



An Institute for Civil Services

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TEST COPY

VEER PRATAP SINGH

Rank - 92

GS Mains

Indian Economy and Agriculture



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INDIAN ECONOMY AND AGRICULTURE

Time Allowed: 3 hrs.

Max. Marks: 250

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none">There are 20 questions.All questions are compulsoryThe number of marks carried by a question is indicated against it.Answer the questions in NOT MORE THAN 200 words each. Contents of the answer is more important than its length.Answers must be written within the space provided. <p>Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.</p>
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Name Veer Pratap Singh

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Date _____

Signature Veer

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REMARKS

GS SCORE

GS MAINS TEST SERIES 2017

Q1. High logistics cost is one of the major reasons for uncompetitive of Indian goods in global markets. In this reference discuss the significance of having multimodal logistic approach in India. What are challenges in present logistics sectors? Also discuss some of the major trans-boundary multimodal projects of India. (12.5 Marks)

Ans- India was ranked 39th in Global Competitiveness Index (WEF). India improved but still we are facing challenges to reduce logistics cost, which makes Indian goods uncompetitive in global markets.

To tackle high logistics cost India is focussing on multi-modal logistics approach in which all modes of transportation are leveraged to reduce logistics costs. India is integrating its roadways, railways, inland waterways, and to some extent- airways also. This multimodal approach is significant in following ways-

- i) It enables seamless transportation of goods across the country.
- ii) It facilitates trade in hinterland states, thereby improving their standard

Remarks

of living by providing employment

iii) It Deburden National Highways as 2% NHs carry around 40% freight transportation

iv) It signifies importance of inland waterways which act as feeder transport corridors. 5 inland waterways have been made operational.

LEEP (Logistics Efficiency Enhancement Prog.) is focussing on reduction of transportation of cost, time and improving efficiency etc.

challenges in logistics sectors -

- i) poor health of state and district highways
- ii) railway underdevelopment which lead to inordinate delays & accidents
- iii) lack of dedicated freight corridors
- iv) lack of other basic infrastructure like power,

India is focussing on completion of IMT (India-Myanmar-Thailand) Trilateral Highways Project, Kaladan multimodal transport corridor, International North-south Transit and Transport corridor, BBIN (Bangladesh, Bhutan, India, Nepal) highways, etc.

Remarks

Q2. What do you understand by the term Industries 4.0? How it is going to impact the employment generation in India? What possible steps can be taken to avoid any adverse effects on employment generation from Industries 4.0? (12.5 Marks)

Ans. Industries 4.0 refers to fourth industrial revolution where digital world and real world would merge. It is the amalgamation of earlier technologies like mechanical technology, digital, information tech, Artificial Intelligence, robotics etc.

This revolution is now being seen to be a substitute of labour to a great extent. As robots are going to be employed on floor of industries, so they will lead to reduction of employment opportunities. Currently India has around 50 crore labor force and according to Labour Bureau Report, 4.2% is the unemployment rate. ILO in its report, world employment and social outlook noted that there are around

Remarks

18 million people are jobless in India.

So, Given these facts, India cannot afford any substitution of its labor by any highly disruptive technological revolution. But, also India cannot afford to remain uncompetitive in global market. So we do need technological interventions but they should be for supplementing labor force, not for supplanting them.

challenges from automation can be coped with by taking following steps-

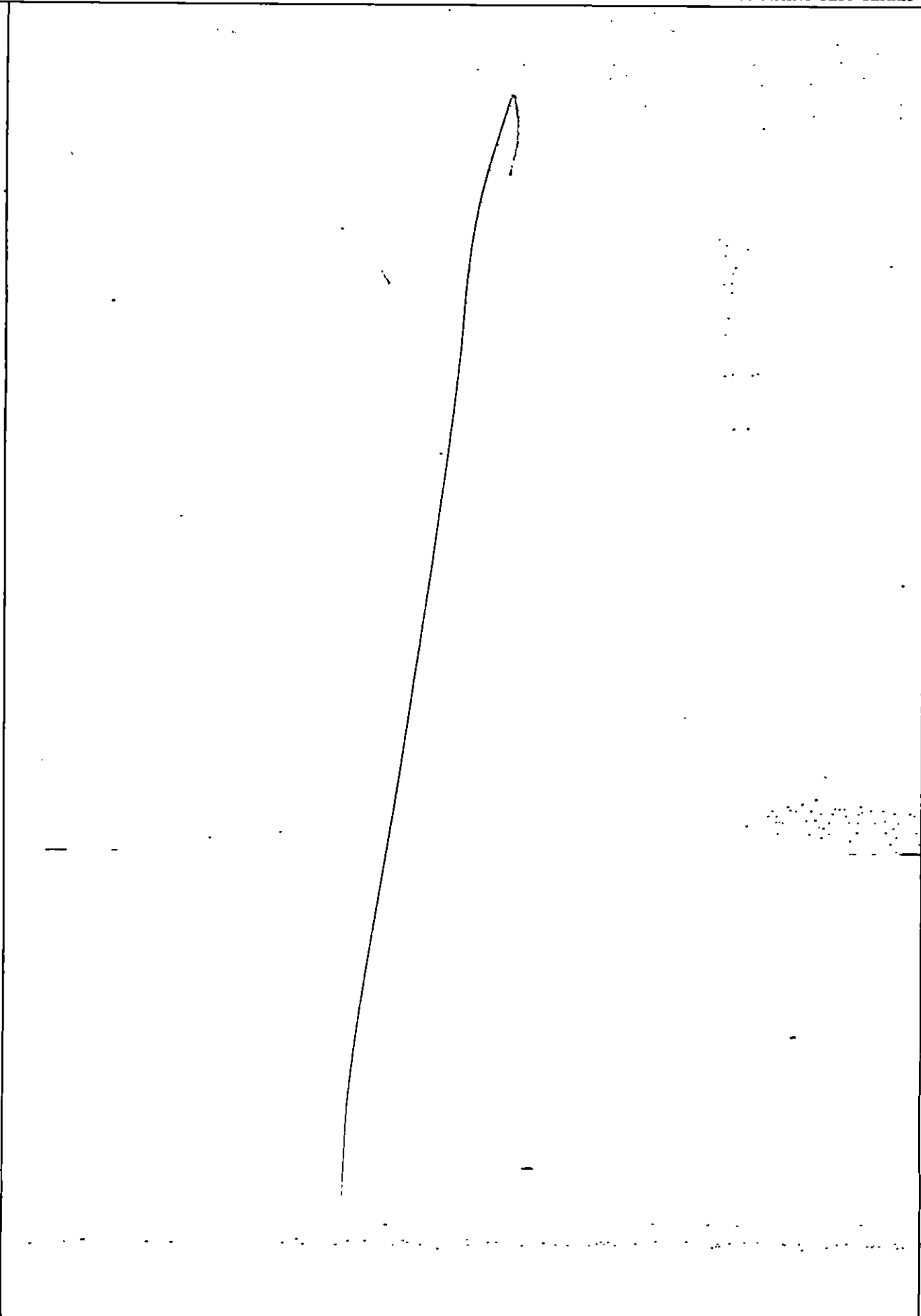
- i) ensure that- labor force is skilled enough to operate new technology
- ii) developing industries for robots products, for production of ~~no~~ automating machines. This would provide employment for replaced labour.
- iii) also, a tax on cutting-edge technological industries can be imposed which can help replaced labor in their rehabilitation
- iv) India can focus more on services sector where already India has good expertise.

Remarks

Q3. This Question contain 2 parts and both are compulsory:

- (a) Analyze the recommendations of Bibek Debroy committee. How this would impact the development of Railway infrastructure in India?
- (b) Indian Government recently established the Rail Development Authority. What is the objective of this authority? Will the setting up of the authority will help in tackling the challenges faced by Indian railways? (12.5 Marks)

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Q4. What do you understand by Universal Basic income? What is the estimated fiscal impact of this scheme and assess its feasibility in Indian purview? (12.5 Marks)

by Universal Basic Income (UBI)

refers to provision of minimum assured income which would be provided by government, to citizens. This aims at providing a basic minimum amount so that all can meet their fundamental needs like nutrition, housing, health, clean drinking water, sanitation, education etc.

UBI has been mooted as a substitute for plethora of schemes, around 950 central sector and centrally sponsored schemes which amount to around 5% of GDP.

UBI will have significant fiscal impact. It has been estimated even in providing ₹1000/- per month per person, will require around 5% of GDP. Though, it is almost equal to existing sum of all central schemes.

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but- this can't replace all schemes in one go. So, this would amount to double-bird burden-on-government.

This can be a game-changer in tackling issues of poverty but its feasibility in Indian context is full of challenges. Like lack of resources, how to transfer money to accounts of all as many don't have mobile, accounts and Aadhar, it would lead to additional burden on already stressed banking system, it may also lead to labour deficit as people may become lethargic etc.

So, given the challenges, government policy think tanks need to go in depth of issues and then only it can be decided whether or not it is feasible. However, it can be tried on pilot basis for providing UPI for certain sections of population like disabled, widows, etc. It can help in realising the dream of Gandhi, 'to wipe every tear from every eye'.

Remarks

Q5. This Question contain 2 parts and both are compulsory:

- (a) Indian service sector, especially IT sector, has been the main anchor of growth and employment in the 21st century. However, in recent past, the Indian IT sector has been in news for lay-offs and not for job creation. What are the reasons for this? What corrective steps needs to be taken in this regard?
- (b) Indian IT sector has been beneficiary of H1B visa allowances and liberal visa policy of USA in case of highly skilled employees. Examine how Indian IT industry is going to be affected following the strict visa policy under Trump regime.

(12.5 Marks)

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Q6. In recent there has been a spurt in digitization. Can digitization help in bringing inclusive growth in India? What steps should be taken to realize the goal of inclusive growth in digital economy? (12.5 Marks)

Ans Digitization refers to increased use of digital technology in governance. Digitization can help in bringing inclusive growth in India as -

- i) it will lead to reduction in corruption and dismantle shadow economy by ~~destroying~~ preventing money laundering.
- ii) it leads to financial inclusion for eg- Aadhar can be utilised for providing banking services.
- iii) easy transfer payments through DBT (Direct Benefit transfer) mode. This leads to increased efficiency in allocation of resources for weaker & poor sections of society.
- iv) Tele-education and Tele-medicine can help in providing these services to remote and backward regions of the country which hitherto

Remarks

were excluded from the growth story of the nation.

- v) with the help of cloud computing, small and marginal enterprises can flourish as they would not need their own infrastructure while starting business.

Following steps can be taken to realise the goal of inclusive growth in digital economy -

- i) Providing internet access to all, currently 70% of Indians don't have access to internet.
- ii) by providing digital literacy, so that they can leverage this.
- iii) - ensuring adequate protection of consumers & customers as India has weak digital infrastructure and there is no law on data privacy.
- iv) making procedures and laws simpler so that common people can use digital technology.

However, govt. has taken many initiatives like Bharat Net Proj., PMGDISHA, Vittiya Saksharta Mission, NCGP, NPCI, JAM Trinity etc.

Remarks

Q7. RBI has been issuing banking licenses under differentiated bank system Wholesale and Long-Term Finance (WLTF) banks. What is the need of such specialized banks? Discuss the scope and benefits of having WLTF banks. (12.5 Marks)

Ans On the recommendation of Nachiket Mor Committee, RBI has been issuing banking licenses to WLTF banks. These banks are needed for following specialised purposes -

- i) To ensure adequate capital flow to infrastructure sector. As this bank would have at least 1000 crore capital so it can lend long-term easy loans to borrowers.
- ii) It would provide loans primarily to Greenfield Projects and stalled projects at cheap interest rates.
- iii) It would reduce burden on bad-loan encumbered banks which are under severe stress due to mounting NPAs.

These banks have many benefits like giving promotion to infrastructure.

Remarks

Development which have multiplier effect on economy as it would lead to employment generation, thereby creating demand and so spurring growth of industrial sector. Also, stressed banking system would be able to focus more on resolving NPA, crisis which have gone to 10% of total assets.

these banks would have enough scope in Indian economy, as there is no sufficiently large banks which can lend long term easy loans to projects having long-gestation period like highways, dedicated freight corridors, etc.

Also, these would operate on wholly commercial lines, so they would be able to cope with situations like NPAs etc. on their own in an economic manner.

So wholesale banks are the need of the hour for Indian economy.

Remarks

Q8. Government launched Pradhan Mantri Fasal Bima Yojana (PMFBY) to reduce the vulnerability of farmers from natural calamities and ensure sustainable farm income. While highlighting its major provisions, also discuss the performance and challenges it is facing while implementation. (12.5 Marks)

- Ans- Government launched PMFBY to achieve following aims -
- i) to provide crop insurance cover to around 40% farmers by 2018, presently only 26% farmers have crop insurance.
 - ii) to achieve 4% agricultural growth.
 - iii) to provide relief to farmers in cases of calamities. It also includes post-harvest losses like cloudburst, pest attacks, unseasonal rains etc.
 - iv) providing insurance on easy premiums as insurance rate is -
2% of kharif crop, 1.5% of Rabi crops.
 - v) government would provide any excess amount to insurance companies, in case insured amount exceeds premium amounts. Govt. reimburse all amount to provide insured sum to farmers.

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iv) Use of technology will be promoted like Drones to calculate farm loss, mobile to send photo of crop loss etc - so that insurance money can be provided without any delay.

However, there are some challenges which it is facing in its implementation like delays in payments of insured amounts, farmers are not receiving adequate compensation for crop failure due to inaccurate calculation of crop loss, backward states are not taking much interest in the scheme, marginal and small farmers of relatively agriculturally developed states are not insuring their crops etc.

However, despite these problems, it is performing good as there is increase in crop insurance and farmers are taking interest in insuring their crops.

Remarks

Q9. Tourism is the one of the major economic activity in many advanced nations, though India is catching up in the sector, however, it's potential is still untapped. Discuss why India's tourism potential still largely untapped? (12.5 Marks)

Ans Tourism contributes around 9% to India's GDP. This sector has enormous potential to contribute to GDP, employment generation, boosting domestic industry and providing recreational avenues to the people.

But, India has not been able to tap the full potential of the tourism sector because of following reasons -

i) inadequate attention of policymakers to this sector

ii) lack of infrastructural development and tourism infrastructure like tourists parks, tourist trains etc.

iii) lack of safety to tourists.

iv) unclean tourist stations and lack of focus on cleanliness of these states.

Remarks

- i) Lack of arrival of Domestic tourists. Those who are well-to-do, they prefer tourist places abroad.
- ii) Lack of development of hospitality sector.

All of the above are significantly thwarting progress of development of the sector. New Tourism Policy envisages to increase global tourist arrival from 6 to 2% by 2025 of total global tourists. It also aims to bring Tourism under Concurrent list, so that Central government would also promote this sector.

However, government's schemes like PRASAD, HRIDAY, Swadesh Darshan, theme based tourist circuits, etc. hold promise to develop this sector to give boost to economy of the country.

Q10. Niti Aayog recently projected a compound annual growth of about 8% of Indian Economy and its transformation by 2031-32. In this light discuss, what policy actions are required for attain and sustaining this level of growth? (12.5 Marks)

Ans Currently, growth rate of GDP of Indian economy has plunged to 5.7%. But, in last two years average growth rate was above 7%. Now, NITI Aayog projects 8% of growth for next decade or so. So, to achieve this following policy actions are needed -

i) focus on agricultural sector as this is the backbone of Indian economy. 50% labor force draws its income from primary sector. So, to generate demand this sector needs to be developed on a priority basis.

ii) focussing on increasing growth of industries. IIP has been very low because of non-performance of core industries like steel, cement,

Remarks

Electricity etc. so, govt. needs to reinvigorate this sector. This can be done by providing skills to labor force, extending easy loans which needs resolution of NPAs on this front, focussing on MSMEs as they generate a lot of employment, streamlining labor, taxation, environmental laws which will lead to ease of doing business, increasing incentives for FDI & FPI, deregulating market, divestment of PSUs etc.

(ii) Infrastructural development is sine qua non for spawning economic activity in the country. ~~As~~ Indian goods are not competitive in global market because of high costs of logistics, labour etc. So, to make Indian goods cheap infrastructural boom is needed.

(iii) Export promotion as without this 8% growth rate cannot be achieved. To promote exports, SEZs, CEZs (Coastal Economic zones), dedicated freight corridors etc. are to be developed.

(iv) Services sector needs to expand its reach to hinterland states. It can promote

Remarks export of services to third world countries

Q11. Indian manufacturing products are uncompetitive in global market due to their low quality and standards, especially the exports from MSME sector. Discuss the issues pertaining to low quality of Indian manufacturing. Also discuss the significance of Zero Defect - Zero Effect (ZED) scheme in this regard. What else can be done to improve the quality and standards? (12.5 Marks)

Ans

India mainly exports petroleum products, Gems & Jewellery, chemical and pharmaceutical products, and agricultural products. But, it has been unable to gain export markets of purely manufactured products.

Products like apparels, leather products and footwears, electronic goods, furniture items etc.

Other countries have competitive edge over India because of following reasons -

1) Lack of skilled employees - only 2.3% labour force is skilled, according to labour bureau report. This compromises quality & standards of manufactured products.

2) higher wages which forces manufacturers

Remarks

to look for completely unskilled workforce who compromise with quality of products.

- iii) lack of state-of-art manufacturing technology. countries like Japan, South Korea, China, Malaysia and Singapore have achieved significantly advanced technology while India still depends on manual labour. This reduces quality and efficiency of the product.

Government has launched many schemes like 'Make in India', 'Start-up India', 'Skill India', 'Zero-defect-zero effect' scheme etc. ZED holds promise to produce quality products as this focusses on skilled workforce, and environmentally friendly technologies which have net zero carbon emissions. So this can help generate skilled employment, producing quality products competitive in global market.

To enhance quality and standards, government needs aggressive adoption of technology, providing skills to youth, giving freedom to private sector to regarding labor and environment laws, investment in research and development, linking formal education to

Remarks

vocational and market-relevant education.

Q12. India has been facing twin balance sheet problem with Indian characteristics. What are Indian characteristics and what steps should be taken to find out the solution? How the recently passed ordinance, empowering RBI, is going to tackle the situation?

(12.5 Marks)

Ans - India is facing Twin Balance Sheet Syndrome (TBS). TBS refers to overleveraged corporate sheets and loan-encumbered banks. This means banking system is stressed because of soaring Non-Performing Assets (NPAs) and toxic loans. Also, corporate houses are not in a position to invest in big projects because of huge debts and losses in business.

Indian characteristics are following

- 1) Big sectors like steel, power, telecom etc are incurring losses, so they are debt-ridden. These sectors are driver of growth in any nation but Indian economy is facing peculiar situation where core industries are faltering. MSMEs are still performing above par.

Remarks

- ii) especially State-run Public Sector Banks are severely stressed. NPAs going upto 50% of total assets of banks. Private banks are much less stressed than PSBs.
- iii) Inflation has also reduced, despite this growth is not picking up in economy.

Following steps can be taken to resolve the crisis-like situation -

- i) recognise the problem, resolve it by recapitalisation of PSBs.
- ii) create bad bank to handle these bad loans & write off some highly toxic loans.
- iii) allow PSBs to be run on wholly commercial lines.
- iv) rehabilitate big infrastructural stalled projects which have long-gestation period and are not being given loans to complete them. They would generate enormous returns.
- v) restructuring of corporate loans along the lines of corporate debt restructuring and sustainable debt restructuring.

RBI has been empowered by an ordinance to single out willful defaulters, big corporates houses for insolvency and bankruptcy, and going & for restructuring of

Remarks loans according to commercial principles. This will help in cleaning bank sheets along with corporate sheets, and provide exit for non-performing companies.

Q13. This Question contain 2 parts; both are compulsory:

- (a) World Bank has been changing its spending pattern from infrastructure to healthcare. How does this change augment the efforts toward achievement of SDG and improved welfare?
- (b) The funding available with the international humanitarian spending agencies, like World Bank, UNCTAD, etc. is far less than optimum. Examine the reasons for such shortfall and suggest how spending deficit can be overcome.

(12.5 Marks)

Remarks

Remarks

Q14. BRICS and AIIB has been two emergent institutions, which can challenge the hegemony of Bretton-Woods institutions. However, for that to happen, China requires cooperation of the other developing countries rather than establishing hegemony over the new institutions. Critically analyze. (12.5 Marks)

Ans Because of hegemony of Bretton Woods institutions i.e. World Bank and IMF, new multilateral and regional institutions are emerging. New financial institutions like NDB (BRICS Bank), AIIB are more democratic and aims to reflect changing global order.

However, because of gargantuan economic power of China, it poses challenges for functional democracy in these institutions. China's economy is of around 12.5 billion USD, next to this India comes which have only 2.3 billion USD GDP. So this creates an imbalance in these institutions. So, to become alternatives of Washington institutions, China needs to walk cautiously so as to prevent any Chinese hegemony.

Remarks

Over these emerging institutions

China needs to cooperate with other countries like in NDB it needs cooperation of India, Brazil, Russia and South Africa, all of which have equal vote and none has veto. But situation is more complex in Asian Infrastructure Investment Bank (AIIB) which is China-led bank and have votes in proportion to GDP. So in AIIB, China has majority of vote shares while other around 50 countries have very less voting power.

So, to maintain a balance China needs to democratise AIIB by adopting some other criteria for voting share which will give voice to smaller economies. Also, U.S and its major allies like Japan have not joined China-led bank, so it is also important that China provides a feasible alternative to western nations to follow the spirit in Bretton Woods institutions. So, in any case China cannot act unilaterally, it has to seek cooperation,

Remarks help and collaboration, co-ordination of other member nations.

Q15. Despite the fact that, Food Processing sector is recognized as sunrise sector and paid ample attention in recent years, the recent statistics suggest that many of Mega food parks, which were announced in the scheme have either not been established or they are on the verge of shutdown. Analyze the factors behind this trend; also suggest what should be done to reverse the trend? (12.5 Marks)

Ans Food Processing sector is the fastest growing sector world over. Indian government recognized this as a full-fledged sector in 11th five year plan and allocated money to establish Mega Food Parks across the country to provide boost to this sunrise sector.

Mega Food Parks Scheme envisaged to create food processing units with having state-of-the-art technology, like irradiation centres, Cold chain facilities etc. But, this scheme has not performed well because of following reasons -

- i) Perishable food items like fruits and vegetables etc. face logistics challenges.
- ii) More focus on traditional crops, and less incentives for commercial crops.

Remarks

- ii) lack of technology development for the food processing.
- iii) lack of modernisation of existing food processing unit.
- iv) lack of awareness among farmers regarding how to adapt to processing of their food crops. etc.

Following measures can be taken to rejuvenate and revive the sector -

- i) aggressive implementation of Nation Mission on Food Processing which aims to increase India's share in global food trade from 1-5% to 8% by 2020.
- ii) faster adoption of SAMPADA scheme which focuses on processing of marine and agro-foods.
- iii) huge investments in research and development.
- iv) infrastructural development like transportation and power sector development.
- v) generate awareness among farmers to cultivate commercial crops.
- vi) focussing on horticulture development.
- vii) collaborate with countries like Israel, Russia, China and Australia etc. which have acquired advanced technologies of food processing.
- viii) ^{Remarks} increase budgetary allocations for the sector.

Q16. Recent Farmers' agitations and suicide once again highlight the discrepancies in inclusive development. In this reference, analyze the factors behind farmer's suicide with a reference to NCRB report. What steps are needed to break the vicious cycle?

(12.5 Marks)

Ans. NCRB report, 2015 revealed that around 12000 farmers committed suicide every year in India. Farmers across India are agitating. They are not getting remunerative farm-gate prices for their crops. Also, sluggish growth of primary sector has caused inequalities leading to issues of inclusive development.

Following factors can be attributed for farmers' suicides in India -

i) Crop failure due to failure of monsoon. 55% of Indian agriculture is rain-fed, so it depends on monsoon primarily.

ii) Lack of forward and backward linkages like seeds, fertilizers, credit facilities, market, storage facilities, cold-chain facilities etc.

iii) Because of poor economic health of farmers they have to go for

Remarks

distress sales of their produce which provides insignificant returns due to price-crash of most of the crops.

(ii) Farmers are debt-ridden. They are not in the condition to repay loans. So, out of frustration and despair, they take extreme steps of committing suicide.

So, to rectify this following corrective measures should be taken -

- i) Providing insurance to farmers against climatic vagaries like droughts, floods, unseasonal rains etc. Only 26% of Indian farmers have crop insurance.
 - ii) Institutional credit facility for farmers.
 - iii) Cold storage facilities to prevent distress sales & providing MSP for all crops.
 - iv) Providing irrigation facilities to around 75 million hectare cultivated land which is rain-fed.
 - v) Loan waivers of small and marginal farmers whose crops have failed can be considered.
 - vi) Faster intervention of regulated markets for better price realization.
- So, to realise dream of "doubling farmer's income by 2022" and speeding agricultural growth, these steps are sine qua non.

Remarks

Q17. Micro irrigation can be way out for rainfed agriculture and small land holding in India. In this reference, discuss the advantages associated with micro irrigation, initiatives taken by government and challenges associated with it. (12.5 Marks)

Ans Net sown Area of India is around 142 mha, out of which only 65 mha is irrigated. This means around 50% of cultivated area is rain-fed which depends mainly on monsoons. This also reduces cropping intensity and gross cropped area. So, to provide irrigation to all land-holdings, micro-irrigation is the way out as it has following advantages -

- i) reduces wastage of water as in flood irrigation.
- ii) it increases productivity of the crops as it helps in reducing ~~herbs~~ unwanted herbs and grasses in the fields.
- iii) It's based on watershed management which is sustainable form of irrigation.

Remarks

- i) It increases water-use efficiency, thereby increasing production.
- ii) minimises use of herbicides and pesticides.
- iii) It is based on 'More from less' principle.
- Government has taken following initiatives:
- i) PM Kisan Sanchay Yojna (PM KSY) to focus on micro irrigation to provide 'Har Khet ko Paani' (water to every farm)
 - ii) watershed management under Neeranchal programme.
 - iii) collaboration with Israel which has expertise in micro-irrigation.
- iv) Kisan Vigyan Kendras to provide help to farmers to adopt this technology.

But, in adopting this following challenges are to be overcome -

- i) lack of awareness among farmers.
- ii) lack of technology and expertise.
- iii) huge investment needed for sprinkler systems installation.
- iv) skill required for operating these systems also have to be provided for farmers.

Remarks

Q18. The Vulnerability of farmers is not just due to natural vagaries, but also due to defects of public procurement policy. Analyse what should be done to reform the public procurement system? (12.5 Marks)

Ans Indian farmer faces a lot of natural vagaries like hailstorms, droughts, floods, unseasonal rains, cyclones in coastal regions etc. Other than these, vulnerability of farmers is due to defects of public procurement policy which is marred by following problems -

(i) It is centralized system to procure food grains. Procurement is done by FCI mainly.

(ii) Procurement is done only of those crops for which MSP is announced.

(iii) FCI procures foodgrains specially from developed regions like Punjab, Haryana, Canvey basin, western U.P etc. So, it neglects Eastern and Central India.

(iv) Although, policy envisages 'Open Procurement' means procuring all grains at MSP, but -

Remarks

farmers are forced to sell their produce in regulated mandis where they most of time don't realise even MSP.

v) Lack of storage in procurement is another major problem.

So, this procurement policy does not ensure that all get fair prices, at least equal to MSP. So, to correct this following steps can be taken -

- i) Decentralised procurement -> PCI should focus on areas where infrastructure is underdeveloped like in eastern states and states should be allowed to procure, where infrastructure is in good condition like Punjab, Haryana.
- ii) PCI can take help of central and state warehouse corporations to prevent storage losses.
- iii) Providing MSP for all crops and ensure that all grains of all farmers are purchased by government on at least MSP.
- iv) Reducing bureaucratic interference in procurement process & PCI functioning.

Remarks

Q19. What is precision agriculture? How precision agriculture can help in improving the resource use efficiency in agriculture, with special focus to irrigation? (12.5 Marks)

Ans Precision agriculture is executed agriculture where inputs are provided directly to crops with minimum wastage. This is done through biotech and nano-tech.

Inputs like pesticides, insecticides, herbicides, water, fertilisers are delivered to crops directly by nano-tech and biotech. This helps in reduction of input wastage and improves productivity and efficiency of resource use in agriculture.

This focusses on drip and sprinkler systems and other micro-irrigation techniques to irrigate crops. This substantially reduces waste of water as happens in flood irrigation.

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Fertigation is another method to reduce usage of both fertilisers and water. In this fertilisers are delivered to crops with irrigation itself.

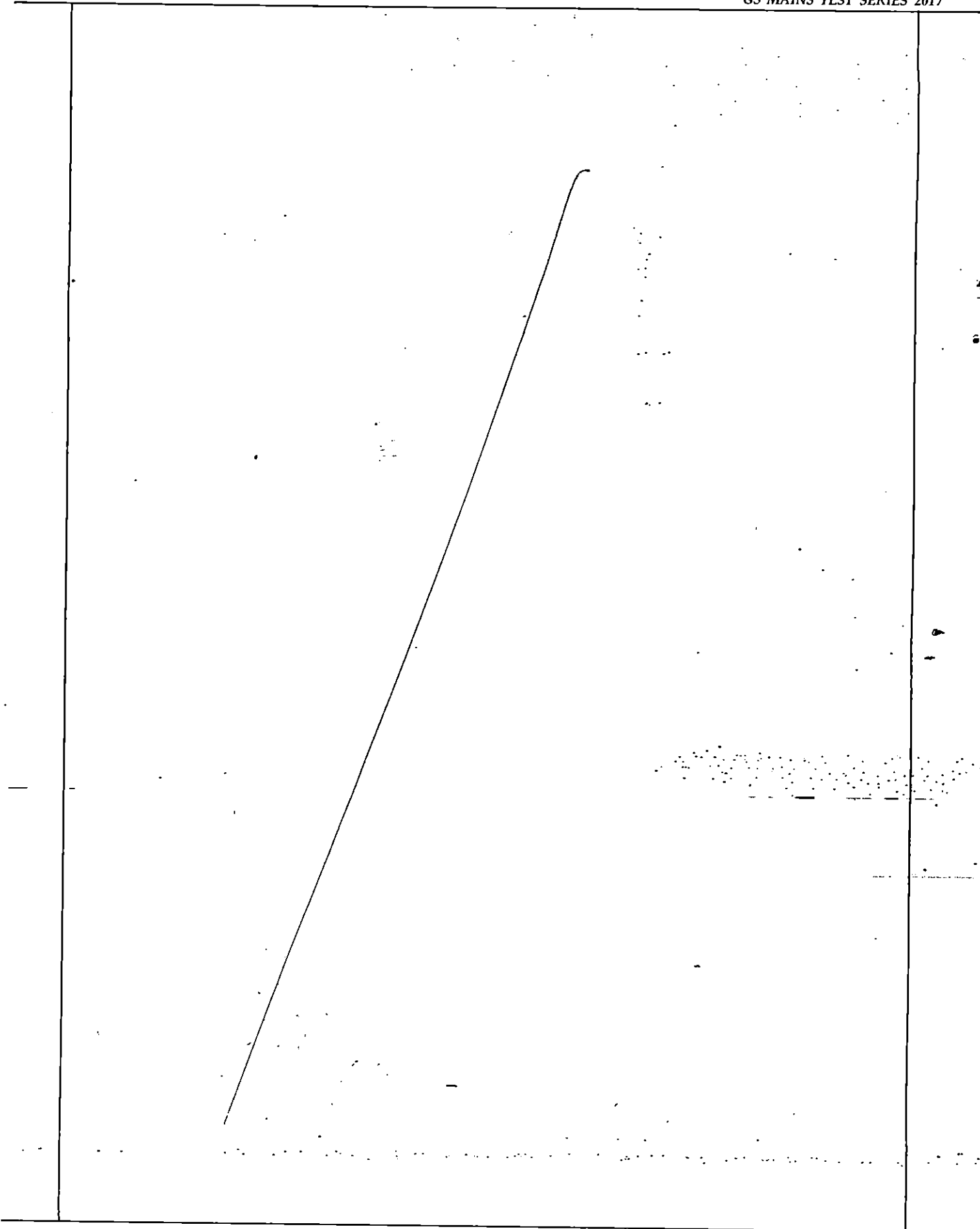
Using biotech, crops are genetically modified to make them drought-resistant, to shorten their ripening period, crops are made shorter so that they need less resources to grow. For eg Pusa Aonla has been developed which have short growing season, and is less taller, so that it needs less inputs. Crops are also modified to make them herb-resistant and pest-resistant.

All, these enhance productivity of crops, and need less inputs thereby increasing efficiency of resources used in cultivation.

Remarks

Q20. How pink revolution can supplement farmer's income? Critically analyse, how the developments of recent years coupled with steep inflation in animal feed prices have impacted the development of sector? (12.5 Marks)

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**Remarks**