollution.

* Sources:

(1) Leaching into ground and polluting the ground water table.

(2) Pesticides, fertilizers & plant growth regulators have arsenic content which pollutes the run-off.

(3) Irresponsible mining

(4) Non-treatment of industrial effluents by industries.

* Consequences:

(1) Bioaccumulation & biomagnification results in fish kills and other marine mammals.

(2) Arsenic in toxic amounts damages crops (polluted irrigation water)

(3) In humans, it may cause cancers & black foot disease.

* Measures:

(1) Lime softening is most prefered way.

(2) Precipitation using chemicals. (solid).

(3) Promotion of biofertilizers & biomanures.

(4) Compulsory establishment of common effluent treatment (CETP) plants by respective PCBs.

When we aim to promote 'Jal Jeevan Mission', to every village, we must ensure that the water is potable and devoid of heavy metals.

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 energy is the production / generation of energy from sources which could be regenerated & renewed.

eg. Biofuel, solar, wind energy, ocean (tidal, current, thermal), etc. are renewable energy sources.

India has setup a ministry of New & Renewable Energy to deal with this.

A RPO (Renewable Purchase Obligation) is also in place which mandates DISCOMS to compulsorily procure from clean sources.

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।

GIS refers to geographic information system which is to collect, measure, analyse, process display & recommend information about objects on earth's surface.

RS refers to remote sensing which is the use of satellite to gather, process & analyse data of objects on earth's surface without physically coming into contact with them.

* Use in disaster management:

(1) Early warning systems for floods, cyclones, tsunamis.

(2) Disasters like locust attack can also be predicted.

(3) Info about extent & intensity of forest fires can be obtained.

(4) Monitoring of dams becomes easier & real-time data can be gathered.

(5) These RS can sence landslides on railway tracks.

(6) GIS can create maps of vulnerability as done for landslides & earthquakes. by BIS.

(7) Chemical explosions can be dealt with more efficiency.

Thus, (GIS + RS) can prove & transform our disaster response in a phenomenal manner thereby keeping our aim of zero casualty on priority.

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' stands for clustered regularly interspread short palindromic repeats and Cas9 acts like a scissors to cut across nuclear material to induce desirable changes.

* Genome editing with CRISPR:

(1) Provides easier & more reliable approach.

(2) Can be used for treatment of genetic disorders.

(3) Uses in biotech to induce desirable genes in the progeny (both human & plants animals).

(4) Recently, it was used to map genetic material of COVID-19 virus to find antibodies & vaccine candidates.

(5) CRISPR has also enhanced our understanding of genomic material.

However issues with this are:

(1) Unethical: Biological right of human babies to be born natural.

(2) Commodification of lives.

(3) Use for biological weapon designing.

(4) Could create invasive species across the world.

(5) Loss of genetic pool & diversity.

(6) Threat to bio-diversity as man would become the apex predator.

(7) Cas9 if cuts wrongly could induce new diseases, mutations, etc

technology brings both a boon & bane, the amout to which it should be exploited depends on us.

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।

Money laundering has been a major challenge before developing countries like India, Brazil, south Africa.

* Money-laundering consequences:

- promotes terrorist activities
- can be used for illegal trade of arms & wildlife.
- weakens the financial system of the country.
- Investors lose faith in the economy.
- Law abiding public faces moral discouragement.

* Role of FATF:

(1) It has effectively managed to deal with money laundering by imposing sanctions.

eg. Grey listed Pakistan for its alleged terror funding.

(2) It also uses stricter norms like Blacklisting.

eg. North Korea & Iran.

Negative listing by FATF makes a country devoid of funds with No world institution lending to it.

India has actively participated & supported FATF the results of which have been visible.

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।

India is located in one of the world's most geographically, militarily, diplomatically challenged regions. Thus, enhancing security architecture is must.

* Recent reforms:

(1) Implementation of Shekatkar Committee Report:
- autonomy to BRO in procurement
- relaxing environmental norms in border areas.

(2) Permanant Commission for Women After the SC judgement.

(3) Recommendations of Kargil Review Committee to ~~int~~ establish the office of Chief of Defence Services.

(4) Theatre Commands which are a blend of army, navy, airforce batallions for swifter actions to be set up in various regions.

(5) IBM : Integrated Border management has been strengthened.

(6) Signing of BECA & COMCASA with the US.

(7) Procurement of S-400 from Russia & Rafale from France.

(8) New Defence Procurement Procedure with a Defence Acquisition Council under Defence minister.

Thus, a resilient & efficient security is must when we are surrounded by hostile neighbours and India is aware & capable of ensuring this.

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 have been a significant part of public policy to eradicate the unjust system established & promoted by the British Raj.

* Land reforms: (Included)

(1) Land ceiling laws

(2) Land Consolidation

(3) Land redistribution

(4) Changes in tenancy laws

(5) Abolishment of Zamindari system.

(6) Moral suasion by Gandhians like Vinoba Bhave for Bhoodan & Gramdan.

(7) Promote Co-operative farming

* Issues:

(1) Land is a state subject. Thus, centre could only direct the states. Overall implementation was on political will at state level. However, Left ruled states like Kerala & west Bengal performed well. (op. Barga)

(2) Landlords resorted to court of law to delay the process.

(3) Many distributed land amongst relatives to evade ceiling laws.

(4) During consolidation, fertile land was grabbed only to replace with barren lands.

(5) Vinobaji's movement was voluntary one.

(6) The ninth scedule of constitution is still being challenged as unconstitutional is SC.

(7) Right to Property was a fundamental Right post independence.

* Advantages:

(1) Land Reforms were based on notion that, "ownership of land increases its productivity" which proved to be true.

(2) It also argued that, small sized farms tended to be more productive than vast farms.

(3) It facilitated for obtaining credit & insurance and debunk the moneylenders (sheths).

(4) Land Reforms also achieved the social justice principles mentioned in Directive principles of state policy making India a 'welfare state'.

Even today, schemes like SWAMITVA are directed towards the same cause. We should look forward to finish the unfinished agenda of land reforms (as said by Prof. Swaminathan)

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।

Tonnes of foodgrains distribution though PM-Garib Kalyan Yojana during COVID times displays our strong food security system.

Food security is a state where people have enough to meet their dietry requirements at all desired times.

On contrary, nutritional security is the state where nutritional demands of body for normal growth & development are fulfilled.

Thus, food security ≡ quantitative concept whereas, nutritional security ≡ qualitative concept.

* Significance of nutritional security:

(1) Global nutrition Index exposed India's vulnerability to malnutrition

(2) Drastic changes in consumption trends are now visible.

(3) Malnutrition (undernutrition) in poor & over nutrition (obesity) in rich has become common.

(4) There has been a rise in ultra high processed foods with high sodium, sugars & trans fats which are un-nutricious.

(5) Nutrition would form basis of human capital formation required to reap benefits of our demographic dividend.

(6) Un-nutrition will create a new divide & inequality in society.

(7) Nutritional security can assure inclusive & sustainable development for all. (SDG 1,2)

* Framework:

(1) Promote millets (sorghum, bajra) along with rice & wheat:

(2) Increase pulse production by appropriate agri price policy (MSP).

(3) Promote animal products in daily diet (eg. dairy, meat, fish, etc)

(4) Awareness among people (eg. FSSAI's 'food sathi').

(5) Include/widen PDS allocation by including fruits, dairy, etc.

(6) Rationalise the existing schemes like POSHAN abhiyan, midday meal, etc.

(7) Involve NGO's to promote nutrition (eg. Akshayapatra)

(8) Bharat Krishi Kosh is a significant step.

Thus, nutritional self-reliance along the sides of economic self reliance (Atmanirbhar) is the need of hour.

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।

The economic growth of the country is based on C + I + G + X

C ≡ consumption; I = investment; G ≡ govt. exp. & X ≡ net exports.

Thus, mere role of 'G' cannot ensure growth. Private investments (I) plays a significant role.

* Context:

India was under License & Quota Raj prior to 1991. this stalled India's growth to a large extent.

With op. forward (6th FYP) & LPG in 8th FYP, we moved towards the neoliberal paradigm to approach economic growth.

Since, then, sectors are being opened for private players & the state is continuously rolling back.

* Importance of Private Investments:

(1) Increase efficiency, competitiveness; (eg. Private aviation compared to AIR INDIA)

(2) Enhanced mangerial skills & improved innoration.
(eg. ITC hotels which were privatised)

(3) Efficient use of resources.

(4) Strengthen invisible hand of market. (Eco. survey 2019)

(5) Build trust & improve service delivery (eg. Passports with TATA group)

(6) Increase wealth creation which is basis of growth. (Arthashastra).

* Issues:

(1) Loss of employment (lay-off of workers during loss times. eg. Swiggy)

(2) Cannot provide public goods

(3) Cannot ensure ethics.

(4) Environmental protection cannot be ensured.

* steps by Govt:

(1) Agriculture: New farm Acts for contract farming; Amendments in ECA, 1955 to boost private investment.

(2) Relaxing of FDI norms and alternate gateways to FDI.

(3) PPP model: Tejas express in railways.

(4) Aggressive disinvestment eg. BPCL

(5) Allowing non-experienced firms to bid for coal blocks.

(6) Reduction in corporate taxes & Dividened dist. tax. (Budget 2020).

(7) Moving from pro-crony to pro business policies. (Eco. Surv 2019)

(8) Relaxations in EIA.

(9) GST to provide Input tax credit.

Thus, leveraging private potential to enhance 'public trust' with greater use and improving the service delivery is crucial as also recommeded by Kelkar committee.

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 is varied with cold deserts, dense jungles, swift rivers, lofty mountains, dry plateaues. This has also created a vast diversity in the developmental status & prosperity.

* Varied development :

(1) western states like Gujarat, Maharashtra are highly industrialised.

(2) Eastern states are low on developmental subsets and are garbed by extremism (Naxalism).

(3) Northern states like Punjab-Haryana have transformed India into a food secure country post Green Revolution.

(4) North-eastern region still struggles with ethnic conflicts.

(5) Southern states have developed but face challenges on various fronts.

(6) States like UP-Bihar have performed poor on literacy, population control, etc.

This has also led to changing poverty line & prosperity status of each state.

* Targeted plan:

(1) This would be more decentralised & federal catering to local demands.

(2) would use resources more efficiently in the area.

eg. 'Purvodaya scheme' for eastern states to deal with steel.

(3) Efficient use of resources:

15th finance commission devolves net proceeds on basis of criteria which involve income dist. (45%), environment (10%), tax effort (2.5%), population control (12.5%), etc.

(4) Help to resolve regional issues:
eg. Naxalism in Dandakaranya (Surrender & Rehabilitate policy)
North-east conflicts (Naga Peace talks, Bodoland dispute, etc).

(5) Overcome inequalities of the region. (eg. labour is cheaper in West Bengal than Maharashtra)

* Issues with this:

(1) More funds would be required.

(2) More capacity building & skilled staff is must.

(3) Migrants would distort the effectiveness of the policy. (eg. Ration card - PDS)

(4) Promote regionalism (eg. demand for separate country: Nagalim).

India is a 'welfare state' & constitution itself has promoted affirmative actions in favor of asymmetric federalism which we must use for overall development.

(इस भाग में कुछ ना लिखें)

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।

As per Ashok Gulati (agriexpert) the recent bills were a 1991-movement for agri sector.

* Existing bottlenecks:

(1) The APMC Acts make it compulsory to sell products within the notified market. This results into non-guarantee of MSP.

(2) Licensed traders in APMC form a cartel to avoid new comers thereby curbing competition.

(3) APMC's levy high charges like rural infra fee, processing fee, sorting fee on farmers which reduce their income.

(4) Contract farming has NOT been allowed by many states as agri is a state subject. This does NOT discover prices effectively.

(5) It is also alleged that MSP & APMC favour rich farmers, arhatiyas (middlemen) in select states of the country.

(6) Current laws also prohibit sale of goods beyond notified market including e-transactions. This creates trade barriers.

* Recent legislations:

A] The farmers Produce (Promotion & facilitation) 2020:

1) It allows barrier free intra & inter state trade of produce.

2) It also allows for e-sale of farmers produce. Thus, ↑ competition & effective price discovery.

3) Restricts APMC from charging fee for transactions outside the notified market area.

B] The farmer's ~~Agreemen~~ (Protection & Empowerment) Agreement on Price Assurance & farming services Act 2020:

1) Allows for contract farming for min. one crop season & max. 5 years.
2) Price of products can be decided, scope to increase it & method of deciding it should be mentioned.
3) Dispute Resolution with 30-60 day

c] Amendment to ECA, 1955

Allows for private investment in storages, cold-storage, processing thus, ensuring ↑ prices to farmers & ↓ distress sale.

Thus, the new legislations provide for a more liberal, market based trade following the demand-supply signals. This would certainly increase the farmers' income as has been observed for dairy sector.

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।

It has been humourously said that for India, seas bring prosperity & rivers bring sorrow. Same is true for Assam & Bihar.

* Reasons for floods:

(1) Topography: Low lying areas thus, when Brahmaputra desends from Tibetan plateau (4-5 km above sea level) into Assam, it is bound to flood the low lying plain.

(2) Anthropogenic causes:

- Deforestration in Assam (Forest survey 2019)
- Human activities like irrigation which deplete water below ecological flow
- Heavy plastic pollution choking river channels.

- sand mining on large scale.
- changed land use pattern

(3) Hydrological factors:

- Both ~~the~~ Assam & Bihar are at downstream ends of rivers like Brahmaputra, Kubini, Dihang, Koshi, Ganga, Mechi, etc.).
- Heavy rainfall & glacier melting in the upstream part i.e. Himalayas & tibetan plateau
- These rivers are still in youthful age and have NOT reached base erosion levels

However, rampant urbanization, unplanned human development, unsustainable land use practices intensive deforestration & soil erosion have been the principal reasons.

* Measures:

(1) The recent Kosi-Mechi linking is a significant step.

(2) Dams on the upstream part.

(3) Increase afforestration along the river banks

(4) River embankment.

(5) Public awareness, preparedness to prevent & control flooding.

(6) MOU's with China for sharing of hydrological data of Brahmaputra should be strengthened further.

(7) Thus, when Chinese is aggressively construting dams at Zangmu, Dagu, Jiexu, this problem could turn worse.

Immediate measures are thus, inevitable to ensure sustainable livelihood in the region.

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 Ministry of External Affairs has set up a new division named NEST: New, Emerging & strategic technologies for faster adoption of technologies especially 5G.

5G is the 5th gen. technology with higher speeds (20gb/s), low latency (<1ms), higher bandwidth & increased penetration & traffic carrying.

* Digital Revolution:

(1) Support Internet of Things (IoT) operated gadgets.

(2) Enchance our Space capabilities

(3) Increased surrivellance in defence, with efficient patroling guarding, coordination &

sophisticated defence equipments.

(4) Help in transforming agri to adopt precision farming based on real-time data.

(5) It will revolutionize the education system. [online conferences]

(6) Boost the industry sector with enhanced productivity, quality & efficiency.

(7) It will also boost our service sector esp. the IT firms.

* challenges:

(1) Cyber espionage: Recently, US accused Chinese Huwaei of espionage.

(2) threats to critical infrastructures like nuclear plants (Kundankulam attack by Pegasus), railways, civil aviation, power, banking-finance, dam controls, etc.

(3) Cyber ~~threats~~ crimes like Deepfakes, catfish accounts, revenge porn, etc.

(4) Defence system could become vulnerable to potential attacks & hybrid warefare.

(5) weaken Democracy by misusing the 5G.

* Way forward:

(1) India has joined D-10 group led by UK to develop 5G.

(2) National cyber critical infra protection centre under NSA to PMO has been formed.

(3) Thus, India is well aware of the importance of 5G as well as its challenges and thus is trading through a secured path.

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, google demonstrated its quantum computing device which could solve a problem in 10 seconds for which normal computers could take 10,000 years.

* Quantum technology:

- It deals at molecular level and exploits the relative positions of atoms (electrons) to solve complex models.
- It uses probability and Heisenberg's (a nuclear scientist) uncertainity principle whist doing so.
- the normal computers deal ~~A potential~~ with '1' and '0' at a time & NOT together. However, quantam

computing users probability to decide the poistions simultaneously

* Potential applications:

- complex modelling of weather forecasting
- Computational fluid dynamics
- Simulations of nuleur reactions
- Complex AI alogrithms
- Speedy processing in satellites & space signalling.
- Simulating many real life processes like plant growth metabolism, biotechnology crosses, human mind to name a few.

* challenges:

(1) Misuse by countries for military gains.

(2) Data protection would be at stake.

(3) Undue benefits to insurance companies.

(4) Misuse of nuclear power

(5) Unethical use of AI for human destruction.

Budget 2020-21 allocated a reasonable sum to promote Quantum technology which is an affirmative step towards leveraging the technology.

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।

The North-East with 3.8% of country's population and 8% of geographical area has been plagued by a number of issues hurdling its development.

* Context:

(1) Most of insurgent groups have given up violence esp. the Nagalim morement.

NSCN(K) was weakened after Khaplang's death in 2017.

(2) New oppurtunities for development & livelihood have discouraged violent extremism.

(3) The sealing of Myanmar's open ~~neg~~ border regime has also stopped non-state actors role in violence.

(4) Central govt. mediation in Naga Peace talks, Bru Reang Peace & Bodoland dispute has achieved some fruits.

(5) Zero tolerance policy towards antinational sentiments like separate constitution & flag has also reduced violence.

(6) Naga Peace Talks. The central govt. rejected separate constitution & only allowed separate flag that too for a non-governmental activities.

(7) In Bru-Reang case, the central govt. assured rehabilitation in Tripura along with a package of house & money to ensure peace.

(8) The Nagas & Kuki have also been pacified by granting autonomy to Bodoland Admin. Council.

* future hurdles:

- The ethnic conflicts have NOT yet finished.

- A sense of nationalism is still missing among tribal groups.

- State-actors like China continue to smuggle arms across the borders.

- Illegal wildlife trade has been found with Bangladesh & Myanmar.

However, India's ACT EAST policy provides for a comprehensive development for North-east and ensuring it would connect it with rest of 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।

Information & communication technologies have become an important part of everyday life. However, this brings a new set of challenges & vulnerabilities to deal with.

Cyberspace: The system that used ICT technologies to meet certain objectives.

* Key vulnerabilities:

(1) Low cyber literacy.

(2) Limited penetrance of cybertechno

(3) New technologies can prove disastrous if NOT monitored.

Cyber related vulnerabilities:

(1) Critical Infrastructure not secured: Recent Pegasus attack on Kudankulam nu-plant.

(2) Cyber crimes: fake accounts, catfishing, deepfakes, revenge porn, etc.

(3) Weak govt. control: (eg. end-to end encrypted messages).

* Framework:

(1) CERT-IN should be strengthened and more autonomy to be granted. (eg. its alarm for Zoom app during COVID)

(2) I4C: Indian Cybercrime centre has been setup.

(3) Nati Portal for cyber crimes complaints is functional.

(4) Recently, govt. launched 'TECH-SAGAR', a repository of cyber protection practices.

(5) Nat. cyber critical info. infra. protection centre under NSA to PMO has been formed.

(c) People should be made aware and digital litracy should be promoted.

(7) Push of int. convergence for cyber threats.

eg. (Budapest Convention)

Thus, the new cyber policy would prove a game-changer in the new world of technologies.