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GENERAL STUDIES (TEST CODE : 1419)

Name of Candidate	SHUBHAM KUMAR		
Medium Eng./Hindi	ENGLISH.	Registration Number	225253
Center	ORN (NEW DELHI)	Date	13th Dec, 2020

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
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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।

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.

All the Best

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

In 2018-19, the total losses suffered by DISCOMS was staggering 27,000 crores.

Power Discoms are involved in distribution of electricity from power generating sites to where power is consumed → our homes, offices, factories

Issues associated with power discoms

① Theft → electricity theft by consumers.

② Distribution losses - Aggregate Technical & Consumption losses is very high in India.

③ Funding type → usually DISCOMS operate on funding which they obtain on high interest rates

Don't write anything this margin (इस भाग में कुछ ना लिखें)

④ Issue of Pricing mechanism → cross subsidization → lead to poor revenue generation.

⑤ Corruption & Inefficiency in their working

Privatization would help in :-

① Bring competition.
② Bring efficiency in management.
③ Investment in infrastructure.
④ Better price discovery

However many problems are systematic for example → Government intervention to regulate electricity bill, Power purchage agreements etc.

Government has taken many steps like UDAY (Ujjwal Discom Assurance Yojna) But more needs to be done to make this sector numerative.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 use of technology and other modern advancements in agricultural field.

India's farm productivity is very low
For Eg → Rice → China has 3 times productivity
↓
Indonesia & Phillipines → 2 times

Smart Agriculture →
① Use of data – Market – what to grow.
② Satellite data Climatic → when to grow
③ Market Information
↳ when & where to sell
④ Equipments →
→ Happy Seeder
→ micro irrigation
→ Mechanization
→ Organic farming & fertilizers
⇓
lead to decrease in Input cost

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Smart Agriculture would Inhance productivity:-

(1) Use of Data, maps → would enable farmer to grow according to agri-climatic zones

(2) Decrease in Input Cost
↳ Fertillizers & water cost would decrease.

(3) Damage due to pest attack can be minimized
→ Use of bio-pesticides.

(4) Zero-Budget Natural Farming & Organic Farming has shown that productivity can be increased.

Government has taken many steps through Krishi Vigyan Kendras.
More needs to be done → Per Drop more crop, credit availability, Agriculture Advisory Services (NITI Aayog suggested) would increase the productivity.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

Growth is typically measured in GDP terms (Gross Domestic Product) where the values of all goods & services is calculated for a financial year & then to calculate growth it is compared with last year.

Inclusive Growth is much wider concept which includes :-

① Growth for all sections of society → Rich, poor → class
→ all castes of people
→ for all vulnerable section like Tribals, Women, minority

② It focuses on overall improvement in living condition of people.
Education, Health, Skilling

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Growth in all sectors of Economy.

↳ Industry
↳ Agriculture & Fishery
↳ Services

} growth in all.

(4) Environmentally sustainable growth

↳ increase in green cover
↳ decreasing the externalities like air & water pollution.

Ways to achieve it

(1) Following Sustainable Developmental Goals → From SDG 1 to SDG 17

[SDG - 8 → inclusive growth]

(2) Budgeting → allocating resources to all sectors.

Also measuring Happiness, inequality etc to measure real progress of a country.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

India has announced a slew of initiatives / schemes / measures under Atmanirbhar Bharat → which is seen as a response to tackle COVID 19 pandemic

Core areas crucial for export promotion :-

* Indian exports has plateaued in last 5-10 years [around $300 billion]

① Automobiles & Auxillary Industry

② Mobile & Electronics manufacturing

③ Technical textiles & artificial fibres.

④ Pharmaceuticles & Bulk drugs

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(5) Export of Services → IT/ITES & BPO services.

(6) Reviving MSME sector.

(7) Food processing

Government steps

(1) Broadened Production linked Subsidy Scheme to include other sectors.

(2) Providing incentives to entire supply chains → not just to core companies

(3) Correcting Inverted duty structure.

(4) Corporate tax reforms

(5) Improving infrastructure → decreasing turn around time.

(6) Remission of Duties & Taxes for promotion of Exports.

To realise the dream of Atamnirbhar bharat we need to become hub of global supply chain

Don't write anything this margin (इस भाग में कुछ ना लिखें)

5. Arsenic pollution is becoming a severe environmental issue in India. Enumerating its various sources, discuss the consequences and measures to tackle it. **(150 words) 10**

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

Arsenic is a heavy metal and when our food & water contains arsenic beyond a certain limit, it is termed as arsenic pollution.

Sources

1. Industrial sources → used in leather industry.
2. Mining activities → deep rocks contains arsenic.
3. Over exploitation of ground water
4. Pharma industry → affluents in rivers

Consequences

1. Arsenic leads to many diseases
2. Impact functioning of cells in our body

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Impact our cognitive capability

(4) Health of population (Disease burden) would → Increase
Productivity of people → decrease
impact economic growth.

Measures

(1) Strict regulation for industrial waste & its treatment.

(2) Farming → ground water exploitation should be controlled.

(3) Use of Hazardous pesticides should be checked.

(4) Medical & other Hazardous waste → proper treatment

(5) Electronic Waste → handling should be done properly.

Sustainable Development should be the focus.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 in India is currently has 34% share in overall installed capacity for electric generation.

① Hydro → highest
↓
② Wind
↓
③ Solar
↓
④ Bio → lowest

share of renewables (RE - Renewable Energy)

Green Term Ahead Market is a platform which would allow purchasing and selling of power agreements.

It would give a filip to RE sector:-

① Price predictability → It would be traded like Futures as in commodity market (Oil).

Don't write anything this margin (इस भाग में कुछ ना लिखें)

② It would provide information regarding future demand

③ Price of Renewables are decreasing / changing very rapidly
GTAM would help in sustaining the sector → better price discovery

④ Option to Consumer to buy renewable energy.

Thus it would make renewable sector more reliable & sustainable

Also to achieve the Nationally Determined Contributions (NDCs under Paris Climate Deal), it would help in achieving 40% Renewable energy contribution in electricity generation mix.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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

(150 words) 10

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

Disaster management includes all the processes of mitigation, risk mapping, zoning, preparedness, management during & post disaster.

Technology is becoming an enabler in many areas including disaster management

(*) Application of GIS & Remote Sensing

GIS - ~~Global~~ Geographical Information System

① It provide geographical information of an area like slope, altitude, nearness to sea, etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

② It would help in Zonning, Making Risk Prone areas.

③ Remote sensing can help in improving weather forecasting

Eg → Cyclone forecasting → it's speed, when it will hit coast, it's strength.

Eg → Tsunami - now can be predicted well in advance.

④ Help in Risk Reduction, Vulnerability Mapping & Pre-disaster management

⑤ During Disaster → remote sensing is used to rescue people

⑥ Post-Disaster - accessing damage & better planning for future.

India has dedicated satellites for collecting geographical information & for remote sensing

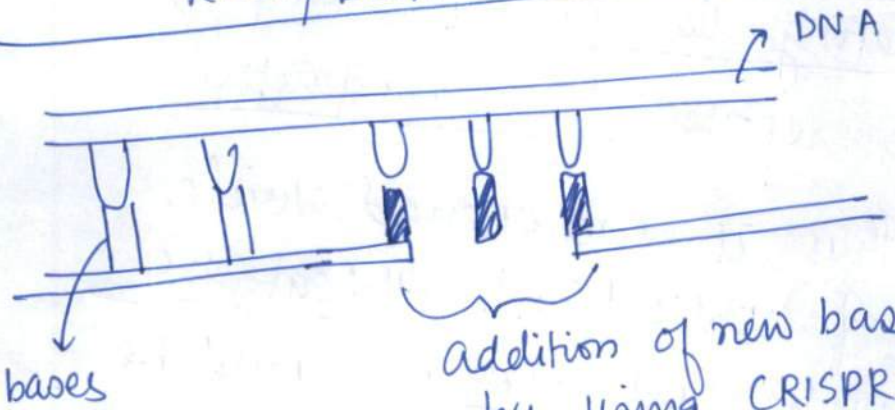
Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

Gene editing is the process by which gene [a part of DNA] can be changed → addition or deletion of segments of DNA.

⊛ CRISPR / Cas 9

→ Discovered around early 2010s [2011 & 12]
→ awarded nobel prize recently (2020)
→ Use of bacteria & viruses interaction
↓
Bacteria use certain method to kill viruses by cutting their RNA / DNA.



Don't write anything this margin (इस भाग में कुछ ना लिखें)

→ Cas9 acts like a scissor to cut at required site at DNA and then addition or deletion of base pairs is done.

Application

① Gene Therapy - to treat any defects in DNA → genetic diseases can be treated like blood cancer.

② Changing Genome → Defective gene can be removed → not passed on to offsprings -

③ Transgenics → designing cows which can produce iron rich milks.

④ Agriculture → making new variety.

⑤ Treating diseases by changing immune reponse (Immunogenetics)

Thus it has opened wide variety of application. Ethical use of this niche technology should be ensured by passing various laws & proper regulation.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 is a process by which money is diverted from one channel to other usually to skip a country's regulatory regime.

Money earned through illegitimate means is laundered and channeled to either invested in legitimate business (black money to white) or to fund illegal activities [like (drug trafficking, terrorist activities]

Financial Action Task Force is a global body which aims to prevent money laundering especially which fuels terrorism

* India is also a member.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

* ① They maintain Black & ~~brown~~ Grey list of countries.

* ② Investment pattern (foreign investment to a country) gets impacted.

③ They force a country to adopt measures which stops money laundering.

Recently Pakistan was placed under ~~brown~~ list (Grey list)

But there are also ineffectiveness like providing too much time to country, political influence of other country etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 is broad framework which consist of important official positions, Committees, groups etc which overlook and is responsible for security of our Country.

It consist of :-

① NSA → National Security Advisor
↓
now heads many Committees.

② Procurement Committee.

③ Nuclear Management
↓
Group of ministers - headed by Prime Minister.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Why changes were brought

① It To make things streamlined & more accountable

② Faster decision making

③ Consultative decision making

④ Avoid concentration of power in One hand

⑤ Includes CERT-In, cyberspace, nuclear, space war fare etc data security.
thus it provide comprehensive strategy to manage future threats.

1:00

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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, labour, Capital & Entrepreneurship forms the basis of economic growth.

Key hurdles in land reforms

① Lack of digitized land records.

② Lack of clear cut title deeds (land certificates) ⇒ disputes

③ Need for high compensation & approval from Gram Sabha (in Vth & VIth Schedule Areas) etc under LARR Act of 2013.

④ Multiple Departments → land transactions, taxes, transfers, registrations being handled by different departments

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(5) Large agriculture land → which is very difficult to acquire.

Advantages of land Reforms

(1) Provide impetus to growth.

(2) More investment by private sector.

(3) Delays in land acquisition & land litigations can be avoided.

(4) would decrease the time required to complete infrastructure projects like roads, railways, airports etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

How it can be acheived ?

① Land pooling where people are made partners in development. Developed land is given back
Eg - Amravati → land acquisition

② Land banks → from where private sector can lease out.

③ Digitization of land records
Eg - Karnataka Bhoomi model should be scaled up in other states.

④ Decongesing courts → 2/3rd of all civil cases are related to land disputes → should be cleared up.

⑤ Making policy which on one hand protects interests of common people (farmers) & on other promotes growth.

Land reforms has been pending for decades. For inclusive growth we need a pragmatic land policy

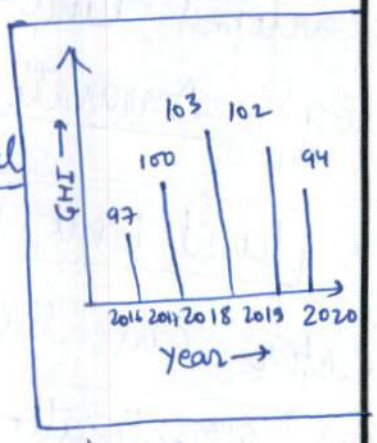
Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

India is at 94th position on World Economic Forum's Global Hunger Index which captures both nutritional as well as food hunger



Food security for country means have secured and reliable supply of food at all times in a given year.

Eg → During war times or COVID 19 pandemic food security is imp.

Nutritional Security → means people are also getting required quantity of nutrition required for overall development of body and mind.

Eg → micro nutrients like Iron, Zinc and macro nutrients

Don't write anything this margin (इस भाग में कुछ ना लिखें)

like protein should be available in food.

Need to accord more significance to Nutritional security :-

① Hidden Hunger → India is malnutrition capital of the world with

Stunting → 38 %
Wasting → 20 %
Undernutrition → 30 %
} highest in the world.

② Food security already achieved through green revolution.

③ Agricultural practices not according to agri-climatic zones. Thus leading to over exploitation of water & also productivity suffers.

④ Focus should be on nutri-cereals like millets, bajra etc
↳ Improves nutrition as well as farmers income

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Framework to achieve nutritional self-reliance

① Agri-Climatization of Crops → crops should be grown keeping in mind local climate.

② Diversity → Indigenous seeds
Focus should shift from few crops to diverse set of crops.

③ MSP to large number of crops → would provide incentives to grow them

④ Food fortification → Iron, Iodine → in flour and milk, salt already started.

⑤ Nutritional literacy → generating awareness → would increase demand for nutritious food.

With changing nature of diseases it is high time that India focuses on becoming self-relient in nutritional requirement, It would also boost farmer's income & would help India to achieve Sustainable Development (SDG 1)

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

With 1991 reforms, private sector involvement has increased tremendously. With 2008 economic crisis and susequently twin balance sheet problem post 2012-13, private sector investments has decreased or remained stagnent.

Private Investments importance for growth:-

① Increasing share in Economy - with government slowly withdrawing from business, it is the private sector which drives growth.

② Opening of new sectors by Government like Defence, Space, Railways etc provide new avenues to invest and drive growth.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

③ Capital → Government with fiscal deficit is not in position to invest heavily. Private sector brings much needed capital.

④ Efficiently channelizing people's savings through corporate bond and through taking loans from banks.
⇒ drives economic growth.

⑤ Increasing Exports → Exports lead to high economic growth & also earn valuable foreign exchange

⑥ Making India technology & knowledge based economy by doing research & development, technology sharing etc.

Government Steps taken & problem of Pvt. sector:-

① Twin Balance Sheet problem
rising Non-performing assets made bank risk averse & private sector not to make fresh investment.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Govt step → Insolvency & Bankruptcy Code for private sector
↳ Recapitalization of Public Banks

② Tax reforms → GST → single tax across India
↓
Reduction in corporate tax to 25% & 15% [for old & new firm respectively]

③ Vivad se Vishwas → to solve legacy tax disputes

④ Preference in Government Procurement (for projects < 200 crores to Indian firms)

⑤ Production Linked Incentive Scheme to increase investment in selected sectors like mobile manufacturing.

Other schemes like Make in India, Skill India, Digital India, National Infrastructure Pipeline (PPP) etc aims to increase private sector investments.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 is among world's mega diverse countries and has almost all climatic zones.

Geographical Diversity	Development & Problem
(1) Plains → Indo-Gangetic, coastal plains, brahmaputra plains.	→ Farmers - less prosperous, floods
(2) Plateau → Deccan plateau	→ Industry, Minerals → developed
(3) Western & Eastern Ghats, Vindhyas, Aravalis	→ Ecologically fragile, Tribals → poor
(4) Himalayas → cold climate, cold desert.	→ North East → not developed, Insurgency
(5) Desert → Thar desert	→ less population, Tourism
(6) Islands → Andaman & Nicobar, Lakshadweep	→ Tribals (Onge etc), Need different support, Fishing etc

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Development :-

① Northern states less developed as compared to Southern states

② North East

Because of insurgency & government negligence lack behind.

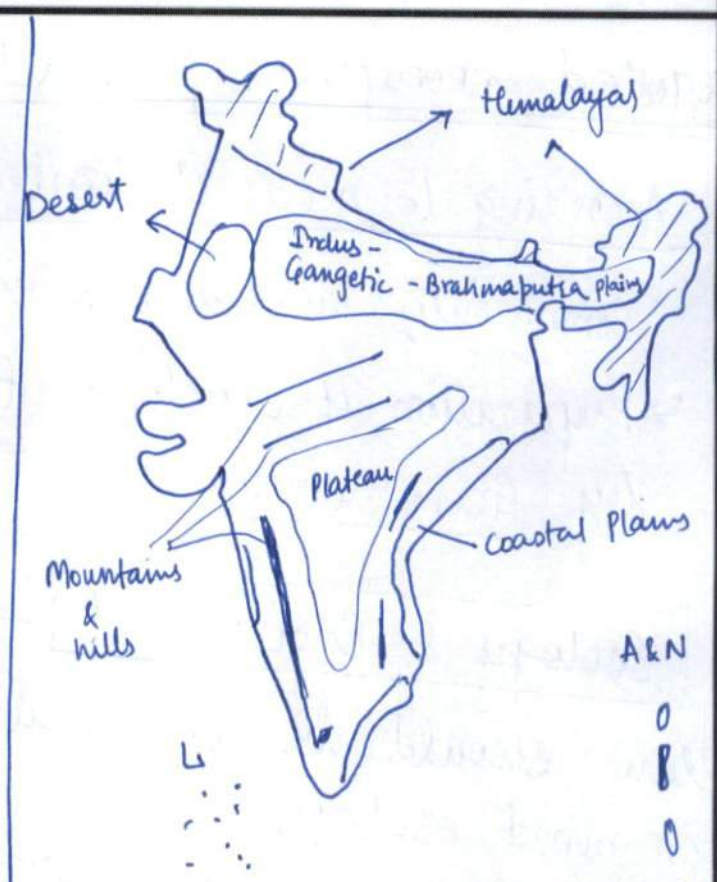


Fig :- Different geographical zones.

③ People living near to border areas — lack proper infrastructure, schools, hospitals.

④ High Mountains, Ladakh → Drinking water, electricity, connectivity problem

⑤ Coastal Areas, Islands → Salination of ground water, unsustainable development is happening.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Targetted Development plan & Way Forward

① According to needs of local community
↳ Community level development
↳ Preparation of developmental plans by Gram Sabhas

② Ecology & Environment → Development plan should be sustainable keeping in mind ecology
Eg → Promoting ecotourism in North East.

③ Differential Needs → People of Thar desert are more concerned with availability of water
where as people in coastal areas require disaster resilient infrastructure

④ Role of PRIs & ULBs (Panchayats & local bodies)
↳ will lead to decentralised development.

New India demands inclusive as well as sustainable development.

Don't write anything this margin (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।

Goal of present government is to double the farmer's income by 2022.
More than 50% of people in India are engaged in farm related activities (agriculture) but contributing only around 16% in GDP.

Need for barrier-free trade

① Increases choices to farmers - whom to sell & where to sell.

② Market linkage → barrier free trade would better integrate farmers with market

③ Will remove middlemen thus lead to better price discovery & higher transfer of money to farmers

Don't write anything this margin (इस भाग में कुछ ना लिखें)

currently consumer pays Rs 60-80 per kg of rice where as farmers gets less than Rs 20

(4) will increase private sector investment in cold chains, storage etc

↳ less wastage
↳ freedom to farmers not to go for distress sale

(5) Contract farming → would lead to better price assurance, investment in agriculture. etc

Existing bottlenecks

(1) APMC → Agriculture Produce Marketing Committees → Farmers in many states have to sale their produce in designated Mandis only.

(2) Middlemen at Mandis & also high commission charged (range of 8%)

Don't write anything this margin (इस भाग में कुछ ना लिखें)

and also corruption → which increases cost for farmers.

③ Private sector cannot participate openly

No contract farming

Not invested in storage infra due to Essential Commodities Act ⇒ restrictions on hoarding

Recent Legislations

① Removing monopoly of APMC
↳ farmers can sell to anybody.

② Essential Commodities Act modified
↳ allowed to store
↳ limit is set → when price doubles
It will provide policy stability.

③ Contract farming → now private player can come in contract with farmers directly.
with necessary safeguards & implementation of Ashok Dalwai committee's recommendations, farmer's income can be doubled.

1:10

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

Every year Bihar and Assam witnesses flood with many loosing lives and damage to property.

According to Global Climate Risk Index, India is placed in top 10 countries, with regards to climate risk.

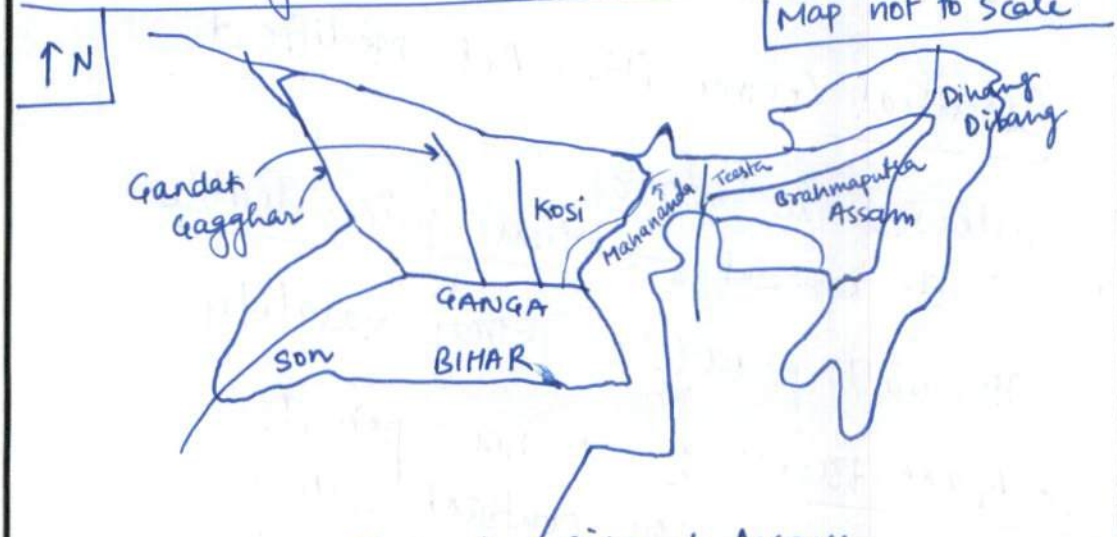


Fig :- Rivers in Bihar & Assam.

Recurring Floods Reasons : Topography

① Rivers → Bihar – cut by many Rivers

Assam → Brahmaputra & its tributaries

Don't write anything this margin (इस भाग में कुछ ना लिखें)

② Steep fall in Altitude -

Himalayas → highest mountain ranges in the world

In very short distance, the height drops from 8,000 meters to sea level.

↳ Flow in the river very fast

③ Changing course of Rivers

↳ Kosi → shift in basin

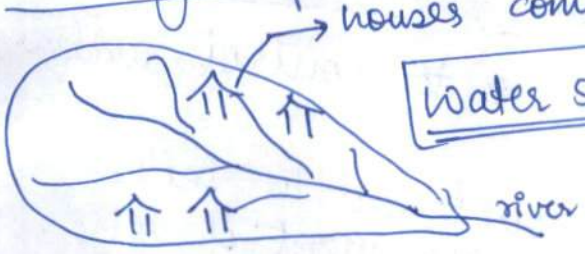
↳ Brahmaputra

④ High amount of silt carried →

Siltation → River capacity decreases leads to flooding.

Reasons : Manmade

① Encroachments & Habitations coming up in natural flood plains



Water shed area of river

⇒ Flooding.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(2) Rivers → treated as dump place
Idols, Industrial waste etc →
leads to decrease in depth of rivers

Industrial waste → Eutrophication → Organic growth → depth decreases

(3) Building Dams → Farakka barriage on Ganga → cause of flood in bihar.
Arunachal Pradesh → big dams on Brahmaputra
↓
Causes flood in Assam.

Suggestion

(1) Not disturbing natural flow of rivers
maintaining ecological flow.
(2) Large scale dredging & restoring river leaves & watershed area augmentation.
(3) Proper planning → so that illegal encroachments can be avoided.
(4) Building Checkdams, inter connecting rivers, diversions ⇒ to control sudden increase in water.
Thus it would lead to better management of water.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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।

5th Generation technology refers to next generation technology in telecommunication where the exchange of information and data transfer is much faster (upto 20x) than current 4G technology

5G vs 4G

1. Speed higher (20x then 4G)
2. 100 GB per sec — Download speed
3. More connected devices possible
4. More teledensity → devices per tower in an area. possible

Allows for almost instant data transfer.

5G → Digital Revolution

1. More number of people can get connected to faster internet services

Don't write anything this margin (इस भाग में कुछ ना लिखें)

② Many technological advancements like driverless cars, cloud computing, real time data processing etc can be possible on 5G.

③ People would get new digital services like instant payments, connected technology etc

Eg → Internet of things is possible on 5G network.

④ Penetration in all areas with investment in 5G.

⑤ Telemedicine, Tele-education etc possible seamlessly on 5G. COVID pandemic has highlighted the importance of the same.

Challenges

① Telecommunication sector - stressed high debts. So private players not ready to make new investments.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

② Spectrum charges high in India (when compared to other countries).

③ Providing level playing field to all players ⇒ As less and less number of companies are ready to invest in 5G.

④ High Equipment Cost and Monopoly / Duopoly in equipments for 5G → Chinese manufacturers and Ericsson (European) are currently providing equipments.

Way forward

① A J Paulraj committee had recommended early adoption of 5G technology.

② Creating test beds to test 5G → Startups can test their product.

③ Making technology equitable & enabler for growth is the need of the hour. → Indigenization also needed

5G technology has potential to disrupt the economy with its multiplier effect.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 depends upon Quantum bits (q-bits) instead of traditional 0s & 1s to do computing.

q-bits → values can vary between 0 to 1.

Recently government in Budget 2020-21 has allocated 5,000 crores to be utilize for next 5 years to develope Quantum technology in India.

Potential of Quantum Technology

① Faster Processing speed
Much more faster than present day super computers.

② Future technology like Internet of things, blockchain technology

Don't write anything this margin (इस भाग में कुछ ना लिखें)

etc would require real time processing of data ⇒ can be possible through quantum tech.

③ Secured Communication

Any attempt to hack the signal, modify the signal ⇒ Sender and reciever would know about the temper.

Recently Chinese authority has claimed that they communicated with their satellite using Quantum tech.

④ Will Bring Efficiency in Digital Technology

↳ will impact Industry & businesses
⇓
impact growth & export.

⑤ Important to make India - Knowledge based economy and many innovative technology can be built based on Quantum tech.

Eg → Medical Science → Precise Operations
Education → EduTech Companies
Robotics → Artificial Intelligence Possible

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Challenges

① Technology is itself in its infant stage

② Research & Development requires high capital investment → compared to China & US we are investing very less.

③ Not aware about use of Quantum technology fully

④ Need interdisciplinary approach to develope & fully exploite the use of Quantum tech^ry.

Way forward

① Collaboration & cooperation with like minded countries like Israel, US etc.

② Consistent policy support

India has also set up Centre of Excellence for Quantum Technology (by CSIR) to develope this technology. It would help in realising the dream of New India.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 consist of seven states and Sikkim.

It is bounded by CHINA on north & MYANMAR on East & BANGLADESH on South

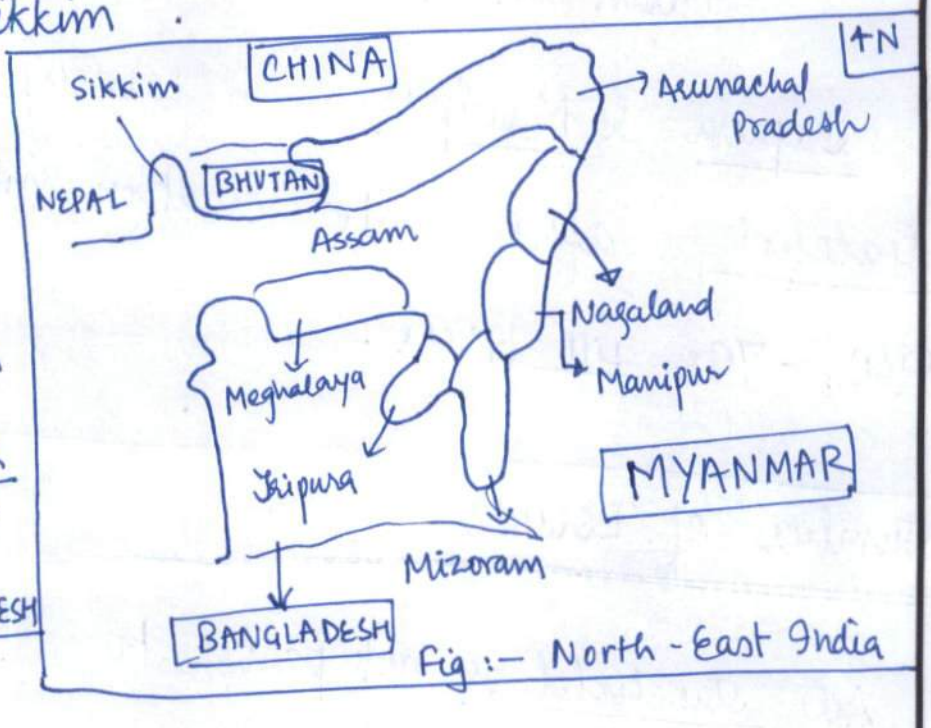


Fig :- North-East India

Groups that have given up violence

① NSCN → National Socialist Council of Nagaland

Upon → Nagaland Peace Accord (2015)

② Mizoram Peace Accord

Don't write anything this margin (इस भाग में कुछ ना लिखें)

③ Bodoland → accepted VIth schedule

④ Student Groups in Assam
not that violent as was the case in 1990s

⑤ Tripura & Manipur → largely peaceful after 'state' creation in 1960s - 70s till 1980s.

Number of Issues

① All stakeholders not party to peace accords & deals.
eg → Nagaland → several factions do not accept the 2015 peace deal.

② Violence still present
shows all have not given up their arms.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

(3) Porous Nature of Border → still present. People are allowed to move [in Myanmar border] → Insurgent group's heaven

(4) Support from other countries like Pakistan & China to these insurgent groups.

(5) Lopsided development → fast economic development has not taken place. North East → largely ignored.

(6) Issue of Demographic change with imigration from other states & neighbouring country. Eg → Citizenship Amendment Act → saw protest in Assam.

(7) Internat factions & inter group rivalry
Eg - Kukis - Nagas
Bru / Reang in Manipur

Way Forward
- (1) Adopting PK Bezbadwa committee recommendations
- (2) Act East Policy → NE is central
- (3) Investment (Japan promised)
- (4) Infrastructure Push
- (5) PM UDAN
- (6) Economic development (North East Vision Document) by NITI Aayog

Don't write anything this margin (इस भाग में कुछ ना लिखें)

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 is termed as 4th areana of warfare. It includes digital infrastructure, public key infrastructure, (Banking etc), communication channels, internet etc

Key vulnerabilities in India's cyberspace

① Not secured - as shown by the high number of breaches and attacks on our key infrastructure → space, nuclear installations etc.

② Fragmented → with military, corporate, different departments of government following their own framework.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

③ Less investment by both government & private sector to secure cyberspace

④ Lack of awareness regarding digital security.
eg → Banking Frauds increasing.

⑤ Lack of Policy & government attention to it.

⑥ Military attacks on cyberfront → India not prepared to handle.
It can disrupt economy, financial and banking overnight.

Framework that should be adopted

① Treating Cyber space as One whether government or private.

② Incentivising private players to invest in cyber space

Don't write anything this margin (इस भाग में कुछ ना लिखें)

③ Digital literacy and bridging digital divide.

④ Immediate reporting of any cyber attack

⑤ Strengthening CERT-In, CERT-Fin & already established infrastructure.

⑥ Data Security should be prioritized.

Thus holistic approach is need of the hour. With growing interconnectedness in world & penetration of digital infrastructure, we must ensure that our cyber space is safe & reliable.

Also we need to develope offensive capability in cyberspace as highlighted recently by Army chief to deter any cyber attack on India.

2:20 → 15 marks