

विदेह VIDEHA

UPSC Civil Services Mains GS Paper III (2013–2025)

Descriptive Question Bank with Model Answers · 251 Questions

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Model answers for all questions follow the complete question bank (answers are placed **after** the questions), numbered identically for cross-reference.

2013 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

1. With a consideration towards the strategy of inclusive growth, the new companies bill, 2013 has indirectly made CSR a mandatory obligation. Discuss the challenges expected in its implementation in right earnest. Also discuss other provisions in the bill and their implications. (150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

2. What are the reasons for introduction of Fiscal responsibility and Budget Management (FRBM) act, 2003? Discuss critically its salient features and their effectiveness. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *Economy and Development*

3. What is the meaning of the term tax-expenditure? Taking the housing sector as an example, discuss how it influences budgetary policies of the government. (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

4. Food Security Bill is expected to eliminate hunger and malnutrition in India. Critically discuss various apprehensions in its effective implementation along with the concerns it has generated in WTO. (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *Agriculture and Food Security*

5. What are the different types of agriculture subsidies given to farmers at the national and state levels? Critically analyze the agriculture subsidy regime with the reference to the distortions created by it. (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Agriculture and Food Security*

6. India needs to strengthen measures to promote the pink revolution in the food industry for better nutrition and health. Critically elucidate the statement. (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Economy and Development*

7. Examine the impact of liberalization on companies owned by Indians. Is it competing with the MNCs satisfactorily? (150 Words, 10 Marks)

Q8 · 10 marks · 150 words · *Economy and Development*

8. Establish the relationship between land reform, agriculture productivity, and elimination of poverty in the Indian Economy. Discuss the difficulty in designing and implementation of agriculture-friendly land reforms in India. (150 Words, 10 Marks)

Q10 · 10 marks · 150 words · *Economy and Development*

9. Discuss the rationale for introducing the Goods and services tax in India. Bring out critically the reasons for the delay in roll out for its regime. (150 Words, 10 Marks)

Q11 · 15 marks · 250 words · *Economy and Development*

10. Write a note on India's green energy corridor to alleviate the problems of conventional energy. (250 Words, 15 Marks)

Q12 · 15 marks · 250 words · *Economy and Development*

11. Adoption of the PPP model for infrastructure development of the country has not been free from criticism. Critically discuss the pros and cons of the model. (250 Words, 15 Marks)

Q13 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

12. Bring out the circumstances in 2005 which forced amendment to section 3(d) in the Indian Patent Law, 1970. Discuss how it has been utilized by the Supreme court in its judgment rejecting Novartis patent application for 'Glivec'. Discuss briefly the pros and cons of the decision. (250 Words, 15 Marks)

Q14 · 15 marks · 250 words · *Science and Technology*

13. What do you understand about Fixed Dose Drug Combinations (FDCs)? Discuss their merits and demerits. (250 Words, 15 Marks)

Q15 · 15 marks · 250 words · *Science and Technology*

14. What do you understand by Umpire decision review in cricket? Discuss its various components. Explain how silicon tape on the edge of a bat may fool the system? (250 Words, 15 Marks)

Q16 · 5 marks · 100 words · *Science and Technology*

15. Two questions: each with 5 marks, 100 words

Q18 · 15 marks · 250 words · *Disaster Management*

16. How important are vulnerability and risk assessment for pre-disaster management? As an administrator, what are key areas that you would focus on in Disaster Management System. (250 Words, 15 Marks)

Q19 · 15 marks · 250 words · *Environment and Ecology*

17. What are the consequences of illegal mining? Discuss the Ministry of Environment and Forests' concept of "GO AND NO GO" zones for coal mining. (250 Words, 15 Marks)

Q20 · 10 marks · 200 words · *Environment and Ecology*

18. Enumerate the National Water Policy of India. Taking river Ganges as an example, discuss the strategies which may be adopted for river water pollution control and management. What are the legal provisions for management and handling of hazardous wastes in India? (200 Words, 10 Marks)

Q21 · 10 marks · 200 words · *Internal Security*

19. Money laundering poses a serious threat to a country's economic sovereignty. What is its significance for India and what steps are required to be taken to control this menace? (200 Words, 10 Marks)

Q22 · 10 marks · 200 words · *Science and Technology*

20. What are social networking sites and what security implications do these sites present? (200 Words, 10 Marks)

Q23 · 10 marks · 200 words · *Science and Technology*

21. Cyber warfare is considered by some defence analysts to be a larger threat than even Al Qaeda or terrorism. What do you understand about Cyber warfare? Outline the cyber threats which India is vulnerable to and bring out the state of the country's preparedness to deal with the same. (200 Words, 10 Marks)

Q24 · 10 marks · 200 words · *Economy and Development*

22. Article 244 of Indian Constitution relates to Administration of Scheduled areas and Tribal areas. Analyze the impact of non-implementation of the provisions of fifth schedule on the growth of Left-Wing Extremism. (200 Words, 10 Marks)

Q25 · 10 marks · 200 words · *Internal Security*

23. How far are India's internal security challenges linked with border management, particularly in view of the long porous borders with most countries of South Asia and Myanmar? (200 Words, 10 Marks)

2014 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

24. Normally countries shift from agriculture to industry and then later to services, but India shifted directly from agriculture to services. What are the reasons for the huge growth of services vis- a-vis industry in the country? Can India become a developed country without a strong industrial base? (150 words, 10 marks)

Q3 · 10 marks · 150 words · *Economy and Development*

25. There is also a point of view that Agricultural Produce Market Committees [APMCs] set up under the State Acts have not only impeded the development of agriculture but also have been the cause of food inflation in India. Critically examine. (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

26. "In the villages itself no form of credit organization will be suitable except the cooperative society." – All India Rural Credit Survey Discuss this statement in the background of agricultural finance in India. What constraints and challenges do financial institutions supplying agricultural finance face? How can technology be used to better reach and serve rural clients? (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *Agriculture and Food Security*

27. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 has come into effect from 1st January 2014. What are the key issues which would get addressed with the Act in place? What implications would it have on industrialization and agriculture in India? (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Economy and Development*

28. Capitalism has guided the world economy to unprecedented prosperity. However, it often encourages short sightedness and contributes to wide disparities between the rich and the poor. In this light, would it be correct to believe and adopt capitalism for bringing inclusive growth in India? Discuss. (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Economy and Development*

29. Explain how Private Public Partnership arrangements, in long gestation infrastructure projects, can transfer unsustainable liabilities to the future. What arrangements need to be put in place to ensure that successive generations' capacities are not compromised? (150 Words, 10 Marks)

Q8 · 10 marks · 150 words · *Economy and Development*

30. National Urban Transport Policy emphasises on 'moving people' instead of 'moving vehicles. Discuss critically the success of the various strategies of the Government in this regard. (150 Words, 10 Marks)

Q9 · 10 marks · 150 words · *Economy and Development*

31. Foreign Direct Investment (FDI) in the defence sector is now set to be liberalized: What influence is this expected to have on Indian defence and economy in the short and long-run? (150 Words, 10 Marks)

Q11 · 15 marks · 250 words · *Science and Technology*

32. Can overuse and free availability of antibiotics without Doctor's prescription, be contributors to the emergence of drug-resistant diseases in India? What are the available mechanisms for monitoring and control? Critically discuss the various issues involved. (250 Words, 15 Marks)

Q12 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

33. In a globalized world, Intellectual Property Rights assume significance and are a source of litigation. Broadly distinguish between the terms—Copyrights, Patents and Trade Secrets. (250 Words, 15 Marks)

Q13 · 15 marks · 250 words · *Economy and Development*

34. Should the pursuit of carbon credits and clean development mechanisms set up under UNFCCC be maintained even though there has been a massive slide in the value of a carbon credit? Discuss with respect to India's energy needs for economic growth. (250 Words, 15 Marks)

Q14 · 15 marks · 250 words · *Disaster Management*

35. Drought has been recognized as a disaster in view of its spatial expanse, temporal duration, slow onset, and lasting effects on vulnerable sections. With a focus on the September 2010 guidelines from the National Disaster Management Authority (NDMA), discuss the mechanisms for preparedness to deal with likely El Nino and La Nina fallouts in India. (250 Words, 15 Marks)

Q15 · 15 marks · 250 words · *Environment and Ecology*

36. Environmental Impact Assessment studies are increasingly undertaken before a project is cleared by the Government. Discuss the environmental impacts of coal-fired thermal plants located at coal pitheads. (250 Words, 15 marks)

Q16 · 15 marks · 250 words · *Environment and Ecology*

37. "The diverse nature of India as a multi-religious and multi-ethnic society is not immune to the impact of radicalism which is seen in her neighbourhood? Discuss along with strategies to be adopted to counter this environment. (250 Words, 15 Marks)

Q17 · 15 marks · 250 words · *Science and Technology*

38. International civil aviation laws provide all countries complete and exclusive sovereignty over the airspace above their territory. What do you understand about 'airspace'? What are the implications of these laws on the space above this airspace? Discuss the challenges which this poses and suggest ways to contain the threat. (250 Words, 15 Marks)

Q19 · 15 marks · 250 words · *Internal Security*

39. In 2012, the longitudinal marking for high- risk areas for piracy was moved from 65 degrees east to 78 degrees east in the Arabian Sea by the International Maritime Organisation. What impact does this have on India's maritime security concerns? (250 Words, 15 Marks)

Q20 · 15 marks · 250 words · *Internal Security*

40. China and Pakistan have entered into an agreement for development of an economic corridor. What threat does this pose for India's security? Critically examine. (250 Words, 15 Marks)

2015 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

41. The nature of economic growth in India in recent times is often described as jobless growth. Do you agree with this view? Give arguments in favour of your answer.(150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

42. Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

43. In view of the declining average size of land holdings in India which has made agriculture non – viable for a majority of farmers should contract farming and land leasing be promoted in agriculture? Critically evaluate the pros and cons. (150 Words 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

44. How can the Digital India program help farmers to improve farm productivity and income? What step has the government taken in this regard? (150 Words 10 Marks)

Q5 · 10 marks · 150 words · *Economy and Development*

45. In what way could replacement of price subsidy with direct benefit Transfer (DBT) change the scenario of subsidies in India? Discuss. (150 Words 10 Marks)

Q6 · 10 marks · 150 words · *Agriculture and Food Security*

46. What are the impediments in marketing and supply chain management in developing the food processing industry in India? Can e-commerce help in overcoming this bottleneck? (150 Words 10 Marks)

Q7 · 10 marks · 150 words · *Economy and Development*

47. Craze for gold in India has led to a surge in the import of gold in recent years and put pressure on balance of payments and external value of the rupee. In view of this, examine the merits of the Gold Monetization scheme. (150 Words 10 Marks)

Q8 · 10 marks · 150 words · *Economy and Development*

48. “Success of the Make in India program depends on the success of Skill India programme and radical labour reforms.” Discuss with logical arguments. (150 Words 10 Marks)

Q9 · 5 marks · 200 words · *Economy and Development*

49. To what factors can the recent dramatic fall in equipment cost and tariff of solar energy be attributed? What implications does the trend have for thermal power producers and related industry? (200 Words, 12.5 Marks)

Q10 · 10 marks · 150 words · *Economy and Development*

50. There is a clear acknowledgement that Special Economic Zones (SEZs) are a tool of industrial development, manufacturing, and exports. Recognising this potential, the whole instrumentality of SEZs require augmentation. Discuss the issue plaguing the success of SEZs with respect to taxation, governing laws, and administration. (150 Words 10 Marks)

Q11 · 15 marks · 250 words · *Science and Technology*

51. What do you understand about “Standard Positioning System” and “Precision positioning system” in the GPS era? Discuss the advantage India perceives from its ambitious IRNSS programme employing just seven satellites. (250 Words 15 Marks)

Q12 · 15 marks · 250 words · *Science and Technology*

52. What are the areas of prohibitive labour that can be sustainably managed by robots? Discuss the initiatives that can propel the research in premier research institutes for substantive and gainful innovation. (250 Words 15 Marks)

Q13 · 15 marks · 250 words · *Science and Technology*

53. Discuss the advantage and security implication of cloud hosting of server’s vis-a-vis in house machine- based hosting for government business. (250 Words 15 Marks)

Q14 · 15 marks · 250 words · *Science and Technology*

54. India’s Traditional Knowledge Digital Library (TKDL) which has a database containing formatted information on more than 2 million medicinal formulations is proving a powerful weapon in the country’s fight against erroneous patents. Discuss the pros and cons of making this database publicly available under open-source licensing. (250 Words 15 Marks)

Q15 · 15 marks · 250 words · *Environment and Ecology*

55. Discuss the Namami Gange and National Mission for Clean Ganga (NMCG) programmes and causes of mixed results from the previous schemes. What quantum leaps can help preserve the river Ganga better than incremental inputs? (250 Words 15 Marks)

Q16 · 15 marks · 250 words · *Disaster Management*

56. The frequency of earthquakes appears to have increased in the Indian subcontinent. However, India’s preparedness for mitigating their impact has significant gaps. Discuss various aspects. (250 Words 15 Marks)

Q17 · 15 marks · 250 words · *Internal Security*

57. Human right activists constantly highlight the fact that the Armed forces (Special Powers) Act, 1958 (AFSPA) is a draconian act leading to cases of human right abuses by security forces. What sections of AFSPA are opposed by the activists. Critically evaluate the requirement with reference to the view held by Apex Court. (250 Words 15 Marks)

Q18 · 15 marks · 250 words · *Internal Security*

58. Religious indoctrination via social media has resulted in Indian youth joining ISIS. What is ISIS and its mission? How can ISIS be dangerous to the internal security of our country? (250 Words 15 Marks)

Q19 · 15 marks · 250 words · *Economy and Development*

59. The persisting drives of the government for the development of large industries in backward areas have resulted in isolating the tribal population and the farmers who face multiple displacements. With Malkangiri and Naxalbari foci, discuss the corrective strategies needed to win the Left-Wing Extremism(LWE) doctrine that affected citizens back into the mainstream of social and economic growth. (250 Words 15 Marks)

Q20 · 15 marks · 250 words · *Science and Technology*

60. Considering the threats cyberspace poses for the country, India needs a “Digital Armed Forces” to prevent crimes. Critically evaluate the National Cyber Security Policy, 2013 outlining the challenges perceived in its effective implementation. (250 Words 15 Marks)

2016 — GS Paper III : Questions

Q1 · 5 marks · 200 words · *Economy and Development*

61. How globalization has led to the reduction of employment in the formal sector of the Indian economy? Is increased informalization detrimental to the development of the country? (200 Words 12.5 Marks)

Q2 · 5 marks · 200 words · *GS III - Economy, Technology, Environment and Security*

62. Women empowerment in India needs gender budgeting. What are the requirements and status of gender budgeting in the Indian context? (200 Words 12.5 Marks)

Q3 · 5 marks · 200 words · *Economy and Development*

63. Pradhan Mantri Jan Dhan Yojana (PMJDY) is necessary for bringing unbanked to the institutional finance fold. Do you agree with this for financial inclusion of the poor section of Indian society? Give arguments to justify your opinion. (200 Words 12.5 Marks)

Q4 · 5 marks · 200 words · *Economy and Development*

64. What are 'Smart Cities'? Examine their relevance for urban development in India. Will it increase rural-urban differences? Give arguments for 'Smart Villages' in the light of PURA and RURBAN Mission. (200 Words 12.5 Marks)

Q6 · 5 marks · 200 words · *Economy and Development*

65. Comment on the challenges for inclusive growth which include careless and useless manpower in the Indian context. Suggest measures to be taken for facing these challenges. (200 Words 12.5 Marks)

Q7 · 5 marks · 200 words · *Agriculture and Food Security*

66. What is water-use efficiency? Describe the role of micro-irrigation in increasing the water-use efficiency. (200 Words 12.5 Marks)

Q8 · 5 marks · 200 words · *Agriculture and Food Security*

67. What is allelopathy? Discuss its role in major cropping systems of irrigated agriculture. (200 Words 12.5 Marks)

Q9 · 5 marks · 200 words · *GS III - Economy, Technology, Environment and Security*

68. Discuss the role of land reforms in agricultural development. Identify the factors that were responsible for the success of land reforms in India. (200 Words 12.5 Marks)

Q10 · 5 marks · 200 words · *Agriculture and Food Security*

69. Given the vulnerability of Indian agriculture to vagaries of nature, discuss the need for crop insurance and bring out the salient features of the Pradhan Mantri Fasal Bima Yojana (PMFBY). (200 Words 12.5 Marks)

Q11 · 5 marks · 200 words · *Science and Technology*

70. Give an account of the current status and the targets to be achieved pertaining to renewable energy sources in the country. Discuss in brief the importance of National Programme on Light Emitting Diodes (LEDs). (200 Words 12.5 Marks)

Q12 · 5 marks · 200 words · *Science and Technology*

71. Discuss India's achievements in the field of Space Science and Technology. How the application of this technology has helped India in its socio- economic development? (200 Words 12.5 Marks)

Q13 · 5 marks · 200 words · *Science and Technology*

72. Why is nanotechnology one of the key technologies of the 21st century? Describe the salient features of Indian Government's Mission on Nanoscience and Technology and the scope of its application in the development process of the country. (200 Words 12.5 Marks)

Q14 · 5 marks · 200 words · *Environment and Ecology*

73. Rehabilitation of human settlements is one of the important environmental impacts which always attracts controversy while planning major projects. Discuss the measures suggested for mitigation of this impact while proposing major developmental projects. (200 Words 12.5 Marks)

Q15 · 5 marks · 200 words · *Science and Technology*

74. The frequency of urban floods due to high intensity rainfall is increasing over the years. Discussing the reasons for urban floods, highlight the mechanisms for preparedness to reduce the risk during such events. (200 Words 12.5 Marks)

Q16 · 5 marks · 200 words · *Disaster Management*

75. With reference to National Disaster Management Authority (NDMA) guidelines, discuss the measures to be adopted to mitigate the impact of recent incidents of cloudbursts in many places of Uttarakhand. (200 Words 12.5 Marks)

Q17 · 5 marks · 200 words · *Science and Technology*

76. The terms 'Hot Pursuit' and 'Surgical Strikes' are often used in connection with armed action against terrorist attacks. Discuss the strategic impact of such actions. (200 Words 12.5 Marks)

Q18 · 5 marks · 200 words · *Internal Security*

77. "Terrorism is emerging as a competitive industry over the last few decades." Analyse the above statement. (200 Words 12.5 Marks)

Q19 · 5 marks · 200 words · *Science and Technology*

78. Border management is a complex task due to difficult terrain and hostile relations with some countries. Elucidate the challenges and strategies for effective border management. (200 Words 12.5 Marks)

Q20 · 5 marks · 200 words · *Internal Security*

79. Use of internet and social media by non-state actors for subversive activities is a major security concern. How have these been misused in the recent past? Suggest effective guidelines to curb the above threat. (200 Words 12.5 Marks)

2017 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

80. Among several factors for India's potential growth, the savings rate is the most effective one. Do you agree? What are the other factors available for growth potential? (150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

81. Account for the failure of the manufacturing sector in achieving the goal of labour-intensive exports. Suggest measures for more labour intensive rather capital-intensive exports. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *Economy and Development*

82. Examine the developments of Airports in India through Joint Ventures under Public- Private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

83. Explain various types of revolutions, took place in Agriculture after Independence in India. How have these revolutions helped in poverty alleviation and food security in India? (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *Agriculture and Food Security*

84. What are the reasons for poor acceptance of cost- effective small processing units? How the food processing unit will be helpful to uplift the socio- economic status of Poor farmers? (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Science and Technology*

85. Stem cell therapy is gaining popularity in India to treat a wide variety of medical conditions including leukaemia, Thalassaemia, damaged cornea and several burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments? (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Science and Technology*

86. India has achieved remarkable successes in unmanned space missions including the Chandrayaan and Mars Orbiter Mission, but has not ventured into manned space missions, both in terms of technology and logistics? Examine critically. (150 Words, 10 Marks)

Q8 · 10 marks · 150 words · *Environment and Ecology*

87. Not many years ago, river linking was a concept, but it is becoming reality in the country. Discuss the advantages of river linking and its possible impact on the environment. (150 Words, 10 Marks)

Q9 · 10 marks · 150 words · *Science and Technology*

88. Discuss the potential threats of Cyber attack and the security framework to prevent it. (150 Words, 10 Marks)

Q11 · 15 marks · 250 words · *Economy and Development*

89. One of the intended objectives of Union Budget 2017-18 is to ‘transform, energize and clean India’. Analyze the measures proposed in the Budget 2017-18 to achieve the objective. (250 Words, 15 Marks)

Q12 · 15 marks · 250 words · *Economy and Development*

90. “Industrial growth rate has lagged behind in the overall growth of Gross-Domestic- Product (GDP) in the post-reform period” Give reasons. How far are the recent changes in Industrial Policy capable of increasing the industrial growth rate? (250 Words, 15 Marks)

Q13 · 15 marks · 250 words · *Economy and Development*

91. What are the salient features of ‘inclusive growth’? Has India been experiencing such a growth process? Analyze and suggest measures for inclusive growth. (250 Words, 15 Marks)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

92. What are the major reasons for declining rice and wheat yield in the cropping system? How crop diversification is helpful to stabilize the yield of the crop in the system? (250 Words, 15 Marks)

Q15 · 15 marks · 250 words · *Economy and Development*

93. How do subsidies affect the cropping pattern, crop diversity and economy of farmers? What is the significance of crop insurance, minimum support price and food processing for small and marginal farmers? (250 Words, 15 Marks)

Q16 · 15 marks · 250 words · *Economy and Development*

94. Give an account of the growth and development of nuclear science and technology in India. What is the advantage of fast breeder reactor programme in India? (250 Words, 15 Marks)

Q17 · 15 marks · 250 words · *Environment and Ecology*

95. ‘Climate Change’ is a global problem. How will India be affected by climate change? How Himalayan and coastal states of India are affected by climate change? (250 Words, 15 Marks)

Q18 · 15 marks · 250 words · *Economy and Development*

96. In December 2004, tsunami brought havoc on 14 countries including India. Discuss the factors responsible for the occurrence of Tsunami and its effects on life and economy. In the light of guidelines of NDMA (2010) describe the mechanisms for preparedness to reduce the risk during such events. (250 Words, 15 Marks)

Q19 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

97. Mob violence is emerging as a serious law and order problem in India. By giving suitable examples, analyze the causes and consequences of such violence. (250 Words, 15 Marks)

Q20 · 15 marks · 250 words · *Internal Security*

98. The scourge of terrorism is a grave challenge to national security. What solutions do you suggest curbing this growing menace? What are the major sources of terrorist funding? (250 Words 15 Marks)

2018 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

99. “Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)”. Comment on the progress made in India in this regard. (150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

100. Comment on the important changes introduced in respect of the Long-term Capital Gains Tax (LCGT) and Dividend Distribution Tax (DDT) in the Union Budget for 2018-2019. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

101. What do you mean by Minimum Support Price (MSP)? How will MSP rescue the farmers from the low-income trap? (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

102. Examine the role of supermarkets in supply chain management of fruits, vegetables, and food items. How do they eliminate the number of intermediaries? (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *Science and Technology*

103. Discuss the work of ‘Bose-Einstein Statistics’ done by Prof. Satyendra Nath Bose and show how it revolutionized the field of Physics. (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Environment and Ecology*

104. What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Science and Technology*

105. What is wetland? Explain the Ramsar concept of 'wise use' in the context of wetland conservation. Cite two examples of Ramsar sites from India. (150 Words, 10 Marks)

Q8 · 10 marks · 150 words · *Agriculture and Food Security*

106. Sikkim is the first 'Organic State' in India. What are the ecological and economic benefits of Organic State? (150 Words, 10 Marks)

Q9 · 10 marks · 150 words · *Internal Security*

107. The China Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger 'One Belt One Road' initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same. (150 Words, 10 Marks)

Q10 · 10 marks · 150 words · *Science and Technology*

108. Left Wing Extremism (LWE) is showing a downward trend, but still affects many parts of the country. Briefly explain the Government of India's approach to counter the challenges posed by LWE. (150 Words, 10 Marks)

Q11 · 15 marks · 250 words · *Economy and Development*

109. How are the principles followed by NITI Aayog different from those followed by the erstwhile planning commission in India? (250 Words, 15 Marks)

Q12 · 15 marks · 250 words · *Economy and Development*

110. How would the recent phenomena of protectionism and currency manipulations in world trade affect macroeconomic stability of India? (250 Words, 15 Marks)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

111. Assess the role of the National Horticulture Mission (NHM) in boosting the production, productivity, and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (250 Words, 15 Marks)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

112. How has the emphasis on certain crops brought about changes in cropping patterns in recent past? Elaborate the emphasis on millets production and consumption. (250 Words, 15 Marks)

Q15 · 15 marks · 250 words · *Science and Technology*

113. Why is there so much activity in the field of biotechnology in our country? How has this activity benefitted the field of biopharma? (250 Words, 15 Marks)

Q16 · 15 marks · 250 words · *Economy and Development*

114. With growing energy needs should India keep on expanding its nuclear energy programme. Discuss the facts and fears associated with nuclear energy. (250 Words, 15 Marks)

Q17 · 15 marks · 250 words · *Environment and Ecology*

115. How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in conservation of flora and fauna? (250 Words, 15 Marks)

Q18 · 15 marks · 250 words · *Science and Technology*

116. Describe various measures taken in India for Disaster Risk Reduction (DRR) before and after signing 'Sendai Framework for DRR (2015- 2030)'. How is this framework different from 'Hyogo Framework for Action, 2005'? (250 Words, 15 Marks)

Q19 · 15 marks · 250 words · *Science and Technology*

117. Data security has assumed significant importance in the digitized world due to rising cyber crimes. The Justice B. N. Srikrishna Committee Report addresses issues related to data security. What, in your view, are the strengths and weaknesses of the Report relating to protection of personal data in cyber space? (250 Words, 15 Marks)

Q20 · 15 marks · 250 words · *Science and Technology*

118. India's proximity to two of the world's biggest illicit opium-growing states has enhanced her internal security concerns. Explain the linkages between drug trafficking and other illicit activities such as gunrunning, money laundering and human trafficking. What countermeasures should be taken to prevent the same? (250 Words,

2019 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

119. Enumerate the indirect taxes which have been subsumed in the Goods and Services Tax (GST) in India. Also, comment on the revenue implications of the GST introduced in India since July 2017. (150 Words 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

120. Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments. (150 Words 10 Marks)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

121. How far is the Integrated Farming System (IFS) helpful in sustaining agricultural production? (150 Words 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

122. Elaborate the impact of the National Watershed Project in increasing agricultural production from water-stressed areas. (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Science and Technology*

123. What is India's plan to have its own space station and how will it benefit our space programme? (150 Words 10 Marks)

Q7 · 10 marks · 150 words · *Environment and Ecology*

124. Coastal sand mining, whether legal or illegal, poses one of the biggest threats to our environment. Analyse the impact of sand mining along the Indian coasts, citing specific examples. (150 Words 10 Marks)

Q8 · 10 marks · 150 words · *Disaster Management*

125. Vulnerability is an essential element for defining disaster impacts and its threat to people. How and in what ways can vulnerability to disasters be characterized? Discuss different types of vulnerability with reference to disasters. (150 Words 10 Marks)

Q9 · 10 marks · 150 words · *Internal Security*

126. The banning of “Jamaat-e-Islami” in Jammu and Kashmir brought into focus the role of over-ground workers (OGWs) in assisting terrorist organizations. Examine the role played by OGWs in assisting terrorist organizations in insurgency affected areas. Discuss measures to neutralize the influence of OGWs. (150 Words 10 Marks)

Q10 · 10 marks · 150 words · *Science and Technology*

127. What is Cyber Dome Project? Explain how it can be useful in controlling internet crimes in India. (150 Words 10 Marks)

Q11 · 15 marks · 250 words · *Economy and Development*

128. It is argued that the strategy of inclusive growth is intended to meet the objectives of inclusiveness and sustainability together. Comment on this statement. (250 Words 15 Marks)

Q12 · 15 marks · 250 words · *Economy and Development*

129. The public expenditure management is a challenge to the Government of India in the context of budget-making during the post- liberalization period. Clarify it. (250 Words 15 Marks)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

130. What are the reformative steps taken by the Government to make the food grain distribution system more effective? (250 Words 15 Marks)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

131. Elaborate on the policy taken by the Government of India to meet the challenges of the food processing sector. (250 Words 15 Marks)

Q15 · 15 marks · 250 words · *Science and Technology*

132. How is the Government of India protecting traditional knowledge of medicine patenting by pharmaceutical companies? (250 Words 15 Marks)

Q16 · 15 marks · 250 words · *Agriculture and Food Security*

133. How can biotechnology help to improve the living standards of farmers? (250 Words 15 Marks)

Q17 · 15 marks · 250 words · *Science and Technology*

134. Define the concept of carrying capacity of an ecosystem as relevant to an environment. Explain how understanding this concept is vital while planning for sustainable development of a region. (250 Words 15 Marks)

Q19 · 15 marks · 250 words · *Science and Technology*

135. Indian Government has recently strengthened the anti-terrorism laws by amending the Unlawful Activities (Prevention) Act (UAPA), 1967 and the NIA Act. Analyse the changes in the context of prevailing security environment while discussing the scope and reasons for opposing the UAPA by human rights organizations. (250 Words 15 Marks)

Q20 · 15 marks · 250 words · *Internal Security*

136. Cross-border movement of insurgents is only one of the several security challenges facing the policing of the border in North-East India. Examine the various challenges currently emanating across the India-Myanmar border. Also, discuss the steps to counter the challenges. (250 Words 15 Marks)

2020 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

137. Explain intergenerational and intragenerational issues of equity from the perspective of inclusive growth and sustainable development. (150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

138. Define Potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

139. What are the main Constraints in the transport and marketing of agricultural produce in India? (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

140. What are the challenges and opportunities of food processing sector in the country? How can income of the farmers be substantially increased by encouraging food processing? (150 Words 10 Marks)

Q5 · 10 marks · 150 words · *Science and Technology*

141. What do you understand by nanotechnology and how is it helping in health sector? (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Agriculture and Food Security*

142. How is science interwoven deeply with our lives? What are the striking changes in agriculture triggered off by the science-based technologies? (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Environment and Ecology*

143. How does the draft Environment Impact Assessment (EIA) Notification, 2020 differ from the existing EIA Notification, 2006? (150 Words 10 Marks)

Q8 · 10 marks · 150 words · *Environment and Ecology*

144. What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security? (150 Words 10 Marks)

Q10 · 10 marks · 150 words · *Internal Security*

145. For effective border area management, discuss the steps required to be taken to deny local support to militants and also suggest ways to manage favourable perception among locals. (150 Words 10 Marks)

Q11 · 15 marks · 250 words · *Economy and Development*

146. Explain the meaning of investment in an economy in terms of capital formation. Discuss the factors to be considered while designing a concession agreement between a public entity and a private entity. (250 Words 15 Marks)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

147. What are the major factors responsible for making rice-wheat system a success? In spite of this success how has this system become bane in India? (250 Words 15 Marks)

Q15 · 15 marks · 250 words · *Science and Technology*

148. COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. (250 Words 15 Marks)

Q16 · 15 marks · 250 words · *Economy and Development*

149. Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our Government for this purpose? (250 Words, 15 Marks)

Q17 · 15 marks · 250 words · *Science and Technology*

150. What are the key features of the National Clean Air Programme (NCAP) initiated by the Government of India? (250 Words 15 Marks)

Q18 · 15 marks · 250 words · *Disaster Management*

151. Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach. (250 Words, 15 Marks)

Q19 · 15 marks · 250 words · *Internal Security*

152. What are the determinants of left-wing extremism in Eastern part of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas? (250 Words 15 Marks)

2021 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

153. Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before the year 2015 and after the year 2015? (10 Marks, 150 Words)

Q2 · 10 marks · 150 words · *Science and Technology*

154. Distinguish between Capital Budget and Revenue Budget. Explain the components of both these Budgets. (10 Marks, 150 Words)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

155. How did land reforms in some parts of the country help to improve the socio-economic conditions of marginal and small farmers? (10 Marks, 150 Words)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

156. How and to what extent would micro-irrigation help in solving India's water crisis? (10 Marks 150 Words)

Q5 · 10 marks · 150 words · *Science and Technology*

157. How is S-400 air defence system technically superior to any other system presently available in the world? (10 Marks, 150 Words)

Q6 · 10 marks · 150 words · *Science and Technology*

158. Explain the purpose of the Green Grid Initiative launched at World Leaders Summit of the COP26 UN Climate Change Conference in Glasgow in November, 2021. When was this idea first floated in the International Solar Alliance (ISA)? (10 Marks, 150 Words)

Q7 · 10 marks · 150 words · *Science and Technology*

159. Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve these revised standards? (10 Marks, 150 Words)

Q8 · 10 marks · 150 words · *Disaster Management*

160. Discuss about the vulnerability of India to earthquake related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. (10 Marks, 150 Words)

Q9 · 10 marks · 150 words · *Internal Security*

161. Discuss how emerging technologies and globalisation contribute to money laundering. Elaborate measures to tackle the problem of money laundering both at national and international levels. (10 Marks, 150 Words)

Q10 · 10 marks · 150 words · *Science and Technology*

162. Keeping in view India's internal security, analyse the impact of cross-border cyber-attacks. Also discuss defensive measures against these sophisticated attacks. (10 Marks, 150 Words)

Q11 · 15 marks · 250 words · *Economy and Development*

163. Do you agree that the Indian economy has recently experienced V-shaped recovery? Give reasons in support of your answer. (15 Marks, 250 Words)

Q12 · 15 marks · 250 words · *Economy and Development*

164. "Investment in infrastructure is essential for more rapid and inclusive economic growth." Discuss in the light of India's experience. (15 Marks, 250 Words)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

165. What are the salient features of the National Food Security Act, 2013? How has the Food Security Bill helped in eliminating hunger and malnutrition in India? (15 Marks, 250 Words)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

166. What are the present challenges before crop diversification? How do emerging technologies provide an opportunity for crop diversification? (15 Marks, 250 Words)

Q15 · 15 marks · 250 words · *Science and Technology*

167. What are the research and developmental achievements in applied biotechnology? How will these achievements help to uplift the poorer sections of society? (15 Marks, 250 Words)

Q16 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

168. The Nobel Prize in Physics of 2014 was jointly awarded to Akasaki, Amano and Nakamura for the invention of Blue LEDs in 1990s. How has this invention impacted the everyday life of human beings? (15 Marks, 250 Words)

Q17 · 15 marks · 250 words · *Environment and Ecology*

169. Describe the major outcomes of the 26th Session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? (15 Marks, 250 Words)

Q18 · 15 marks · 250 words · *Disaster Management*

170. Describe the various causes and the effects of landslides. Mention the important components of the National Landslide Risk Management Strategy. (15 Marks, 250 Words)

Q19 · 15 marks · 250 words · *Internal Security*

171. Analyse the multidimensional challenges posed by external state and non-state actors, to the internal security of India. Also discuss measures required to be taken to combat these threats. (15 Marks, 250 Words)

Q20 · 15 marks · 250 words · *Internal Security*

172. Analyse the complexity and intensity of terrorism, its causes, linkages and obnoxious nexus. Also suggest measures required to be taken to eradicate the menace of terrorism. (15 Marks, 250 Words)

2022 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

173. Why is Public Private Partnership (PPP) required in infrastructure projects? Examine the role of PPP model in the redevelopment of Railway Stations in India. (150 Words, 10)

Q2 · 10 marks · 150 words · *Economy and Development*

174. Is inclusive growth possible under market economy? State the significance of financial inclusion in achieving economic growth in India. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

175. What are the major challenges of the Public Distribution System (PDS) in India? How can it be made effective and transparent? (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Agriculture and Food Security*

176. Elaborate the scope and significance of the food processing industry in India. (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

177. The increase in life expectancy in the country has led to newer health challenges in the community. What are those challenges and what steps need to be taken to meet them ? (Answer in 150 words)

Q6 · 10 marks · 150 words · *Environment and Ecology*

178. Each year a large amount of plant material, cellulose, is deposited on the surface of Planet Earth. What are the natural processes this cellulose undergoes before yielding carbon dioxide, water and other end products? (Answer in 150 words)

Q7 · 10 marks · 150 words · *Science and Technology*

179. Discuss in detail the photochemical smog emphasizing its formation, effects and mitigation. Explain the 1999 Gothenburg Protocol. (Answer in 150 words)

Q8 · 10 marks · 150 words · *Science and Technology*

180. Explain the mechanism and occurrence of cloudburst in the context of the Indian subcontinent. Discuss two recent examples. (Answer in 150 words)

Q9 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

181. Discuss the types of organised crimes. Describe the linkages between terrorists and organised crime that exist at the national and transnational levels. (Answer in 150 words)

Q10 · 10 marks · 150 words · *Internal Security*

182. What are the maritime security challenges in India? Discuss the organisational, technical and procedural initiatives taken to improve maritime security. (Answer in 150 words)

Q11 · 15 marks · 250 words · *Economy and Development*

183. “Economic growth in the recent past has been led by an increase in labour activity.” Explain this statement. Suggest the growth pattern that will lead to creation of more jobs without compromising labour productivity. (Answer in 250 words)

Q12 · 15 marks · 250 words · *Science and Technology*

184. Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective? Explain. (Answer in 250 words)

Q13 · 15 marks · 250 words · *Science and Technology*

185. What are the main bottlenecks in upstream and downstream process of marketing of agricultural products in India ? (Answer in 250 words)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

186. What is Integrated Farming System ? How is it helpful to small and marginal farmers in India ? (Answer in 250 words)

Q15 · 15 marks · 250 words · *Science and Technology*

187. Launched on 25th December, 2021, James Webb Space Telescope has been much in the news since then. What are its unique features which make it superior to its predecessor Space Telescopes ? What are the key goals of this mission ? What potential benefits does it hold for the human race? (Answer in 250 words)

Q16 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

188. What is the basic principle behind vaccine development? How do vaccines work? What approaches were adopted by the Indian vaccine manufacturers to produce COVID-19 vaccines ? (Answer in 250 words)

Q17 · 15 marks · 250 words · *Science and Technology*

189. Discuss global warming and mention its effects on the global climate. Explain the control measures to bring down the level of greenhouse gases that cause global warming, in the light of the Kyoto Protocol, 1997. (Answer in 250 words, 15 Marks)

Q18 · 15 marks · 250 words · *Science and Technology*

190. Explain the causes and effects of coastal erosion in India. What are the available coastal management techniques for combating the hazard? (Answer in 250 words, 15 Marks)

Q19 · 15 marks · 250 words · *Science and Technology*

191. What are the different elements of cyber security? Keeping in view the challenges in cyber security, examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy. (Answer in 250 words, 15 Marks)

Q20 · 15 marks · 250 words · *Internal Security*

192. Naxalism is a social, economic, and developmental issue manifesting as a violent internal security threat. In this context, discussing the emerging issues suggest a multilayered strategy to tackle the menace of Naxalism. (Answer in 250 words, 15 Marks)

2023 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

193. Faster economic growth requires increased share of the manufacturing sector in GDP, particularly of MSMEs. Comment on the present policies of the Government in this regard. (10 Marks, 150 Words)

Q2 · 10 marks · 150 words · *Economy and Development*

194. What is the status of digitalization in the Indian economy? Examine the problems faced in this regard and suggest improvements. (10 Marks, 150 Words)

Q3 · 10 marks · 150 words · *Agriculture and Food Security*

195. How does e-Technology help farmers in production and marketing of agricultural produce? (10 Marks, 150 Words)

Q4 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

196. State the objectives and measures of land reforms in India. Discuss how land ceiling policy on landholding can be considered as an effective reform under economic criteria. (10 Marks, 150 Words)

Q6 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

197. Discuss several ways in which microorganisms can help in meeting the current fuel shortage. (10 Marks, 150 Words)

Q7 · 10 marks · 150 words · *Science and Technology*

198. Dam failures are always catastrophic, especially on the downstream side, resulting in colossal loss of life and property. Analyze various causes of dam failures. Give two examples of large dam failures. (10 Marks, 150 Words)

Q8 · 10 marks · 150 words · *Environment and Ecology*

199. What is oil pollution? What are its impacts on the marine ecosystem? In what way is oil pollution particularly harmful for a country like India? (10 Marks, 150 Words)

Q9 · 10 marks · 150 words · *Internal Security*

200. Winning of 'Hearts and Minds' in terrorism- affected areas is an essential step in restoring the trust of the population. Discuss the measures adopted by the Government in this respect as part of the conflict resolution in Jammu and Kashmir. (10 Marks, 150 Words)

Q10 · 10 marks · 150 words · *Internal Security*

201. The use of unmanned aerial vehicles (UAVs) by our adversaries across the borders to ferry arms/ammunitions, drugs, etc., is a serious threat to the internal security. Comment on the measures being taken to tackle this threat. (10 Marks, 150 Words)

Q11 · 15 marks · 250 words · *Economy and Development*

202. Most of the unemployment in India is structural in nature. Examine the methodology adopted to compute unemployment in the country and suggest improvements. (15 Marks, 250 Words)

Q12 · 15 marks · 250 words · *Economy and Development*

203. Distinguish between ‘care economy’ and ‘monetized economy’. How can care economy be brought into monetized economy through women empowerment? (15 Marks, 250 Words)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

204. Explain the changes in cropping pattern in India in the context of changes in consumption pattern and marketing conditions. (15 Marks, 250 Words)

Q14 · 15 marks · 250 words · *Agriculture and Food Security*

205. What are the direct and indirect subsidies provided to farm sector in India? Discuss the issues raised by the World Trade Organization (WTO) in relation to agricultural subsidies. (15 Marks, 250 Words)

Q15 · 15 marks · 250 words · *Environment and Ecology*

206. The adoption of electric vehicles is rapidly growing worldwide. How do electric vehicles contribute to reducing carbon emissions and what are the key benefits they offer compared to traditional combustion engine vehicles? (15 Marks, 250 Words)

Q16 · 15 marks · 250 words · *Science and Technology*

207. What is the main task of India’s third moon mission which could not be achieved in its earlier mission? List the countries that have achieved this task. Introduce the subsystems in the spacecraft launched and explain the role of the ‘Virtual Launch Control Centre’ at the Vikram Sarabhai Space Centre which contributed to the successful launch from Sriharikota. (15 Marks, 250 Words)

Q17 · 15 marks · 250 words · *Environment and Ecology*

208. Comment on the National Wetland Conservation Programme initiated by the Government of India and name a few India’s wetlands of international importance included in Ramsar sites. (15 Marks, 250 Words)

Q18 · 15 marks · 250 words · *Environment and Ecology*

209. The Intergovernmental Panel on Climate Change (IPCC) has predicted a global sea level rise of about one metre by AD 2100. What would be its impact on India and other countries in the Indian Ocean region? (15 Marks)

Q19 · 15 marks · 250 words · *Internal Security*

210. What are the internal security challenges being faced by India? Give out the role of Central Intelligence and Investigative Agencies tasked to counter such threats. (15 Marks)

Q20 · 15 marks · 250 words · *Science and Technology*

211. Give out the major sources of terror funding in India and the efforts being made to curtail these sources. In the light of this, also discuss the aim and objective of the No Money for Terror (NMFT) Conference recently held at New Delhi in November 2022. (15 Marks)

2024 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Economy and Development*

212. Examine the pattern and trend of public expenditure on social services in the post- reforms period in India. To what extent this has been in consonance with achieving the objective of inclusive growth? (150 Words, 10 Marks)

Q2 · 10 marks · 150 words · *Economy and Development*

213. What are the causes of persistent high food inflation in India? Comment on the effectiveness of the monetary policy of the RBI to control this type of inflation. (150 Words, 10 Marks)

Q3 · 10 marks · 150 words · *GS III - Economy, Technology, Environment and Security*

214. What were the factors responsible for the successful implementation of land reforms in some parts of the country? Elaborate. (150 Words, 10 Marks)

Q4 · 10 marks · 150 words · *Science and Technology*

215. Explain the role of millets for ensuring health and nutritional security in India. (150 Words, 10 Marks)

Q5 · 10 marks · 150 words · *Science and Technology*

216. What is the present world scenario of intellectual property rights with respect to life materials? Although, India is second in the world to file patents, still only a few have been commercialized. Explain the reasons behind this less commercialization. (150 Words, 10 Marks)

Q6 · 10 marks · 150 words · *Science and Technology*

217. What is the technology being employed for electronic toll collection on highways? What are its advantages and limitations? What are the proposed changes that will make this process seamless? Would this transition carry any potential hazards? (150 Words, 10 Marks)

Q7 · 10 marks · 150 words · *Environment and Ecology*

218. Industrial pollution of river water is a significant environmental issue in India. Discuss the various mitigation measures to deal with this problem and also the government's initiatives in this regard. (150 Words, 10 Marks)

Q8 · 10 marks · 150 words · *Science and Technology*

219. What role do environmental NGOs and activists play in influencing Environmental Impact Assessment (EIA) outcomes for major projects in India? Cite four examples with all important details. (150 Words, 10 Marks)

Q9 · 10 marks · 150 words · *Science and Technology*

220. Explain how narco-terrorism has emerged as a serious threat across the country. Suggest suitable measures to counter narco-terrorism. (150 Words, 10 Marks)

Q10 · 10 marks · 150 words · *Science and Technology*

221. Describe the context and salient features of the Digital Personal Data Protection Act, 2023. (Answer in 150 words, 10 Marks)

Q11 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

222. Discuss the merits and demerits of the four 'Labour Codes' in the context of labour market reforms in India. What has been the progress so far in this regard? (250 words, 15 Marks)

Q12 · 15 marks · 250 words · *Science and Technology*

223. What is the need for expanding the regional air connectivity in India? In this context, discuss the government's UDAN Scheme and its achievements. (250 words, 15 Marks)

Q13 · 15 marks · 250 words · *Agriculture and Food Security*

224. What are the major challenges faced by the Indian irrigation system in recent times? State the measures taken by the government for efficient irrigation management. (Answer in 250 words, 15 Marks)

Q14 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

225. Elucidate the importance of buffer stocks for stabilizing agricultural prices in India. What are the challenges associated with the storage of buffer stock? Discuss. (250 words, 15 Marks)

Q15 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

226. The world is facing an acute shortage of clean and safe freshwater. What are the alternative technologies which can solve this crisis? Briefly discuss any three such technologies citing their key merits and demerits. (250 words, 15 Marks)

Q16 · 15 marks · 250 words · *GS III - Economy, Technology, Environment and Security*

227. What are asteroids? How real is the threat of them causing the extinction of life? What strategies have been developed to prevent such a catastrophe? (Answer in 250 words, 15 Marks)

Q17 · 15 marks · 250 words · *Science and Technology*

228. What is disaster resilience? How is it determined? Describe various elements of a resilience framework. Also mention the global targets of Sendai Framework for Disaster Risk Reduction (2015-2030). (250 words, 15 Marks)

Q18 · 15 marks · 250 words · *Science and Technology*

229. Flooding in urban areas is an emerging climate-induced disaster. Discuss the causes of this disaster. Mention the features of two such major floods in the last two decades in India. Describe the policies and frameworks in India that aim at tackling such floods. (250 words, 15 Marks)

Q19 · 15 marks · 250 words · *Economy and Development*

230. India has a long and troubled border with China and Pakistan fraught with contentious issues. Examine the conflicting issues and security challenges along the border. Also give out the development being undertaken in these areas under the Border Area Development Programme (BADP) and Border Infrastructure and Management (BIM) Scheme. (250 words, 15 Marks)

Q20 · 15 marks · 250 words · *Internal Security*

231. Social media and encrypting messaging services pose a serious security challenge. What measures have been adopted at various levels to address the security implications of social media? Also suggest any other remedies to address the problem. (250 words, 15 Marks)

2025 — GS Paper III : Questions

Q1 · 10 marks · 150 words · *Inclusive Growth and Indicators*

232. Distinguish between the Human Development Index (HDI) and the Inequality-adjusted Human Development Index (IHDI) with special reference to India. Why is the IHDI considered a better indicator of inclusive growth? (Answer in 150 words)

Q2 · 10 marks · 150 words · *Indian Economy and Trade*

233. What are the challenges before the Indian economy when the world is moving away from free trade and multilateralism to protectionism and bilateralism? How can these challenges be met? (Answer in 150 words)

Q3 · 10 marks · 150 words · *Agriculture and Cropping Pattern*

234. Explain the factors influencing the decision of the farmers on the selection of high value crops in India. (Answer in 150 words)

Q4 · 10 marks · 150 words · *Agricultural Supply Chains*

235. Elaborate the scope and significance of supply chain management of agricultural commodities in India. (Answer in 150 words)

Q5 · 10 marks · 150 words · *Science and Energy*

236. The fusion energy programme in India has steadily evolved over the past few decades. Mention India's contributions to the international fusion energy project International Thermonuclear Experimental Reactor (ITER). What will be the implications of the success of this project for the future of global energy? (Answer in 150 words)

Q6 · 10 marks · 150 words · *Clean Technology and Biotechnology*

237. How can India achieve energy independence through clean technology by 2047? How can biotechnology play a crucial role in this endeavour? (Answer in 150 words)

Q7 · 10 marks · 150 words · *Climate Technology*

238. What is Carbon Capture, Utilization and Storage (CCUS)? What is the potential role of CCUS in tackling climate change? (Answer in 150 words)

Q8 · 10 marks · 150 words · *Coastal Hydrogeology and Disaster Management*

239. Seawater intrusion in the coastal aquifers is a major concern in India. What are the causes of seawater intrusion and the remedial measures to combat this hazard? (Answer in 150 words)

Q9 · 10 marks · 150 words · *Internal Security and Terrorism*

240. Terrorism is a global scourge. How has it manifested in India? Elaborate with contemporary examples. What are the counter measures adopted by the State? Explain. (Answer in 150 words)

Q10 · 10 marks · 150 words · *Internal Security and Left Wing Extremism*

241. The Government of India recently stated that Left Wing Extremism (LWE) will be eliminated by 2025. What do you understand by LWE and how are the people affected by it? What measures have been taken by the government to eliminate LWE? (Answer in 150 words)

Q11 · 15 marks · 250 words · *Public Finance*

242. Explain how the Fiscal Health Index (FHI) can be used as a tool for assessing the fiscal performance of states in India. In what way would it encourage the states to adopt prudent and sustainable fiscal policies? (Answer in 250 words)

Q12 · 15 marks · 250 words · *Industrial Policy*

243. Discuss the rationale of the Production Linked Incentive (PLI) scheme. What are its achievements? In what way can the functioning and outcomes of the scheme be improved? (Answer in 250 words)

Q13 · 15 marks · 250 words · *Water Resources*

244. Examine the factors responsible for depleting groundwater in India. What are the steps taken by the government to mitigate such depletion of groundwater? (Answer in 250 words)

Q14 · 15 marks · 250 words · *Food Processing and Employment*

245. Examine the scope of the food processing industries in India. Elaborate the measures taken by the government in the food processing industries for generating employment opportunities. (Answer in 250 words)

Q15 · 15 marks · 250 words · *Nanotechnology in Agriculture*

246. How does nanotechnology offer significant advancements in the field of agriculture? How can this technology help to uplift the socio-economic status of farmers? (Answer in 250 words)

Q16 · 15 marks · 250 words · *Semiconductors and Industrial Strategy*

247. India aims to become a semiconductor manufacturing hub. What are the challenges faced by the semiconductor industry in India? Mention the salient features of the India Semiconductor Mission. (Answer in 250 words)

Q17 · 15 marks · 250 words · *Mining and Environment*

248. Mineral resources are fundamental to the country's economy and these are exploited by mining. Why is mining considered an environmental hazard? Explain the remedial measures required to reduce the environmental hazard due to mining. (Answer in 250 words)

Q18 · 15 marks · 250 words · *Climate Policy*

249. Write a review on India's climate commitments under the Paris Agreement (2015) and mention how these have been further strengthened in COP26 (2021). In this direction, how has the first Nationally Determined Contribution intended by India been updated in 2022? (Answer in 250 words)

Q19 · 15 marks · 250 words · *Internal Security in North-East India*

250. What are the major challenges to internal security and peace process in the North-Eastern States? Map the various peace accords and agreements initiated by the government in the past decade. (Answer in 250 words)

Q20 · 15 marks · 250 words · *Maritime Security*

251. Why is maritime security vital to protect India's sea trade? Discuss maritime and coastal security challenges and the way forward. (Answer in 250 words)

Model Answers — GS Paper III (after the questions, numbered identically)

1. [2013 Q1] With a consideration towards the strategy of inclusive growth, the new companies bill, 2013 has indirectly made CSR a mandatory obligation. Discuss the challenges expected in its implementation in right earnest. Also discuss other provisions in the bill and their implications. (150 Words, 10 Marks)

The Companies Act, 2013 regulates the incorporation, functioning, appointments of directors in board of directors, and dissolution of all types of companies. Key points: Corporate social responsibility (CSR) is a self-regulating business model that helps a company be socially accountable—to itself, its stakeholders, and the public.; By practicing corporate social responsibility, also called corporate citizens, companies can be conscious of the kind of effect they are having on all aspects of society, including economic, social, and environmental.; To engage in CSR means that, in the ordinary course of business, a company is operating in ways that enhance society and the environment, instead of contributing negatively to them.; Independent Directors: Companies Act made mandatory that one-third members comprise independent directors and at least 1 woman should be there as independent director.; Executive's salary: The new act says...

2. [2013 Q2] What are the reasons for introduction of Fiscal Responsibility and Budget Management (FRBM) act, 2003? Discuss critically its salient features and their effectiveness. (150 Words, 10 Marks)

The Fiscal Responsibility and Budget Management (FRBM) Act was enacted in 2003 which set targets for the government to reduce fiscal deficits. Key points: Ears up to March 31, 2020, cut it to 2.8 per cent in 2020-21 and to 2.5 per cent by 2023.; Reduction and Elimination of revenue deficit by 2008-09.; Reduction of fiscal deficit to no more than 3 percent of GDP at the end of 2008-09.; Reduce the Gross Fiscal Deficit (GFD) by March 31, 2008.; Institutionalise India's financial discipline.; Improving macroeconomic management.. Overall, for example, in the 2020-21 financial year, the government has to borrow more for social sector spending like under several programmes of ATMA NIRBHAR BHARAT Abhiyaan.

3. [2013 Q3] What is the meaning of the term tax-expenditure? Taking the housing sector as an example, discuss how it influences budgetary policies of the government. (150 Words, 10 Marks)

Tax expenditure is not related with governments expenditure or expenditure incurred by the government while collecting taxes. Key points: Exemption on Principal Amount: Exemption allowed on principal repayments and exemptions given on interest rates on housing loans.; Extensions on Tax Incentives by a Year upto the End of Fiscal 2021-22.; Housing For All: to spur investment in the housing sector, the government is considering providing tax incentives for certain projects to ensure 'Housing for All by 2022.; New Rent House Policy: The draft National Urban Rental Housing Policy has suggested a host of fiscal incentives to encourage rental housing with a view to achieve the goal of housing for all by 2022.; Economic Survey: As per Economic Survey 2019- 20 Central government has slashed interest rates on house buildings advance for government employees.; Relaxation of ECB's: The external...

4. [2013 Q4] Food Security Bill is expected to eliminate hunger and malnutrition in India. Critically discuss various apprehensions in its effective implementation along with the concerns it has generated in WTO. (150 Words, 10 Marks)

The basic concept of food security globally is to ensure that all people, at all times, should get access to the basic food for their active and healthy life and is characterized by availability, access, utilization, and stability of food. Key points: The NFSA 2013 requires the existing Food Security policies of India into Laws.. Overall, example, the Mid Day Meal Scheme, Public Distribution System, the Antyodaya Anna Yojana, etc. are expanded and include provisions for reducing food deficiency in parts of India. • Right Based

5. [2013 Q5] What are the different types of agriculture subsidies given to farmers at the national and state levels? Critically analyze the agriculture subsidy regime with the reference to the distortions created by it. (150 Words, 10 Marks)

In India around 600 million farmers are dependent on agriculture and maximum of farmers are being under marginal small landholders who are having low income and resource poor and mostly engaged in subsistence farming. Key points: The farm subsidies can be classified into direct and indirect ones.; These types of subsidies are directly provided to farmers, generally these subsidies are paid in cash form.; Rayatu Bandhu scheme of Telangana government which aims to provide Rs.; Kalia scheme, Krushak Assistance for Livelihood, and Income Augmentation (KALIA Scheme) was launched by the Government of Odisha to provide financial aid to farmers.; PM KISAN is the scheme which provides 6000 rupees in a; ear in 3 equal instalments.. Overall, example is The USA has filed a case against India's agricultural subsidy.

6. [2013 Q6] India needs to strengthen measures to promote the pink revolution in the food industry for better nutrition and health. Critically elucidate the statement. (150 Words, 10 Marks)

Pink revolution denotes the technological changes in the meat and poultry processing sector. Key points: Breeding: Quality breeding is very essential for promoting qualitative food processing industry.; Huge Population of Animals: India has one of the largest numbers of animals which can be used for processing meat and exporting it.; Cold Storage: Modern means of storage facilities which can keep intact quality and freshness of meat, is the need of the hour.; Quality Assurance: Quality assurance of processed meat and creating testing labs is another issue that needs to be resolved.; Nutrition: Meat provides more protein per serving.; Micronutrients: Meat consist of some of the essential micronutrients like Phosphorus, potassium, and selenium. Overall, pink revolution and its advancement have potential to improve life standard of Indian population by creating wealth and health or it dream can come true...

7. [2013 Q7] Examine the impact of liberalization on companies owned by Indians. Is it competing with the MNCs satisfactorily? (150 Words, 10 Marks)

In Economic terms, Liberalization means minimizing government restrictions and all types of regulations. Key points: effect on Small Industries: Indian manufacturing industries are dominated by Micro, Small, and Medium enterprises.; Unrestrictive Capital Flow: This unrestricted flow of capital in the country brought much- needed capital for expansion and technology adoption.; Growth of Service Industry: New Economic policies brought the biggest thrust to the growth of the service industry.; Tourism Industry: Liberalization policy allowed and attracted foreign tourists to visit India.; effect on Agriculture Sector: In the agricultural sector, modern equipment-making companies were established in India which brought down the cost of these equipment and decreased the input cost of agriculture.; Outsourcing: Knowledge Processing Organisations (KPO's), Business Processing Outsourcing (BPO's), and other cheap and effective service industry, human resources are now outsourced by foreign companies.. Overall, indian companies need...

8. [2013 Q8] Establish the relationship between land reform, agriculture productivity, and elimination of poverty in the Indian Economy. Discuss the difficulty in designing and implementation of agriculture-friendly land reforms in India. (150 Words, 10 Marks)

The notion of land reforms was taken from communist nations to balance the structure of landholdings. Key points: To achieve egalitarian outcomes from agricultural activities; Improvement in the socio-economic status of the rural section.; To eradicate the exploitation of the downtrodden section.; More focus on productivity.; Special concentration on rural areas.; To gain balanced socio-economic growth.. Overall, this may lead to increased job creations, consumer as king can become true if this FDI takes place and achieves its intended objectives.

9. [2013 Q10] Discuss the rationale for introducing the Goods and services tax in India. Bring out critically the reasons for the delay in roll out for its regime. (150 Words, 10 Marks)

The goods and services tax (GST) is a value-added tax levied on most goods and services sold for domestic consumption. Key points: The Complex Tax Structure: The main reason behind the introduction of GST is simplifying tax structure.; Improving Compliances: Too many taxes discourage people and mainly industries to pay taxes.; Increase Tax Revenue: Increased tax revenue has become possible after the introduction of GST as the number of taxpayers increased.; Decrease Cascading Effects: The ultimate burden of paying tax goes on citizens hence It was speculated that cascading effects or cascading burden of paying taxes on citizens.; Improve Fiscal Federalism: As per GST law centre will pay compensation in case states would fail to get the expected amount of tax.; Destination Based Tax: GST is destination-based hence this destination-based tax reduces paying multiple taxes on a single...

10. [2013 Q11] Write a note on India's green energy corridor to alleviate the problems of conventional energy. (250 Words, 15 Marks)

The Government of India plans to roll out the Green Energy Corridor project worth INR 43,000 crore (US\$ 6.9 billion) to facilitate the flow of renewable energy into the national grid. Key points: Climate Change: The Sources of Conventional energy are oil, Gas , and Coal, which are usually called Fossil Fuels.; Import Bill: Conventional energy increases import dependence and this import dependence increases forex burden.; Rising Prize: OPEC countries, charging extra rupees from Asian countries who import oil by charging extra 'Asian Premium'.; Indoor Pollution: In most of India's villages, wood, cow dung, and other traditional forms of energy resources are still used to heat and lighten up their home.; Different Voltage: At present, the National Grid confronts trouble in engrossing sustainable power sources because of differing voltage and supply.; Future Proof: India has an expected 28000 MW of Installed sustainable power source capacity.; Connecting Roof-Top: Rooftop solar energy production has been given a boost by government policies.; Help to Achieve Targets: As the government has set targets of 175 GW renewable energy in which solar and wind have a major chunk.; Reserving Coal Deposits: NGC will contribute to reducing dependence on coal for thermal energy generation hence, India may potentially keep reserves of coal for future generations.. Overall, thus, it is said that India's green energy corridor will not only help in connecting green energy from different parts...

11. [2013 Q12] Adoption of the PPP model for infrastructure development of the country has not been free from criticism. Critically discuss the pros and cons of the model. (250 Words, 15 Marks)

Public-private partnerships involve collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centers. Key points: Advantages to Both Parties: Partnerships between private companies and governments provide advantages to both parties.; Newer Technologies: Once the private sector is allowed or given work to complete, they bring all the available latest technologies to finish projects.; Competitive Economy: The public sector, for its part, provides incentives for the private sector to deliver projects on time and within budget.; Ensure the necessary investments into the public sector and more effective public resources management.; Ensure higher quality and timely provision of public services.; A private entity is granted the opportunity to obtain a long-term remuneration.; Appropriate PPP project risk allocation enables to reduce the risk management expenditures.; Infrastructure or services delivered could be more expensive.; PPP project public sector payments obligations postponed for the later periods can negatively reflect future public sector fiscal indicators.. Overall, if India wants to become \$5 trillion by 2025, building world-class infrastructure is imperative and a prerequisite.

12. [2013 Q13] Bring out the circumstances in 2005 which forced amendment to section 3(d) in the Indian Patent Law, 1970. Discuss how it has been utilized by the Supreme court in its judgment rejecting Novartis patent application for 'Glivec'. Discuss briefly the pros and cons of the decision. (250 Words, 15 Marks)

Patent system is a type of contract between the inventor/creator and authority whereby the creator gets exclusive rights for a period of 20 years in return for disclosing full details of the invention. Key points: Patent Act 1972 and amended through the Patent (amendment) Act 2005.; Section 3(d) was introduced and introduced pharmaceutical product patents in India for the first time.; The Act 2005 defines what invention is and makes it clear that any existing knowledge or thing cannot be patented.; The provision defines a 'novelty' standard - which, along with 'non-obviousness' or 'inventive step' and industrial applicability, are the three prerequisites for 'patentability'; "Discovery" essentially means finding something which already existed in nature but was unknown or unrecognised.; Patent 1997 related to drug name GLIVEC which was slightly a different version of their 1993 patent for ANTI LEUKAEMIA drug.; Section 3(d) of the Act is unconstitutional as it violates the provision of the TRIPS agreement.; The Indian patent act doesn't define the term 'efficacy' and provides unguided power on the Controller.. Overall, the ruling of the Novartis's case in Indian patent law represents a major victory for community's access to inexpensive medicines in developing countries and influences the access of medicines to the poor.

13. [2013 Q14] What do you understand about Fixed Dose Drug Combinations (FDCs)? Discuss their merits and demerits. (250 Words, 15 Marks)

It is a mix of two or more therapeutic ingredients in a single dose. Key points: Reduced Pill Burden: Improved medication compliance by the pill burden of the patients.; Reduced Mental Burden: It also reduces the burden of keeping track of all the medicines, their time of taking, keeping related information in mind or remembering it is a very tedious task hence it will help patients release pressure from mind and take one pill and be assured.; Reduce Effects of Single Drug: It is said that FDC's help in reducing effects of single drugs or single dose on patients.; Simplifying Drug Regime: FDC's help in simplifying complex treatment drug regime and help in achieving desired results of drugs combination on patients.; Treatment of type two diabetes: Four key benefits are identified and discussed in support of FDCs for treatment of patients with T2DM: Greater efficacy compared with higher dose monotherapy, Reduced risk of adverse reactions relative to higher dose monotherapy, Lower overall costs, and Improved medication concordance.; Unwanted drugs: As fixed drug combinations involve more than 2 drugs this sometimes creates issues for patients who need only a single drug.; Cost: Cost of FDCs are the most critical issue as it is considered costly and patients who are poor and considering taking FDC's causes out of pocket expenditure.; Patent's protection: FDC's are considered themselves unique in nature and this may...

14. [2013 Q15] What do you understand by Umpire decision review in cricket? Discuss its various components. Explain how silicon tape on the edge of a bat may fool the system? (250 Words, 15 Marks)

The Decision Review System (DRS) is a technology- based process for assisting the match officials with their decision-making. Key points: Hawk-Eye: It is a virtual ball tracking technology which is used to take decisions on LBW calls.; Hot-Spot: It is an infra-red imaging system which is used to find out inside edges in close LBW and caught behind calls; Snickometer: A very important component of DRS, it is used to identify edges by using directional microphones to detect small sounds.; Using silicone-based tape on the edges of bats might be one of the ways to get past HotSpot.; Silicon tape is heat resistance combined that can fool thermal cameras from detecting heat intensity.; Sometimes Hotspots failed to demonstrate edges of the bat but at the same time Ultra edge/ snickometer detected any edges.. Overall, sports are supposed to promote brotherhood but sometimes because of faulty technologies it creates bitter relations between players and teams.

15. [2013 Q16] Two questions: each with 5 marks, 100 words

Digital signatures are the digital equivalent of regular ink signatures. Key points: our approval or involvement on a paper document and its contents, a digital signature does the same but on digital documents.; Further, the IT Act, 2000 deals with digital signatures under Sections 2, 3, and; Digital Signature

Authentication; Digital signature is a mathematical arrangement to verify the authenticity of digital documents or messages.; Like written signatures, digital signatures provide verification of the associated input or messages.; Further, digital signatures authenticate the source of messages like an electronic mail or a...

16. [2013 Q18] How important are vulnerability and risk assessment for pre-disaster management? As an administrator, what are key areas that you would focus on in Disaster Management System. (250 Words,15 Marks)

Pre disaster management is a very major step in disaster management. Key points: Reduce Losses: Vulnerability and risk assessment will help in reducing and saving lives, property, and other important national assets such as bridges, roads, railway lines etc.; Improved Planning: Pre risk and vulnerability assessment will help in planning areas.; Improving Governance: Disaster governance will help in scientific assessment of disasters such as floods, cyclones, earthquake, flash floods etc.; Disaster Resilient Infrastructure: Disaster resilient infrastructure building is essential for disaster prone areas for several natural disasters.; Risk Management: It involves all the agencies and authorities and improving coordination among them is the first and foremost step towards achieving best practices during disasters.; Understanding Disaster Risk: Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.; Strengthening Disaster Risk Governance to Manage Disaster Risk: Disaster risk governance at the national, regional, and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation.; Investing in Disaster Resilience: Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries, and their assets, as well as the environment.; Enhancing Disaster Preparedness for Effective Response, and to “Build Back Better” in Recovery, Rehabilitation...

17. [2013 Q19] What are the consequences of illegal mining? Discuss the Ministry of Environment and Forests’ concept of “GO AND NO GO” zones for coal mining. (250 Words, 15 Marks)

Mining is an important economic activity which has the potential of contributing to the development of areas endowed with the resources. Key points: Environmental Consequences: Illegal mines such as sand mining from river bed, seas, etc lead to destruction of river flow, and negative effect on groundwater recharge.; effect on Biodiversity: Illegal mining such as coal, bauxite, precious metal, and non-metal minerals required huge land.; Economic Consequences: Illegal mining leads to loss of revenue to the government, both state and centre, because this type of mining is carried out without legal documentation.; Loss of Life: Illegal mining like rat hole mining leads to death of many people.; Social Consequences: Illegal mining leads to loss of exchequers as money is not paid to the state.; The Union Ministry of Environment, Forest and Climate Change(MOEFC) has a stand against mining in coal fields demarcated ‘no-go’ zones.; These zones are in the letter and spirit of the Forest Conservation Act.; The present classification of coal blocks into the two categories.; The coal that may be extracted from the coal- bearing areas that have not been classified as category A (no-go zone).. Overall, the District Mineral Foundation can be used to keep watch on illegal mining and report to the nearby police stations to take actions against illegal miners.

18. [2013 Q20] Enumerate the National Water Policy of India. Taking river Ganges as an example, discuss the strategies which may be adopted for river water pollution control and management. What are the legal provisions for management and handling of hazardous wastes in India? (200 Words, 10 Marks)

India is one of the worst countries affected by river pollution as with nearly 70% of water being contaminated, India is placed 120th amongst 122 countries in the water quality index. Key points: ear to bathe and offer prayers.; Prevent Pollution Rather Than Treating Symptoms of Pollution:Although

wastewater treatment facilities have been installed and improved over the years in many countries, water pollution remains a problem, including in industrialised countries.; In some situations, the introduction of improved wastewater treatment has only led to increased pollution from other media, such as wastewater sludge.; Use the Precautionary Principle: There are many examples of the application and discharge of hazardous substances into the aquatic environment, even when such substances are suspected of having detrimental effects on the environment.; Until now the use of any substance and its release to the environment has been widely accepted unless scientific research has proved unambiguously a causal link between the substance and a well-defined environmental effect.; Apply the Polluter-Pays-Principle: The polluter- pays-principle, where the costs of pollution prevention, control and reduction measures are borne by the polluter, is not a new...

19. [2013 Q21] Money laundering poses a serious threat to a country's economic sovereignty. What is its significance for India and what steps are required to be taken to control this menace? (200 Words, 10 Marks)

Money laundering is the illegal process of making large amounts of money generated by a criminal activity, such as drug trafficking or terrorist funding, appear to have come from a legitimate source. Key points: In Mohammad Arif Case, High Court of Orissa held that the offence of Money Laundering is nothing but an act of financial terrorism that poses a serious threat not only to the financial system of the country but also to the integrity and sovereignty of a nation.; The Supreme Court of India has constantly held that economic offences are sui generis in nature as they stifle the delicate economic fabric of a society.; The abuse of the financial system has great potential to negatively effect a country's macro- economic performance and may also adversely effect its cross-border externalities.; Further, such actions can inflict reputational damage on the country in the world of business and commerce both inside the country and abroad.; Money laundering is done in an exotic fashion encompassing a series of actions by the proverbial renting of credibility from the innocent investors.; The offenders often target the unsuspecting...

20. [2013 Q22] What are social networking sites and what security implications do these sites present? (200 Words, 10 Marks)

A social networking site is an online platform that allows users to create a public profile and interact with other users. Key points: There were 624.0 million internet users in India in January 2021.; The report by the Internet and Mobile Association of India says, "The fact that almost two thirds of the users are already accessing social media through their mobiles is a promising sign.; Ugly turn of events, mobile and social network interface was used to send offensive clips and hate messages that triggered panic and mass exodus of north east Indians from large parts of India in the aftermath of the ethnic clashes in Assam in 2012.; In September 2013, a morphed video on YouTube was used to fan communal riots in Muzaffarnagar in Uttar Pradesh and led to mass panic.; In 2014, the arrest of a Bangalore based executive, Mehdi Masoor Biswas, accused of being the man behind terror group Islamic State's (ISIS) most influential Twitter handle in India, @ShamiWitness brought to surface the extent of the threat posed by the misuse of social media at home.; A propaganda video...

21. [2013 Q23] Cyber warfare is considered by some defence analysts to be a larger threat than even Al Qaeda or terrorism. What do you understand about Cyber warfare? Outline the cyber threats which India is vulnerable to and bring out the state of the country's preparedness to deal with the same. (200 Words, 10 Marks)

Cyber warfare consists of attacks on computer systems of countries or institutions with the intention of disrupting, damaging, or destroying infrastructure. Key points: Cyber warfare can take many forms, but all of them involve either the destabilization or destruction of critical systems.; Attacks on financial infrastructure.; Attacks on public infrastructure like dams or electrical systems.; Attacks on safety infrastructure like traffic signals or early warning systems.; Attacks against military resources or organizations.; Espionage: Espionage

is spying on another country to steal secrets.; Sabotage: With sensitive information identified, organizations then need to determine the potential threats presented to this data.; Denial-of-Service Attack: A denial-of-service (DoS) attack involves flooding a website with fake requests, forcing the site to process those requests, thereby making it unavailable for legitimate users.; Electrical Power Grid: Hacking the electrical power grid could give an attacker the ability to disable critical systems, crippling infrastructure and causing the deaths of thousands.. Overall, there is an urgent requirement to enunciate our national cyber power policy and doctrine, build 'Cyber Power as a System' to meet India's security needs and integrate it with other warfighting...

22. [2013 Q24] Article 244 of Indian Constitution relates to Administration of Scheduled areas and Tribal areas. Analyze the impact of non-implementation of the provisions of fifth schedule on the growth of Left-Wing Extremism. (200 Words, 10 Marks)

There is a definite correlation between the expanse of Left-Wing Extremism (LWE) and the Scheduled areas and Tribal areas. Key points: Article 244 (1) of the Indian Constitution defines the Scheduled Areas which are included in the fifth schedule of the Constitution.; The Fifth Schedule designates tribal majority areas in ten tribal minority states within peninsular India including, Andhra Pradesh, Telangana, Gujarat, Jharkhand, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, and Rajasthan.; The Fifth Schedule has a provision for a Tribes Advisory Council (TAC) in each State with Scheduled Areas for the welfare and advancement of the Scheduled Tribes.; The Sixth Schedule under Article 244 (2) of the Constitution relates to those areas in the States of Assam, Meghalaya, Tripura and Mizoram which are declared as "tribal areas" and provides for District or Regional Autonomous Councils for greater political autonomy and decentralised governance.; Areas under 6th Schedule in Assam: The hill districts of Dima Hasao, Karbi Anglong and West Karbi and the Bodo Territorial Region are under this provision.; It functions only in an advisory capacity and only for the issues referred to by...

23. [2013 Q25] How far are India's internal security challenges linked with border management, particularly in view of the long porous borders with most countries of South Asia and Myanmar? (200 Words, 10 Marks)

India shares land boundaries with China, Bangladesh, Nepal, Pakistan, Bhutan, and Myanmar in the east. Key points: Drugs: Illegal drugs are brought into India from these porous areas such as the Nepal border along with some areas in Pakistan that have been known for it.; Illegal Arms: Unfenced borders lead to smuggling of arms within and outside the country.; Illegal Migration: Illegal migration of the people across the border leads to problems of increased crimes, carrying illegal activities which can be dangerous for national security as well as for internal security.; Ethnic Conflicts: Ethnic conflicts in north eastern states is not new for India but illegal migration has made this a very critical issue.; Change in Demography: Illegal migration becomes a challenge when migrants come into India without having legal documents and passports.; Myanmar border: It is known for safe passage for the insurgent groups of the north eastern state like NSCN-K, NSCN-IM, etc.. Overall, also, borders need to be converted into frontiers, which can bring prosperity in the bordering regions.

24. [2014 Q1] Normally countries shift from agriculture to industry and then later to services, but India shifted directly from agriculture to services. What are the reasons for the huge growth of services vis- a-vis industry in the country? Can India become a developed country without a strong industrial base? (150 words, 10 marks)

The normal course of economic progress and development path takes from agriculture to services via industrialisation or manufacturing or secondary sector. Key points: Globalization and LPG policy: In 1991 India started opening its economy in terms to achieve greater integration of the world economy and rapid economic development.; External demand and skilled manpower: Once India became part of the global market, the fluent English-speaking skills and technological know-how fulfilled the demand for the services

outsourcing such as KPO, BPO.; License Raj: The permit system and license raj were the great impediments even after New Economic Policy.; Income Elasticity of Demand for Services: A rising share of services in GDP is regarded as an outcome of higher income elasticity of demand for services.; Services, Employment and Productivity: While agricultural and manufacturing activities account for a major share of employment...

25. [2014 Q3] There is also a point of view that Agricultural Produce Market Committees [APMCs] set up under the State Acts have not only impeded the development of agriculture but also have been the cause of food inflation in India. Critically examine. (150 Words, 10 Marks)

Agricultural Produce Market Committee (APMC) is a statutory market committee constituted by a State Government to regulate trade in certain notified agricultural or horticultural or livestock products, under the Agricultural Produce Market Committee Act. Key points: The state-level statutes have so far been unable to address the key such as expansion and modernisation of marketing facilities, improving communications, linking small producers with all the marketing channels, information dissemination to every farmer etc.; Regulations did not allow farmers to sell outside the mandis and poor price realization of agricultural produce at mandis did not allow farmers to adopt newer technologies and investment in agriculture.; Burdened to carry to distant mandi and poor warehousing facilities, compel farmers to sell produce in as distressed selling, making them prey to exploitation by middlemen.; Does not support contract farming, hindering diversification of agriculture...

26. [2014 Q4] “In the villages itself no form of credit organization will be suitable except the cooperative society.” – All India Rural Credit Survey Discuss this statement in the background of agricultural finance in India. What constraints and challenges do financial institutions supplying agricultural finance face? How can technology be used to better reach and serve rural clients? (150 Words, 10 Marks)

For the development of any sector finance is a prerequisite and agriculture also not the exception for it. Key points: to promote economic interests of the members in accordance with the co-operative principles; to provide short and medium term loans; to promote savings habit among members; The existing financial infrastructure in India has not been able to meet the key financial needs that arise along agricultural value chains and as a result; Many Agri intermediaries as well as farmers are either left un-served or underserved because of the lack of timely access to institutional finance via Agri-loans.; The market demand for smallholder agriculture finance is huge and is largely unmet.; Without access to credit, most smallholders are restricted to farming, trading, processing practices that result in low levels of productivity.. Overall, india has better democratic control, fulfilling instant...

27. [2014 Q5] The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 has come into effect from 1st January 2014. What are the key issues which would get addressed with the Act in place? What implications would it have on industrialization and agriculture in India? (150 Words, 10 Marks)

In 2013 the government of India introduced a new act to reform the process of land acquisition and rehabilitation. Key points: Consent: No land can be acquired in Scheduled Areas without the consent of the Gram Sabhas and no one shall be dispossessed until and unless all payments are made and alternative sites for the resettlement and rehabilitation have been prepared.; No consent required for government projects.; Consent of 80% of landowners required for private projects.; Social effect Assessment: SIA is mandatory for all projects except in cases of urgency or for irrigation projects where an Environmental effect Assessment is required.; Rehabilitation: Includes employment to one member of an affected family.; Compensation: Compensation will be 4 times in rural and 2 times in urban areas.. Overall, india needs a holistic and comprehensive approach for land acquisition that not...

28. [2014 Q6] Capitalism has guided the world economy to unprecedented prosperity. However, it often encourages short sightedness and contributes to wide disparities between the rich and the poor. In this light, would it be correct to believe and adopt capitalism for bringing inclusive growth in India? Discuss. (150 Words, 10 Marks)

Capitalism is an economic system in which private individuals or businesses own capital goods. Key points: effect on Small Enterprises: As capitalism in globalisation promotes greater integration of world economies.; effect on Employment: Capitalism can create job opportunities but Indian experience has seen low job creation in the formal organised sector.; Inequality: Increased inequality is another distortion created by capitalism.; Crony Capitalism: Crony capitalism is an indicator of the state of the economy where success in business is determined by the mutual relationship between businessmen and government officials.; Haves and Have Nots: Haves and have nots is a concept where both rich and poor class exists but rich the rich class has access to all the resources and benefits which they use for their progress and success.; Unequal distribution of power and materialistic things: Unequal distribution of materialistic...

29. [2014 Q7] Explain how Private Public Partnership arrangements, in long gestation infrastructure projects, can transfer unsustainable liabilities to the future. What arrangements need to be put in place to ensure that successive generations' capacities are not compromised? (150 Words, 10 Marks)

PPP means a cooperative venture between the public and private sectors for providing a public asset or service, in which the private party bears major risk and management responsibility and remunerations, is linked to performance. Key points: Land Acquisition: Difficulty in land acquisition leads to delay in operations.; Regulatory Clearance: Mainly involvement of multiple agencies in coordination.; Disaster: The occurrence of a macroeconomic shock increases the likelihood of project cancellation (failure) from less than 5% to more than 8%, controlling for other variables.; Number of parties involved: Parties involved such as farmers, banks for financing and several government departments resulting in the delay in projects.; Complex relations: Involvement of several parties in the implementation of projects led to complexities.; Financing issues: As infrastructure projects are long and time-consuming, banks are the largest financiers for most of the infrastructure...

30. [2014 Q8] National Urban Transport Policy emphasises on 'moving people' instead of 'moving vehicles'. Discuss critically the success of the various strategies of the Government in this regard. (150 Words, 10 Marks)

The National Urban Transport Policy (NUTP) in 2006 was brought in by GoI to bring about comprehensive improvements in urban transport services and infrastructure. Key points: Incorporating urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement.; Encouraging integrated land use and transport planning in all cities so that travel distances are minimized and access to livelihoods, education, and other social needs, especially for the marginal segments of the urban population is improved; Improving access of business to markets and the several factors of production; Bringing about a more equitable allocation of road space with people, rather than vehicles viz. safety for walking and cycling.; ears have passed since then and several new initiatives have been taken by MOUD to promote good mobility in cities.; Bus Rapid Transit System: This is...

31. [2014 Q9] Foreign Direct Investment (FDI) in the defence sector is now set to be liberalized: What influence is this expected to have on Indian defence and economy in the short and long-run? (150 Words, 10 Marks)

In the recent policy change of the Government of India, the Ministry of Finance has allowed or increased the FDI limit from 49% to 74% with automatic approval. Key points: Revive Economy: The Indian economy is facing slow down and fresh investment opportunities will generate employment and revive India's economic growth by increasing productions in Micro, Small and Medium Industries (MSME's); Fulfil Immediate

Requirement: As tension with China has increased, the immediate need for some of the equipment can be fulfilled from foreign defence corporations.; Positive Sentiments: With an increased limit of FDI will give positive signs in the pandemic affected world economy and enhance the confidence of investors to invest in several segments of the defence sector.; Increases Jobs: Slowing economy and jobless growth need economic growth with jobs.; Reduced Import: It will have both short term...

32. [2014 Q11] Can overuse and free availability of antibiotics without Doctor's prescription, be contributors to the emergence of drug-resistant diseases in India? What are the available mechanisms for monitoring and control? Critically discuss the various issues involved. (250 Words, 15 Marks)

Drug resistance means the reduction in effectiveness of a medication in treating a disease or condition. Key points: Easy availability and Over the counter sale: Bacteria and fungi do have adaptation mechanisms to avoid the effects of the antibiotics used to treat the infections they cause.; Poultry and cattle farming: In India use of antibiotics in poultry and cattle farming is one of the highest.; Improve Sanitation and Prevent the Spread of Infection: Prevention is better than cure – by improving healthcare systems and living standards we can markedly reduce the demand for antibiotics and thus give less chance for new resistance strains to develop.; Reduce Unnecessary Use of Antimicrobials in Agriculture and Their Dissemination into the Environment: The vast majority of global antimicrobial consumption comes from agriculture and aquaculture.; Improve Global Surveillance of Drug Resistance and Microbial Consumption: For scientists and physicians to elucidate the mechanisms of acquiring new resistance, monitor the cases already present and to anticipate future threats, they need to have better insight into current and past AMR- related data.; Promote Development and Use of Vaccines and Alternatives: With increasing vaccination, the number of infected people needing antibiotic treatment would reduce.; Improve the Number and Recognition of People Working with Infectious Disease: Addressing AMR requires a qualified workforce to implement them.; Better Incentives to Promote Investment for New Drugs and Improving Existing Ones: The development of...

33. [2014 Q12] In a globalized world, Intellectual Property Rights assume significance and are a source of litigation. Broadly distinguish between the terms—Copyrights, Patents and Trade Secrets. (250 Words, 15 Marks)

Intellectual property rights are the rights given to persons over the creations of their minds. Key points: Protect Innovation: Intellectual Property Rights provides legal protection to innovation and resultant goods or services which have unique appearance.; Driver Economic Growth and Competitiveness: It creates an ecosystem of innovations and entrepreneurship translating into unique business opportunities.; Protection of National Interest: IPR protection is a key enabler in world trade.; Protection of consumer interest against frauds: Strong IP rights help consumers make an informed choice about the safety, reliability, and effectiveness of their purchases.; Generate Breakthrough Solutions to Global Challenges: Nearly all of the 300 products on the World Health Organization's Essential Drug List, which are critical to saving or improving people's lives around the globe, came from the R&D- intensive pharmaceutical industry that depends on patent protections.; IPR and Trade disputes: because of competing claims, cases related to violation are piled up in WTO.; Indigenous People Knowledge: In a globalised world protection of knowledge and practices of indigenous people assumes significance as these are very difficult to classify as IP rights.; A Patent is a set of exclusive rights that a sovereign state grants an inventor or their assignee in exchange for public disclosure of their inventions.; Patents are issued for certain lengths of time that depend on national laws.. Overall, in this perspective, the new National IPR policy is a welcome...

34. [2014 Q13] Should the pursuit of carbon credits and clean development mechanisms set up under UNFCCC be maintained even though there has been a massive slide in the value of a carbon credit? Discuss with respect to India's energy needs for economic growth. (250 Words, 15 Marks)

A carbon credit is a permit that allows the company that holds it to emit a certain amount of carbon dioxide or other greenhouse gases. Key points: Fallen demand in the European market: There has been decreasing demand in European countries for carbon credit which leads to a massive price decrease of carbon credit.; Domestic market: Countries like Canada, China, Brazil, have set up independent carbon markets they can trade in, without the prices being influenced by global circumstances.; Restrictions of purchase: European countries and countries like Australia have put restrictions and put a cap on purchase of carbon credits from developing countries like India.; No commitment under Kyoto Protocol: The talks to extend the commitment made under Kyoto Protocol have not materialised into any agreement.; Demand of Energy: because of increasing demand for energy, India has put a lot of emphasis on improving energy efficiency.; Manufacturing Hub: India's quest for carbon credits can be harmful to make India a manufacturing hub and improve quality of life.; Huge Population: India can not depend on clean energy completely for fulfilling its energy needs.; Use for Own Benefit: Indian need to use surplus carbon credit for its own benefits by selling it domestically.. Overall, hence instead of completely abandoning carbon credit policy India needs to moderate it policy as per global demand and domestic energy demands.

35. [2014 Q14] Drought has been recognized as a disaster in view of its spatial expanse, temporal duration, slow onset, and lasting effects on vulnerable sections. With a focus on the September 2010 guidelines from the National Disaster Management Authority (NDMA), discuss the mechanisms for preparedness to deal with likely El Nino and La Nina fallouts in India. (250 Words, 15 Marks)

A drought is a natural condition of below-average precipitation in a given region resulting in prolonged shortages in the water supply, whether atmospheric, surface water or groundwater. Key points: These guidelines place emphasis on risk management, rather than following the traditional approach of crisis management, where the emphasis is on reactive emergency response measures.; Developing vulnerability profiles for regions, communities, population groups, and others will provide critical information on the vulnerability of regions and communities together with the causes.; All contemporary knowledge, experience and information are taken on board, clear destinations identified, and road maps drawn with milestones clearly marked off through a wide consultative process involving all stakeholders.; Robust procedures are evolved for drought intensity assessment from time to time using multiple observations.; Standard operating procedures are evolved and practiced in the declaration of drought including the time of declaration.; The India Drought Management Centre (IDMC) is established.; A centralized database at State level and at Nation level related to drought intensity assessment is compiled and maintained.; A Control Room for Drought Management is established and the DM Division in DAC, GoI is suitably strengthened.; Water supply augmentation and conservation like expansion of irrigation techniques, promoting rain water harvesting, effective dealing with droughts, with public awareness generation programmes.. Overall, at the same time promotion of water management techniques is also very essential so keep a reserve of water underground...

36. [2014 Q15] Environmental Impact Assessment studies are increasingly undertaken before a project is cleared by the Government. Discuss the environmental impacts of coal-fired thermal plants located at coal pitheads. (250 Words, 15 marks)

An environmental effect assessment (EIA) is commonly described as an assessment of the effect of planned activities on the environment, including impacts on biodiversity, vegetation and ecology, water, and air. Key points: Until 1994, environmental clearance from the Central Government was an administrative decision and lacked legislative support.; The Ministry of Environment, Forests and Climate Change (MoEFCC) notified new EIA legislation in September 2006.; Air Pollution: It includes sulfur dioxide, nitrogen oxides, particulate matter (PM), and heavy metals, leading to smog, acid rain, toxins in the environment.; Ash in air gets deposited on nearby agriculture fields which again become problems for the natural process of photosynthesis.; Pollution in surface water resources.; effect on soil can be seen as soil in nearby areas of coal pithead become alkaline because of the alkaline nature of ash.; Coal combustion waste disposed of in landfills

or “surface impoundments,” are another concern.; ear, the toxic metals are leached out into the local environment.; Acid mine drainage (AMD): Which means the outflow of acidic water from coal mines or metal mines, often abandoned mines where ore- or coal mining activities have exposed rocks containing the sulphur-bearing mineral pyrite.. Overall, it checks to ensure that the impacts of the project do not exceed the legal standards and implementation of the mitigation measures are in the manner as described in the EIA report.

37. [2014 Q16] “The diverse nature of India as a multi-religious and multi-ethnic society is not immune to the impact of radicalism which is seen in her neighbourhood? Discuss along with strategies to be adopted to counter this environment. (250 Words, 15 Marks)

Radicalization is a process by which an individual or group comes to adopt increasingly extreme political, social, or religious ideals and aspirations that reject or undermine the status quo or reject and/or undermine contemporary ideas and expressions of freedom of choice. Key points: Increasing cyber security: Constant monitoring mechanism in the cyber space for early tracking of potential deviants.; Awareness: Immediate family members and friends are the first people who know and understand behaviour of the person who is getting radicalised.; Intelligence: Intelligence sharing, gathering and efficient coordination among different security agencies is much needed.; Countering Lone wolf attacks: The recent phenomena and very effective one is to radicalise; ouths and make them mercenaries to carry out lone-wolf attacks.; Counter rising communalism: Communalism is rising in India as religious intolerance is increasing due to right-wing ideology and targeting one particular community is one serious issue.; ouths by terrorist organizations.; Constitutional spirit: Indian constitution is focused on the secular nature of the state which promotes religious tolerance.; Unity in diversity: India has been promoting this philosophy but in between rising religious intolerance and religious polarisation is becoming a threat to this philosophy.. Overall, with this multiple intervention in areas of political, social, economic, and religious level needed.

38. [2014 Q17] International civil aviation laws provide all countries complete and exclusive sovereignty over the airspace above their territory. What do you understand about ‘airspace’? What are the implications of these laws on the space above this airspace? Discuss the challenges which this poses and suggest ways to contain the threat. (250 Words, 15 Marks)

Air space in international law means the space above a particular national territory, as is considered as belonging to the government controlling the territory. Key points: Outer space is a zone beyond air space surrounding earth.; Every country has its own air space limits.; Technologically advanced and developed countries are already weaponizing outer space.; In the instances of space debris, there is still no clarity with respect to obligation and liability.; International Treaty: The immediate requirement is to sign an international treaty and make binding laws which will distinguish between air space and outer space equally for all the countries.; International Monitoring Agency: Under the United Nations there is a need for an institutional mechanism to monitor and settle disputes regarding airspace violations and settle disputes amicably.; Amendments in Outer Space Treaty: It has been criticised that the outer space treaty has failed to deter weaponization of outer space.; Communal violence: Illegal migration from Bangladesh resulted in communal violence in Assam.; Disturbance to law and order: The rule of law and integrity of the country come in danger as illegal migrants engage in illegal migrants and anti- national activities.. Overall, need of cooperation from countries like Bangladesh, Nepal, Myanmar etc for prohibition of illegal migration.

39. [2014 Q19] In 2012, the longitudinal marking for high- risk areas for piracy was moved from 65 degrees east to 78 degrees east in the Arabian Sea by the International Maritime Organisation. What impact does this have on India’s maritime security concerns? (250 Words, 15 Marks)

In the wake of the increasing cases near Somalia, which often cross Lakshadweep Island of India, The International Maritime Organization had moved the high risk zone of piracy from 65 degrees to 78 degrees

east in Arabian sea. Key points: This newer classification of high-risk areas extended to much closer to India territorial waters of 12 nautical miles.; This changed classification is resulting in international shipments coming into Indian territorial waters, hugging India coastal water and having serious challenges to national security.; IMO allowed some of the armed merchant ships to sail through India's territorial water. which is again a major threat to National security.; The Enrica lexie case in which 2 Italian mariners shoot dead fishermen of Kerala.; because of newer classification the merchant ships are moving very close to off the coast of India which resulted in collision of merchant ships with fisherman boats.; For example, MV Daya's ship collided with Kerala's ship.; Increased cost in ship insurance which ultimately increased the price of commodities which were imported to India.; Increased vessel movements from India's territorial waters lead to congestion of sea lanes of communications and create difficulties in traffic management of India's wester coast.. Overall, though the issue of piracy is coming down, but it is not finished, hence, to tackle issues of piracy and make India a net security provider in the Indian Ocean region, India...

40. [2014 Q20] China and Pakistan have entered into an agreement for development of an economic corridor. What threat does this pose for India's security? Critically examine. (250 Words, 15 Marks)

The China-Pakistan Economic Corridor (CPEC), one of the most ambitious components of Beijing's Belt and Road Initiative. Key points: India's sovereignty: CPEC has been criticised by India as it is compromising India's sovereignty, as this project runs through India's Gilgit-Baltistan province which is India's part forcibly captured by Pakistan in 1947.; Part of string of pearls: Chinese strategic and security theory of string of pearls theory provides security edge in Indian ocean and on land borders as well.; et: Chinese investment in this multi-billion-dollar project has seen through suspicion.; Influence in Indian ocean region: Through this economic corridor China will have greater access and strategic advantage over India.; Net security provider: India's ambitions to be a net security provider in Indian ocean region may be challenged through CPEC.; Impacts on India-China relations: CPEC is bone of contention in India-China relations.; effect on J&K: As Chinese project is going through the J&K region it has some serious security threats.. Overall, thus, China must understand India's point of view that sovereignty of India is always up and above economic interest.

41. [2015 Q1] The nature of economic growth in India in recent times is often described as jobless growth. Do you agree with this view? Give arguments in favour of your answer.(150 Words, 10 Marks)

In a jobless growth economy, unemployment remains stubbornly high even as the economy grows. Key points: Agricultural Employment: Though the share of employment in the agricultural sector has been declining, the Services and Manufacturing sector have failed to absorb all the people shifting from the agriculture sector.; Poor job growth IT sector: While IT or Service Sector has been the spearhead of economic growth in India after the advent of globalization, they cannot absorb any major labour.; Rise in the Informal Sector: Rapid rise of employment opportunities in the informal or unorganized sector in recent; ears is another aspect of employment generation in India, which further marginalizes labour.; More than 82 percent of the workforce in India is employed in the unorganised sector, as noted by the International Labour Union in its India Labour Market Update of 2016....

42. [2015 Q2] Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. (150 Words, 10 Marks)

The term "LIVESTOCK" is used in a broad sense to cover all domestic animals reared mainly for the economic benefits. Key points: Livestock Census: As per the 20th livestock population, the total livestock population in the country is 535.82 million which includes; The total Bovine population (Buffalo, Cattle, Mithun, and Yak) is around 302.82 million, the total number of cattle is 192.52 million.; Female cattle are 145.12 million, etc this rich population of India's livestock wealth has been the strength of the rural economy.; India has vast livestock resources.; Economic Significance: The livestock sector contributes 4.11% of GDP and 25.6% of total Agriculture GDP.; Employment: In rural India livestock rearing is traditional work and it provides a huge

level of employment to unskilled and semi or illiterate people in rural areas.. Overall, if this livestock industry takes its...

43. [2015 Q3] In view of the declining average size of land holdings in India which has made agriculture non – viable for a majority of farmers should contract farming and land leasing be promoted in agriculture? Critically evaluate the pros and cons. (150 Words 10 Marks)

As per 10th Agriculture Census, the average size of operational holdings has decreased from 2.28 hectares in 1970-71 to 1.84 hectares in 1980-81, to 1.41 hectares in 1995-96 and to 1.08 hectares in 2015-16. Key points: Small farmer become competitive: Makes small scale farming competitive - small farmers can access technology, credit, marketing channels and information while lowering transaction costs; The assured market for small farmers: Assured market for their produce at their doorsteps, reducing marketing and transaction costs.; Reduced risk: Contract farming ensures better optimisation of price and increased shelf life of farmers produce to reduce price and marketing risks.; Wider market: Contract farming can open up new markets which would otherwise be unavailable to small farmers.; Higher productions: Ensured price and ensured market access may boost farmers morale to enhance production with the support in terms...

44. [2015 Q4] How can the Digital India program help farmers to improve farm productivity and income? What step has the government taken in this regard? (150 Words 10 Marks)

Digital India was launched in the year 2015 with the vision to transform India into a digitally empowered society and knowledge economy. Key points: Digital India was launched in the; ear 2015 with the vision to transform India into a digitally empowered society and knowledge economy.; Virtual Ecosystem: Digital India is important to create a virtual ecosystem to support the delivery of timely, localised information and services to farmers, making agriculture profitable and sustainable.; It can help in providing data regarding soil variability, moisture and nutrient levels, rainfall variability, the timing of planting and harvesting and market price volatility to farmers.; Better Prices: The greatest effect of Digital India is on realising better market pricing and reducing transaction costs.; Interconnectedness will help farmers to make better-informed decisions before selling them in the market.. Overall, if applied properly digital...

45. [2015 Q5] In what way could replacement of price subsidy with direct benefit Transfer (DBT) change the scenario of subsidies in India? Discuss. (150 Words 10 Marks)

The Direct Benefit Transfer (DBT) Mission was created by the Planning Commission to act as the nodal point for the implementation of the DBT programmes. Key points: Savings on Transportation and Storing Charges: Additional charges on transportation and storing takes place while carrying out PDS.; Reduction in Leakages: Fraud beneficiaries add extra pressure on already resources crunching government welfare programmes.; Enhancement of quality: The PDS system is plagued with low quality products because of black marketing by people involved.; Reducing corruption: Corruption is the biggest issue in the implementation of welfare schemes for poor and marginal sections of the people.; Better targeting: Better targeting of welfare schemes is very essential for achieving desired objectives of welfare schemes.; ear about 2 lakh crore is spent on several subsidy schemes and huge corruption and leakages in these schemes lead to...

46. [2015 Q6] What are the impediments in marketing and supply chain management in developing the food processing industry in India? Can e-commerce help in overcoming this bottleneck? (150 Words 10 Marks)

The food Processing Industry (FPI) is very major because it is vital to provide a bridge or linkages between two sectors of the economy, agriculture and industry. Key points: Fragmented Markets: Absence of integrated market system increases transportation cost and makes Agri produce expensive.; Organised Traders' Domination: Market domination by organised traders by dominating mandis is an issue that prevents other farmers to gain benefits.; Lack of Direct Access: There is a lack of direct access to the market for the farmers that leads to their exploitation in the hands of intermediaries.; Poor Information Dissemination: There is

information irregularity between the buyers and sellers that lead to corrupt practices, giving inaccurate input data.; Issue of Storage Facilities: There are issues of storage facilities that often lead to spoilage of the produce.; The Dominance of MSMEs: Food processing sector...

47. [2015 Q7] Craze for gold in India has led to a surge in the import of gold in recent years and put pressure on balance of payments and external value of the rupee. In view of this, examine the merits of the Gold Monetization scheme. (150 Words 10 Marks)

India is the largest importer of gold, which mainly caters to the demand of the jewellery industry. Key points: ear increases import and consequent increase in import bill of the country and puts pressure on the balance of payment and external value of rupee.; Fall in prices of the gold.; Gold will be securely maintained by the bank.; Consumers earn interest on the gold otherwise lying idle in the households.; It will ascertain the purity of gold held by people.; The Carrying cost for gold is saved.. Overall, these suggestions, if implemented, can go a long way in ensuring that GMS does not go the same way as the GDS, at least as far as the consumer side of the equation is concerned.

48. [2015 Q8] “Success of the Make in India program depends on the success of Skill India programme and radical labour reforms.” Discuss with logical arguments. (150 Words 10 Marks)

Make in India (MII) is a major national programme of the Government of India designed to facilitate investment, foster innovation, enhance skill development, protect intellectual property, and build best in class manufacturing infrastructure in the country. Key points: Eliminating the unnecessary laws and regulations.; Making bureaucratic processes easier.; Making the government more transparent, responsive, and accountable.; Target to Make India Global Manufacturing Hub: To achieve this target India needs strong skilled manpower, as India already has the world’s largest working age group.; Make India Global Skill Capital: MKI gives very much emphasis on making India global skill capital.; Making India and \$5 trillion economy target: To achieve the target of a \$5trillion dollar economy by 2025 success of MKI is very essential.. Overall, thus, to make India a global manufacturing hub and increase the manufacturing contribution to 25%...

49. [2015 Q9] To what factors can the recent dramatic fall in equipment cost and tariff of solar energy be attributed? What implications does the trend have for thermal power producers and related industry? (200 Words, 12.5 Marks)

India is striving to reach its goal of 175 GW of installed renewable capacity by 2022. Overall, if India wants to become a net exporter and become a globe leader in the renewable energy sector, especially in solar energy.

50. [2015 Q10] There is a clear acknowledgement that Special Economic Zones (SEZs) are a tool of industrial development, manufacturing, and exports. Recognising this potential, the whole instrumentality of SEZs require augmentation. Discuss the issue plaguing the success of SEZs with respect to taxation, governing laws, and administration. (150 Words 10 Marks)

A special economic zone (SEZ) is an area in a country that is subject to different economic regulations than other regions within the same country. Key points: In these geographically delimited areas, governments facilitate industrial activity through fiscal and regulatory incentives and infrastructure support.; Improved Investment: SEZ has become an attractive investment destination for investors from around the world.; Easy Availability of Resources: As India already creates special economic zones where most of the infrastructure facilities are available.; Export Competitiveness: Export competitiveness of the country will improve with improved connectivity, giving opportunity for reduced cost of transportation of goods.; Unutilised land: More than 25,000 hectares of land unutilized in SEZs.; Denotification of SEZ: The reasons given (by developers) for these request for de-notification include economic slowdown, poor market response, lack of demand for SEZ space and change in...

51. [2015 Q11] What do you understand about “Standard Positioning System” and “Precision positioning system” in the GPS era? Discuss the advantage India perceives from its ambitious IRNSS programme employing just seven satellites. (250 Words 15 Marks)

With the beginning of the space age the foundation of the space guided navigation system was laid. Key points: The Precise Positioning Service (PPS) is available mainly to the military of the United States and its allies for users properly equipped with PPS receivers.; The Standard Positioning Service (SPS), as initially described in the SPS Signal Specification, was originally designed to provide civil users with a less accurate positioning capability than PPS.; Russia: Global Navigation Satellite System (GLONASS); China: BeiDou Satellite Navigation System (BDS) - regional; Compass (2020, global); India: Indian Regional Navigation Satellite System (IRNSS); Japan: Quasi-Zenith Satellite System (QZSS) Indian Regional Navigation Satellite System (IRNSS): IRNSS was developed by Indian Space Research Organisation (ISRO).; Standard Positioning Service (SPS) which is provided to all the users.; Restricted Service (RS), which is an encrypted service provided only to the authorised users.; Own terrestrial, Aerial and Marine Navigation: Till now India is dependent on GPS, the USA navigation technology, which is critical for national security.. Overall, having our own navigation system will showcase our technological know-how and also making these technologies available for every citizen is important for the development of the country.

52. [2015 Q12] What are the areas of prohibitive labour that can be sustainably managed by robots? Discuss the initiatives that can propel the research in premier research institutes for substantive and gainful innovation. (250 Words 15 Marks)

Robotics is the design, construction, and use of machines (robots) to perform tasks done traditionally by human beings. Key points: Manual scavenging and Sewage Works: Manual scavenging is one of the social evils which is still practiced.; In India, there are still more than 50000 manual scavengers and in this process every; ear thousands of people die because of inhaling toxic gases from sewers.; Underground Mining: Underground mining is another very risky job with accidents like mine collapse, flooding and fires.; Rescue and Relief in Disaster: Robots are very useful in times of disasters.; At battle-sites: Without use of human's robots can be used to fight war.; Defence Research and Development Organisation (DRDO) has developed Remotely Operated Vehicle (ROV) – ‘Daksha’.; Deep Sea Exploration: Deep sea exploration is gaining new heights nowadays.; Studying Glaciers: Studying glaciers in the Himalayas on a continuous basis and real time collection of data through Artificial intelligence- based robots will reduce the cost of deploying a satellite in a particular area for a longer time.. Overall, promoting robotics may generate employment and most importantly entrepreneurship in this, which can be very potential in changing overall R&D in the country.

53. [2015 Q13] Discuss the advantage and security implication of cloud hosting of server's vis-a-vis in house machine- based hosting for government business. (250 Words 15 Marks)

Cloud computing is the delivery of the computing services, including servers, storage, databases, networking, software, analytics, and intelligence over the internet (the cloud) to offer faster innovation, flexible resources, and economies of scale. y Cloud computing uses a cloud server(rather than a physical server) running in a cloud computing environment. • A cloud server is built, hosted and delivered via a cloud computing platform via the internet, and can be accessed remotely. Key points: Cloud computing uses a cloud server(rather than a physical server) running in a cloud computing environment.; A cloud server is built, hosted and delivered via a cloud computing platform via the internet, and can be accessed remotely.; Cost: Cloud computing eliminates the capital expenses of buying hardware and software and setting up and running on site data centres, the racks of servers, the round the clock electricity for power and cooling, the IT experts for managing the infrastructure.; Global scale: The benefits of cloud computing service include the ability to scale elasticity; For example,computing power, storage and bandwidth are allocated right when it is needed and from the right geographic location.; Performance: The biggest cloud computing services run on a worldwide network of secure data centres, which are regularly upgraded to the latest generation of fast and efficient computing

hardware.; Security: Many cloud providers offer a broad set of policies, technologies and controls that strengthen; our...

54. [2015 Q14] India's Traditional Knowledge Digital Library (TKDL) which has a database containing formatted information on more than 2 million medicinal formulations is proving a powerful weapon in the country's fight against erroneous patents. Discuss the pros and cons of making this database publicly available under open-source licensing. (250 Words 15 Marks)

Traditional knowledge (TK) is knowledge, know-how, skills, and practices that are developed, sustained, and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. Key points: **ear** at international level, mainly because of the fact that India's traditional medicinal knowledge which exists in local languages such as Sanskrit, Hindi, Arabic, Urdu, Tamil etc. is neither accessible nor comprehensible for patent examiners at the international patent offices.; **Informed decisions:** People who have access to TKDL can make informed decisions before sharing their traditional knowledge to any other person and it will help them to serve as a knowledge base about their methods or practices.; **Available to every citizen:** If TKDL database is made publicly then it can help people to know about their heritage and several medicinal properties.; **Economic benefits:** Making databases publicly available can give economic benefits to people who have knowledge about traditional knowledge of medicine and by patenting knowledge they are given handsome amounts.; **Cheap medicines:** Patenting our own traditional knowledge will benefit millions of Indian who cannot afford costly methods of diagnosis.; **Acceptance:** As citizens of India know about our traditional knowledge but at same time in globalization era publicly available data can improve acceptance of traditional knowledge world over.; **Spur in indigenous research:** Making TKDL data publicly available can spur in research and create several therapeutics and drugs...

55. [2015 Q15] Discuss the Namami Gange and National Mission for Clean Ganga (NMCG) programmes and causes of mixed results from the previous schemes. What quantum leaps can help preserve the river Ganga better than incremental inputs? (250 Words 15 Marks)

Ganga is the largest river system of India and it sustains millions of population since ancient times. Key points: **Sewerage Treatment Infrastructure;** **Industrial Effluent Monitoring;** **Ganga Gram** These are the main objectives under the Namami Gange Mission.; **ears of time frame**) and **Long -term activities** (to be implemented within 10; **National Mission for Clean Ganga (NMCG)** was registered as a society on 12th August 2011 under the Societies Registration Act 1860.; **The Government of India** has launched several programmes to clean the river Ganga.; **Under the scheme** Government target was to treat a million litre of sewerage, drainage water before discharging in river, but because of poor implementation and poor response from local bodies, **High corruption**, poor sewerage treatment infrastructure resulted into failure of the programme.; **National Ganga River Basin Authority** has been established to keep monitoring of river cleaning projects, but **NGRBA** has also proved failure as still there are a lot of sewage discharge points existing in the river basin of Ganga.; **The Supreme Court** intervened and asked the government to remove all the polluting industries on the Ganga river basin.. Overall, there are several other reasons behind unsuccessful attempts of cleaning river Ganga like **bureaucratic hurdles**, lack of political will, poor people's response, cultural and aesthetic beliefs of the people etc made cleaning of river Ganga a tricky task.

56. [2015 Q16] The frequency of earthquakes appears to have increased in the Indian subcontinent. However, India's preparedness for mitigating their impact has significant gaps. Discuss various aspects. (250 Words 15 Marks)

A total of 768 earthquakes of magnitude 3.0 and above were located by the National Seismological Network from in 2017 to January 31, 2020. Key points: **Poor warning system:** India's poor warning system is one of the very major reasons behind India's poor preparedness for disaster mitigation.; **Inadequate relief measures:** Earthquakes are very difficult to predict and giving early warning before its actual occurrence is an almost

impossible task.; Lack of disaster assessment: Assessment of earthquake prone areas and preparing accordingly is key for mitigating effects of earthquake.; Pre-Disaster preparedness: Pre disaster preparedness is key in responding to any disaster management.; Poor coordination: Poor coordination among different agencies and local authorities is the main area of concern during a disaster.; Pace of rehabilitation and reconstruction work: Rehabilitation of earthquake affected, or any disaster affected people need fast pace of rehabilitation and reconstruction measures.. Overall, if India really wants to achieve targets of Sendai Framework and become a global leader in disaster management, then these issues must be addressed.

57. [2015 Q17] Human right activists constantly highlight the fact that the Armed forces (Special Powers) Act, 1958 (AFSPA) is a draconian act leading to cases of human right abuses by security forces. What sections of AFSPA are opposed by the activists. Critically evaluate the requirement with reference to the view held by Apex Court. (250 Words 15 Marks)

In simple terms, AFSPA gives armed forces the power to maintain public order in “disturbed areas”. Key points: Section 6 of the Act provides legal immunity to Army officers for their actions.; Section 4 has offered certain power to the officers deployed in disturbed areas, like authorised officers can open fire on any person even if it results in death, if the individual violates laws which prohibit (a) An assembly of five or more people or (b) carrying out any weapon, but before firing an officer has to give warning and then only, he can fire.; An authorised officer has power to arrest without warrant, seize and search without any warrant any premises, establishments to make arrest or recovery of hostages, arms, and ammunition.; The prosecution or inquiry of the authorised person required prior permission from the government of India.; Above sections of the act violates fundamental Rights like A 14, 19 and 21 of the constitution With this respect supreme court has given judgment in this regard which can be understood in following manner; There are two important cases related to AFSPA file in SC; The Supreme Court has upheld the constitutionality of AFSPA in a 1998 judgement (Naga People’s Movement of Human Rights; Union of India).; A suo-motto declaration can be made by the Central government; yet, it is desirable that the state government should be consulted by the...

58. [2015 Q18] Religious indoctrination via social media has resulted in Indian youth joining ISIS. What is ISIS and its mission? How can ISIS be dangerous to the internal security of our country? (250 Words 15 Marks)

Religious Indoctrination means teaching someone to accept a set of religious beliefs or teachings without questioning them. Key points: outh to join their mission to create Caliphate and establish an Islamic state.; India-centric Propaganda: In early 2020 the Islamic State of Iraq and Syria (ISIS) published an India-centric propaganda material called Voice of Hind.; Sense of Alienation: The increasing sense of alienation among Indian Muslims can be used by ISIS to create dedicated cadres to carry out attacks in India.; outhngsters are taking ISIS flags on roads to show sympathy towards the terrorist group, which again shows the affections of Kashmiri; Communal Violence: Days after the Delhi riots in February, ISIS released an online poster justifying “retaliatory action” in the Wilayat e Hind, or the “Indian Province” of its supposed caliphate.; ISIS Propaganda: ISIS propaganda has shown the ability to tap into the “pull factors” of radicalization, including the innate desire in human beings to find a sense of purpose.; outh because thousands of; ouths went to Syria to join ISIS.; Mob Lynching: Mob lynching like the incident in India created a feeling of disrespect among the Muslim community, These communal tensions can be utilized by ISIS to create group/ cadres/ workers for carrying out lone-wolf attacks against security establishments, in public places even they can be used to target VVIP’S.. Overall, constant monitoring on suspicious social media accounts, intelligence...

59. [2015 Q19] The persisting drives of the government for the development of large industries in backward areas have resulted in isolating the tribal population and the farmers who face multiple displacements. With Malkangiri and Naxalbari foci, discuss the corrective strategies needed to win the Left-Wing Extremism(LWE)

doctrine that affected citizens back into the mainstream of social and economic growth. (250 Words 15 Marks)

Since independence, it has been evident that large-scale displacement because of several developmental activities has taken place. Key points: Ouths are more or less involved in Naxal activities.; The Backward Regions Grant Fund (BRGF) under which 55 of the worst affected areas in 9 states were to be provided with funds to tackle the problem of Naxalism.; Financial Infrastructure: Opening up of banks, ATMs, and post offices in coordination with the Department of Financial Services and Department of Post.; Skill Development: Skill development for tribal; Ouths is one of the key areas to improve the employability and economic situation of tribal citizens and other people in India's eastern districts.; MGNREGA: This is a pioneering scheme to create social and economic infrastructure in tribal and mining-affected areas.; Aspirational District Programme: This scheme is a very major intervention to create several infrastructures which make a path for economic development and generate major employment.; Security-related Expenditure: Improving the security scenario is the biggest factor that economic activities are taking place.; Other Schemes: National Health mission (NRHM), Sarva Shiksha Abhiyan (SSA), Integrated Child Development Services (ICDS) and other income generating and social security schemes of the Ministry of Rural Development, Agriculture, Panchayati Raj and Tribal affairs.. Overall, to make EK BHARAT SHRESTHA BHARAT the contribution from tribals and project displaced people's contribution is very much essential.

60. [2015 Q20] Considering the threats cyberspace poses for the country, India needs a "Digital Armed Forces" to prevent crimes. Critically evaluate the National Cyber Security Policy, 2013 outlining the challenges perceived in its effective implementation. (250 Words 15 Marks)

According to 'Internet Security Threat Report' India emerged as the third most vulnerable country in terms of the risk of cyber threats such as malware, spam, and ransomware. Key points: ear, according to a report by security solutions provider Symantec.; Saving Critical Infrastructure: Power & Energy, Banking, Financial Services & Insurance, Telecom, Transport, Government Strategic & Public Enterprises, these are very critical from the national security and economic point of view.; ear Chinese cyber-attacks caused a blackout in Mumbai.; Protecting Individual Data: In the Digital world, people spend a major amount of time on the internet which leads to an increase in the digital footprints of citizens.; ear's SBI's debit card information was compromised.; National Security: Cyber-attacks are new weapons to carry attacks and make major damage without involving in a real conflict.; Hostile Neighbours: Hostile neighbors, China and Pakistan, are now coming together to carry out cyberattacks against India.; Cyber Frauds: Cybercriminals steal personal information and later ask for a ransom to give up sensitive information.; Spreading Misinformation: Spreading misinformation in the digital era is becoming rampant.. Overall, the much talked about public-private partnership in this policy, if implemented in true spirit, will go a long way in creating solutions to the ever-changing threat landscape.

61. [2016 Q1] How globalization has led to the reduction of employment in the formal sector of the Indian economy? Is increased informalization detrimental to the development of the country? (200 Words 12.5 Marks)

Globalization is the spread of products, technology, information, and jobs across national borders and cultures. Key points: ears of higher economic growth rate a robust private sector emerged generating employment for millions of Indians over the; yet, the substantial amount of these jobs either remained informal or lost with time.; Government no longer remained the largest employer: In fact, with the de-licencing and opening of industrial sectors for private entities, Public sector enterprises started becoming uncompetitive.; Restrictive labour laws: Restrictive labour laws made industries to hire human resources on contractual basis to circumvent rigid hiring and firing provisions.; Over emphasis on service sector: Service sector requires skilled labour and required skills that are available with a miniscule section of the population.; Less emphasis on manufacturing: Manufacturing sector has huge potential to offer formal jobs

and absorb large numbers of population, but this has not happened in India's case.; Market mechanism and competition: These are other important factors behind closing of many industries, for example textile industries, which reduced formal jobs.; Advent of fourth industrial revolution and automation: This is an even more potent danger..

62. [2016 Q2] Women empowerment in India needs gender budgeting. What are the requirements and status of gender budgeting in the Indian context? (200 Words 12.5 Marks)

Gender Budgeting is a powerful tool for achieving gender mainstreaming so as to ensure that benefits of development reach women as much as men. Key points: Gender Budget Statement (GBS) was first introduced by the Union government in 2005; several ministries and departments provide information to the Finance Ministry based on which gender budgeting is prepared.; Ministry and Government Departments have been instructed to open Gender Budgeting Cells (GBC).; ears budgetary allocations for women have remained constant at 5.5 percent of the GDP.; Only one-third of all the demands for grant presented to the Union government are reported in the gender budgeting statement.; Of the total budgetary allocation of the Ministry of Women and Child Development, only 15% of the amount is actually spent on Women and Women related schemes.; There are certain women issues which can be attended to on priority through gender budgeting.; Gender budgeting aims at making society more gender equal by allocating resources to programmes and schemes that will reduce and eliminate prejudice existing against a particular gender.; With literacy rate just about 65%, and making up 48% of India's...

63. [2016 Q3] Pradhan Mantri Jan Dhan Yojana (PMJDY) is necessary for bringing unbanked to the institutional finance fold. Do you agree with this for financial inclusion of the poor section of Indian society? Give arguments to justify your opinion. (200 Words 12.5 Marks)

Financial inclusion means efforts to make financial products and services accessible and affordable to all the individuals and businesses, regardless of their personal net worth or company size. Key points: According to the Census 2011 out of the total population only 58.7% have access to banking services.; Under PMJDY people would get a basic bank account with insurance facility and additional facility of overdraft of rupees 5000.; Banks are now opening up Zero balance accounts and providing facilities to poor and unbanked people or sections of society.; RuPay debit card is offered under the scheme which enables these poor sections to withdraw money when they need.; Under PMJDY bank accounts can be opened with a single document (Easy KYC norm).; Use of Kisan Credit Card through Jan Dhan account shall offer loan and credit facilities at affordable cost.. Overall, going forward, there is a need to impart financial knowledge and awareness among people for their greater integration into the formal economy.

64. [2016 Q4] What are 'Smart Cities'? Examine their relevance for urban development in India. Will it increase rural-urban differences? Give arguments for 'Smart Villages' in the light of PURA and RURBAN Mission. (200 Words 12.5 Marks)

A smart city uses information and communication technology (ICT) to improve operational efficiency, share information with the public and provide a better quality of government service and citizen welfare. Key points: Rapid and haphazard growth: Urban areas and cities account for mass migration from rural areas in search of good life conditions such as employment, education, health, and other basic facilities.; Engines of economic growth: Out of 121 crore people of India roughly 30% lives in urban areas and the remaining large chunk of population lives in rural areas.; Traffic: Rising population in urban areas resulting in increased traffic congestion becomes a problem, increasing the time it takes to commute over even smaller distances.; Share in national GDP: Cities contribute to over 60% of GDP and it is expected to reach at three- fourth of India's total GDP by 2030.; Environmental concerns: Vulnerability to risk posed by the increasing man-made and natural disasters are increasing.; Health issues: The concentration of a large population living in squalor in slums in the urban sprawl makes it a haven for the spread of diseases.; Economic growth: The growth...

65. [2016 Q6] Comment on the challenges for inclusive growth which include careless and useless manpower in the Indian context. Suggest measures to be taken for facing these challenges. (200 Words 12.5 Marks)

Inclusive growth means economic growth that is distributed fairly across society and creates opportunities for all. Key points: Primary education quality should be strengthened and because of lack of elementary education, skill development programmes cannot be used to their full potential.; Skill development program: Skill training programmes like Pradhan Mantri Kaushal Vikas Yojana, Skill India programme will build strong skilled labour force with certified skills according to National Occupational Standard (NSO); Gender budgeting: To focus on neglected sections relating to women.. Overall, labour force participation of women is as per 2011 census is 26%. women would be empowered if more women related schemes such as Sukanya Samridhi yojana, Janani Suraksha yojana were implemented.

66. [2016 Q7] What is water-use efficiency? Describe the role of micro-irrigation in increasing the water-use efficiency. (200 Words 12.5 Marks)

Water use efficiency is the ratio between effective water use and actual water withdrawal. Key points: In these systems water is applied drop by drop nearer the root zone area of the crop, which delivers only the requisite amount of water.; These are specially designed for horticultural crops, small grasses, nursery and lawns.; On farm irrigation efficiency, if properly designed and managed drip irrigation system implemented then water use efficiency will reach at 90%.; Application of Emerging technologies like precision irrigation methods further augments water application to large farms in a more precise manner over a course of time.. Overall, there is need to use and come out with several water use efficiency methods and management in several other sectors of economy to prepare India from severe water stress in 2025.

67. [2016 Q8] What is allelopathy? Discuss its role in major cropping systems of irrigated agriculture. (200 Words 12.5 Marks)

Allelopathy is a phenomenon where one species inhibits the growth of another species through biochemicals which is also known as allelochemicals. Key points: In sustainable weed management: Allelopathy application such as straw mulching provide sustainable weed management.; Plant- animal/ insect interactions: Allelo chemicals may variously act as feeding attractants or repellents, have hormonal effects on the insects or provide the insects with a useful defence mechanism against predation.; Reduction of nitrogen leaching and environment pollution: Nitrogen leaching is a severe ecological problem because of water pollution.; ears studies have proven that nitrification inhibiting substance (NIS) produced by plants can reduce the emission of N₂O, improve the utilisation rate of nitrogen fertilizers and reduced pollution to the environment.; Allelochemicals can stimulate or inhibits plant germination and growth and permit the development of crops with low phytotoxic residue amounts in water and soil, thus facilitating wastewater treatment and recycling.; Intercropping system of soyabean, sesame and sorghum in cotton field provide better net; ield and major inhibition over purple nutsedge in comparison with cotton only fields.; The allelochemical structure can be used as an analogue for the...

68. [2016 Q9] Discuss the role of land reforms in agricultural development. Identify the factors that were responsible for the success of land reforms in India. (200 Words 12.5 Marks)

Before independence India had semi-feudal agrarian system and the same system carried forward or inherited at independence. Key points: Abolition of Intermediaries/Zamindari, Rent regulation and Security of tenure: These all provided in reshaping ownership of land.; Land Consolidation: It implies the consolidating together the scattered holdings of a farmer's land at one place.; Expansion of Rural market: Land reforms created favourable conditions for distributing productive assets.; Ideals inspired during freedom struggle: Peasant movement formed a big part of our national struggle.; Constitutional amendments and Legislative measures: Land reforms acts were brought and put under 9th schedule to prevent from being subject to endless litigation.; Popular movements: The Bhoodan and Sarvodaya movements were

instrumental in generating favourable public opinion among the landholders and were successful in achieving redistribution of land.; Fundamental changes: Land reforms brought very fundamental changes in rural social structure.. Overall, the development of agriculture sector needs further or second generations of land reforms to increase agricultural productivity.

69. [2016 Q10] Given the vulnerability of Indian agriculture to vagaries of nature, discuss the need for crop insurance and bring out the salient features of the Pradhan Mantri Fasal Bima Yojana (PMFBY). (200 Words 12.5 Marks)

Climate change impacts disproportionately and the Indian farmers are one of the most vulnerable ones. Key points: Unpredictable monsoon: Nearly 66% of total land is following rainfed.; Protection from disasters: Natural disasters like cyclones, floods, landslides, droughts etc. prove to be disastrous for farming community.; Financial support to farmers: In adverse conditions like floods, hail storms etc insurance gives some relief in time of disasters.; Reduced burden on Banks of NPA: It augments the repaying capacity of farmers that reduces NPA stress on banks and other financial institutions.; Reduced pressure of packages on the government: Untimely relief packages do have to imply extra- budgetary provision to fulfil demand.; Area-based Insurance Unit: It operates on the basis of 'Area Approach' i.e., Defined Areas for each notified crop for widespread calamities.; Coverage of Crops: Every state has notified crops (major crops) for the Rabi and Kharif.; Coverage of Farmers: The scheme covers loanee farmers (those who have taken a loan), non-loanee farmers (on a voluntary basis), tenant farmers, and sharecroppers.; Coverage of Risks: It aims to prevent sowing/ planting risks, loss to standing crop, post-harvest losses...

70. [2016 Q11] Give an account of the current status and the targets to be achieved pertaining to renewable energy sources in the country. Discuss in brief the importance of National Programme on Light Emitting Diodes (LEDs). (200 Words 12.5 Marks)

Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. Key points: Solar (utility-scale, distributed, off-grid/mini-grid – 100 GW); Wind (utility-scale – 60 GW); Bioenergy (10 GW) As of November 30, 2020, the installed renewable energy capacity stood at 90.39 GW, of which solar and wind comprised 36.91 GW and 38.43 GW, respectively.; Energy conservation: LEDs have longer life (50,000 hours) and increased efficiency because of photo sensitive semiconductor technology.; Reduced peak load as advantage for rural electrification: It is estimated to reduce the peak load by 20000 MW (domestic) and 1500 MW (street lighting).; Environment friendly: They have no mercury, and thus have zero negative environmental effect.; Economical: with increase in production and usage, their market price is poised to become competitive.; Industry: It gives a boost to Make-in-India, by giving thrust to LED manufacturing, especially to the MSMEs.. Overall, hence, this National Programme for LED- based home and street-based lightening will not only help facilitate India's commitment to reducing its emission intensity GDP by 33-35% by 2030 under its INDC but also step towards...

71. [2016 Q12] Discuss India's achievements in the field of Space Science and Technology. How the application of this technology has helped India in its socio- economic development? (200 Words 12.5 Marks)

India has become a global player in space science and technologies (S&T) development. Key points: Polar Satellite Launch Vehicle (PSLV): After its first successful launch in October 1994, PSLV emerged as the reliable and versatile workhorse launch vehicle of India with 39 consecutively successful missions by June 2017.; Geosynchronous Satellite Launch Vehicle (GSLV Mk-II): ISRO has demonstrated the reliability of indigenous cryogenic technology with the four consecutive successful flights of Geosynchronous Satellite Launch Vehicle (GSLV) with indigenous Cryogenic engine & stage.; GSLV-Mark III: The first experimental flight of GSLV MKIII (LVM3-X) was successfully launched on December 18, 2014.; Technology demonstration: The Crew module Atmospheric Re-entry Experiment (CARE) was carried out in the experimental mission of GSLV MkIII on 18th Dec 2014, where the re-entry characteristics and the recovery of the Crew Module was demonstrated.;

Communication Satellites: Eight communication satellites were successfully launched during the period.; Satellite Navigation Constellation: IRNSS is an independent regional navigation satellite system being developed by India.; Earth Observation Satellites: The above period also witnessed the launch of seven Earth Observation satellites viz.; ASTROSAT: India's first multi wavelength observatory capable of...

72. [2016 Q13] Why is nanotechnology one of the key technologies of the 21st century? Describe the salient features of Indian Government's Mission on Nanoscience and Technology and the scope of its application in the development process of the country. (200 Words 12.5 Marks)

Nanotechnology is science, engineering, and technology conducted at the nanoscale, which is about 1 to 100 nanometres. Key points: Nano technology has revolutionised scientific research across the globe in very major manner.; Electronics goods: Nanotechnology has significantly scaled down the size of transistors and chips used in the production of computers, laptops, mobile phones, several household appliances etc.; Consumer products: Nano silver provides an effective, broad-spectrum antimicrobial coating to the surface of several consumer products.; In medicine field: Several nano- sized gadgets and materials are being developed to diagnose and treat diseases like cancer more effectively.; Manufacturing solar cells: Nanoparticles find application in the manufacturing of solar cells.; Application in Technical textiles: e.g. fabric coated with zinc oxide nanoparticles is found to give better protection from UV radiation.; several other usages: Nanoscale thin films on eyeglasses, computer and camera displays, windows, and other surfaces can make them water-repellent, antireflective, self-cleaning, resistant to ultraviolet or infrared light, antifog, antimicrobial, scratch-resistant, or electrically conductive.; Funding: The mission is funding about 235 individual scientist-centric research projects on fundamental research in Nano-systems.; Nano Applications and Technology Development...

73. [2016 Q14] Rehabilitation of human settlements is one of the important environmental impacts which always attracts controversy while planning major projects. Discuss the measures suggested for mitigation of this impact while proposing major developmental projects. (200 Words 12.5 Marks)

Major development projects such as dams, airports, ports developments etc. have always been criticised for their disruptive effects. Key points: Social effect Assessment: Before implementation of actual projects social effect assessment need to be carried and people's involvement in the projects need to be taken care of.; Empowering Gram Sabha's: While planning a big project Gram Sabha should be taken into confidence before implementing any project.; Adequate rehabilitation: PDP's should get their due rights and adequate means for securing their life.; Other livelihood opportunities: Alternate livelihood opportunities by skill training as well as employment should be arranged for.; Integrated holistic development: Setting up a mechanism for integrated holistic development taking into consideration the concerns of the PDPs.; Singrur judgement: In the Singrur judgement apex court has criticised the inept and illegitimate handling of power by the then government.. Overall, alternative models based on networking of localised development projects should be explored.

74. [2016 Q15] The frequency of urban floods due to high intensity rainfall is increasing over the years. Discussing the reasons for urban floods, highlight the mechanisms for preparedness to reduce the risk during such events. (200 Words 12.5 Marks)

Urban flooding is not just "flooding of urban areas". Key points: Monsoon period: A special feature in India is that we have heavy rainfall during monsoons.; Sudden release of water from dams: Uninformed release of water from dams during monsoon time has caused rapid floods in downstream cities.; Urban heat island: It has resulted in an increased rainfall over urban areas.; Maintenance of storm water drainage system: Stormwater drainage systems in the past were designed for rainfall intensity of 12–20 mm.; Encroachment of wetlands: Encroachments of wetland is very serious issue in urban area as they are very effective defence of floods in urban areas now, they are filled with urban wastes and industrial wastes.; Plastic waste: Plastic

waste was seen as biggest reason behind 2005 Mumbai floods as plastics choked drainage system and caused flood in Mumbai.; Concretisation: Concrete roads, pavements are causing runoff of rainfall water and causes floods in lower parts of cities.; ear half part of Mumbai experiences flood like situation.; Cleaning of drainage: Before monsoon need to clean drainage system of every city and make sure drainage system is...

75. [2016 Q16] With reference to National Disaster Management Authority (NDMA) guidelines, discuss the measures to be adopted to mitigate the impact of recent incidents of cloudbursts in many places of Uttarakhand. (200 Words 12.5 Marks)

A cloudburst means a sudden downpour over a limited area as if the entire clouds were to rain down in a matter of minutes. Key points: Stopping haphazard construction in hilly areas: Haphazard construction in hilly areas has been considered one of the major problems.; Preventing encroachments of riverbeds: River beds are very vital and act as the first line of defence in time of flood like situations.; Afforestation: Deforestation is very serious problem in Himalayan region.; Early warning system based on Space application: ISRO's model of heavy rainfall amp/ cloudburst prediction should be utilized for continuous monitoring of meteorological system.; Implementing NDMA guidelines for flood: NDMA guidelines will be very helpful for mitigating flood caused by cloud burst.. Overall, apart from this proper Environment effect assessment of projects in glacial valleys and efforts towards afforestation are needed as a pre-emptive steps against such disasters

76. [2016 Q17] The terms 'Hot Pursuit' and 'Surgical Strikes' are often used in connection with armed action against terrorist attacks. Discuss the strategic impact of such actions. (200 Words 12.5 Marks)

Recently, Indian forces carried out cross-border offensive in the form of "surgical strike" and "Hot pursuit" against terrorist launch pads. Key points: Pre-emptive counter-terrorism operation got acceptance as the sovereign right of India to defend itself from any possible terror attack.; Strategy to Pre-empted conventional escalation: Weakened the backing and protection to terrorist by state-actors and thus leaving them more vulnerable.; Surgical strikes also brought to fore the international opinion about need to act tough on terrorism; Demonstrated technical capability of India to plan and execute: it has an effect of creating better deterrence.; Paralyse capabilities of enemies long-term: Surgical strike will be performed on a very specific target that intends to cause maximum damage without harming others.; Maintaining morale of people and armed force: The strikes proved to be an important element for maintaining the morale of the people of India and the armed forces.; Occasional showing of hard power image: The strike reinforced the credibility of the government and displayed its resolve, even as justified restraint and maturity was on display.; Prevent adversaries from using neighbouring country as safe cover: Earlier to...

77. [2016 Q18] 'Terrorism is emerging as a competitive industry over the last few decades.' Analyse the above statement. (200 Words 12.5 Marks)

Terrorism is the unlawful use of force or violence against persons or property to intimidate or coerce a government or its citizens to further certain political or social objectives. Key points: Increasing number of terrorist out fits: Proliferation of numerous terror outfits spreading terror, akin to numerous industries producing the same goods.; Competition for control over resources: There is competition over resources such as; Land: ISIS and Taliban control large geographical areas in Syria and Iraq and Afghanistan, respectively.; oung people for carrying out terrorist activities and several logistics activities.; Leadership: Emergence of newer leadership lead to founding of newer terrorist outfits.; Market competition: Competition for the market share and diversification of portfolio to include newer products (attacks) – from IEDs to vehicular bombs to suicide bombers and fidayeen- type attacks.; several franchise and support: Offices in different continents and franchising terror – Al Qaeda have its branches in Indian Subcontinent (AQIS) as well as Africa (Al Qaeda in the Islamic Maghreb).; Social media and marketing: Leveraging social media for

marketing their ideologies and recruiting new employees (fighters) from social media by training professional...

78. [2016 Q19] Border management is a complex task due to difficult terrain and hostile relations with some countries. Elucidate the challenges and strategies for effective border management. (200 Words 12.5 Marks)

India's shares a long land as well as maritime border with its neighbouring countries. Key points: Difficult Terrain: India-China Border is comprising of difficult Himalayan terrain comprising of peaks and heights of more than 6000M.; Harsh climatic Condition: Climatic condition on North, West and North-eastern border are extreme.; Porous nature of border: India's land border with Pakistan in Himalayan region, Myanmar in north eastern hills, and with Bangladesh is porous with nullah, fast-flowing rivers etc.; Undefined borders: Undefined and unfenced border with China and Pakistan in north western part and with Myanmar in north eastern part is another challenge.; Maritime border issues: Especially in west coast, there is always possibility of infiltration of terrorist in ferryboats/fishermen boats as happened in case Mumbai Attack 2008.; Poor technology usage: India's borders are porous, difficult terrain, jungles, hostile neighbours etc. made border guarding very difficult task but usage of modern technologies like drones which can be very useful in border management and keeping 24 into 7 vigilance; Stress among existing personnel: Border forces also suffer from long hours of duty and long- stay away from home, substandard...

79. [2016 Q20] Use of internet and social media by non-state actors for subversive activities is a major security concern. How have these been misused in the recent past? Suggest effective guidelines to curb the above threat. (200 Words 12.5 Marks)

Internet and social media provide both a tool and platform for people, institutions, and governments to connect and collaborate. Key points: Use of Internet by Daesh: Daesh has been using Internet to spread its propaganda using platforms such as twitter, YouTube etc.; outh from several countries for their recruitment purpose.; outh from India travelled to Syria for being recruited in militia.; outh: Propaganda to recruit into terror groups like AQIS, LeT, terrorist groups etc. in J&K have been intercepted by intelligence agencies.; Financial Security Breach: Recently, details of 32 lakhs Debit cards were compromised by use of sophisticated hacks.; Bot army attack: An army of 100,000 bots was used to make a hostile attack termed "Denial of Service" on servers of Dyn, a European organisation.; Fake news over sensitive issues: Agitations by patidars in Gujarat, Jats in Haryana had seen widespread use of Internet, often playing rumours and fake news to arouse popular sentiments.; Hacking of private accounts: Unethical hackers have in past hacked private social media accounts of famous personalities as well as common people to harass them.; Need for new approach and...

80. [2017 Q1] Among several factors for India's potential growth, the savings rate is the most effective one. Do you agree? What are the other factors available for growth potential? (150 Words, 10 Marks)

Potential growth is the rate of increase of potential output, the level of output an economy would sustain at full capacity utilization and full employment. Key points: Infrastructure Development: Sound infrastructure is necessary for potential economic growth.; Skilled Manpower: Skilled workforce is one of the essential preconditions for any economy to grow and develop.; Government Policies: Policies act as catalysts for economic growth and development.; For example, the Government introduced Goods and Service Tax (GST) for unifying the national market and removing cascading effects of taxes at multiple levels to help businesses in a very effective way.; Ease of Doing Business (EODB): This is the most important aspect of any economy/country to become a destination for investment, especially foreign investment.; In World Banks EODB ranking 2020, India is at 63rd rank and shows constant improvement.. Overall, it is...

81. [2017 Q2] Account for the failure of the manufacturing sector in achieving the goal of labour-intensive exports. Suggest measures for more labour intensive rather capital-intensive exports. (150 Words, 10 Marks)

Indian manufacturing sector has seen a transition from the initial industrialisation to license raj to liberalization and the current phase of global competitiveness. Key points: In 2004-05, the low-value added labour-intensive enterprises were 35 percent of organized manufacturing employment in India.; But, there is a continuous decline in total factor productivity of low-value added labour-intensive enterprises since 1991.; The reasons for decline could be because of absorption of more unskilled labour force in the sector.; Economic Growth: India's growth story has been driven by service-producing industries that employ skilled labour.; Poor Credit Availability MSME: India's MSME sector is known as labour intensive sector as it employs more labour than any other industries.; Slower Rate of Reforms: Slow growth of industries because of lack of labour reforms and exit policies that mainly employ lower-skilled has caused manufacturing as a...

82. [2017 Q3] Examine the developments of Airports in India through Joint Ventures under Public- Private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? (150 Words, 10 Marks)

Public-private partnerships (PPP) involve collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centres. Financing a project through a public-private partnership can allow a project to be completed sooner or make it a possibility in the first place. • Public-private partnerships often involve concessions of tax or other operating revenue, protection from liability, or partial ownership rights over nominally public services and property to private sector, for-profit entities. Key points: Financing a project through a public-private partnership can allow a project to be completed sooner or make it a possibility in the first place.; Public-private partnerships often involve concessions of tax or other operating revenue, protection from liability, or partial ownership rights over nominally public services and property to...

83. [2017 Q4] Explain various types of revolutions, took place in Agriculture after Independence in India. How have these revolutions helped in poverty alleviation and food security in India? (150 Words, 10 Marks)

India is mainly dependent on agriculture and about 60% of the population is engaged in agricultural activities. Key points: Green Revolutions: It was launched in 1966.; Blue Revolution: This revolution focussed on the fisheries sector and has helped to phenomenal increase in both fish production and productivity from aquaculture.; White Revolution: Operation flood was an initiative taken by the National Dairy Development Board.; Many other important revolutions: Yellow Revolution Oilseed Brown Revolution Leather / Cocoa Golden Fiber Revolution Jute.; New innovation: These newer innovations lifted millions of people out of poverty by generating income and providing additional income sources for farming communities.; Self-sufficient: India became self-sufficient in food grain production after the green revolution.. Overall, though these revolutions led to making India food secure and reduced drastic numbers of poor people, their extent and coverage need to be...

84. [2017 Q5] What are the reasons for poor acceptance of cost- effective small processing units? How the food processing unit will be helpful to uplift the socio- economic status of Poor farmers? (150 Words, 10 Marks)

Diverse and different types of Agro-climate made possible to grow several types of fruits, food grains, vegetables etc. offers ideal conditions for development of the Food Processing Industry(FPI) as the sunrise sector. Key points: Easy availability of raw materials.; Favourable recent policies.; Scope for large exports of processed foods.; Available low-cost workforce.; High Cost of Procurement: Small food processing units do not go for large scale procurement and this has become a big problem as they have to pay higher prices as compared to big companies.; Lack of Warehouses: Small processing units are deficient in well maintained and well-equipped warehouses to store their raw materials and end products.. Overall, hence food processing industries potential and its scope need to be utilised.

85. [2017 Q6] Stem cell therapy is gaining popularity in India to treat a wide variety of medical conditions including leukaemia, Thalassemia, damaged cornea and several burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments? (150 Words, 10 Marks)

Stem Cell Therapy (SCT) is the treatment of several disorders, non-serious to life threatening, by using stem cells. Key points: Degenerative Diseases Cure: Diseases like diabetes, heart diseases, spinal cord injuries, Parkinson's and Alzheimer's disease etc. were considered as degenerative diseases but now they are curable with stem cell therapy.; Stem cells from adult bone marrow can differentiate into those required to repair the blood vessels and heart because of the secretion of numerous growth factors.; Speeding up healing: It was considered that injuries which are serious in nature and time consuming for healing.; Treating cancer: Blood stem cells are increasingly used to treat diseases of the blood.; In India the Indian Council of Medical Research (ICMR) guidelines recognize stem cell therapies only for some treatments and there is no specific law to regulate SCT.; The Union Health...

86. [2017 Q7] India has achieved remarkable successes in unmanned space missions including the Chandrayaan and Mars Orbiter Mission, but has not ventured into manned space missions, both in terms of technology and logistics? Examine critically. (150 Words, 10 Marks)

India has been successful in carrying out unmanned space missions, and planning manned missions as well. Key points: Chandrayaan-I, which discovered water on the surface of the moon.; Similarly, MOM (Mars Mission Orbiter), also Mangalyaan, was successfully launched to test key technologies for interplanetary exploration and to study the Martian surface and atmosphere from orbit.; Technology: ISRO has carried out major technologies demonstration, such as it testifies a crew escape system, it is a critical technology relevant for human space flight.; ISRO has developed some critical technologies like reentry mission capability.; GSLV MK-III: In 2014 ISRO conducted an experimental flight for which GSLV MK-III was successfully tested.; The first developmental flight of GSLV MK-III was successfully conducted in 2017.. Overall, if India really wants to establish permanent space station research and heavy investment needed.

87. [2017 Q8] Not many years ago, river linking was a concept, but it is becoming reality in the country. Discuss the advantages of river linking and its possible impact on the environment. (150 Words, 10 Marks)

India has vast diversity in its water availability throughout the country. Key points: Surpluses to Deficit Regions: Usually Himalayan rivers have surplus water throughout the; but in southern or peninsular rivers have high variability in water availability.; Mitigate to Droughts: River interlinking will help in mitigating droughts of peninsular region and increase agricultural productivity on a large scale.; Balanced Regional Development: Water is very essential for any economic activities to take place.; it helps in even distribution of industries and development of backward regions.; Potential Hydroelectricity: Interlinking of rivers will surely increase potential hydropower generation capacity.. Overall, at the same time financial resources need to be considered as interlinking rivers needs huge amounts of investment and India is already facing resource crunch.

88. [2017 Q9] Discuss the potential threats of Cyber attack and the security framework to prevent it. (150 Words, 10 Marks)

India constitutes the second most internet user population in the world. Key points: ears back was an example of the level of threat of cyber-attack.; Breach of National Security: Cyber attack is a proxy war method, and it can potentially harm national security and do a lot of damage without having the actual war.; For example, Cyber-attack on nuclear power facilities can cause indirect nuclear war.; Dangerous to Financial Integrity: Cyber attackers are targeting more countries' financial systems.; Intellectual Property Rights Theft: As per NITI Ayog cyber attackers are targeting countries' intellectual property and by theft of this data they can sell this to multinational companies in exchange for a large sum.; Hacktivism: These are the cyber

protests that are socially or politically motivated.. Overall, a consistent twin approach of development and counter-insurgency with honest political dialogues and...

89. [2017 Q11] One of the intended objectives of Union Budget 2017-18 is to ‘transform, energize and clean India’. Analyze the measures proposed in the Budget 2017-18 to achieve the objective. (250 Words, 15 Marks)

Budget in India is an important national level exercise. Key points: Transform the quality of governance and quality of life of people.; Energise several sections of society, especially the youth and the vulnerable, and enable them to unleash their true potential; and; Clean the country from the evils of corruption, black money, and non-transparent political funding.; to achieve TEC, the government has allocated the highest ever 48,000 crore fund to MGNREGA.; To save farmers from natural calamities, the government target has increased to cover 40% of cropped area under Pradhan Mantri Fasal Bima Yojana (PMFBY) and also corpus under long term irrigation fund has been increased to Rs.; Increased agriculture credit allocation target to Rs.; Increased pace of construction of rural roads, which are the lifelines of rural areas, to 133 km per day under Pradhan Mantri Gram Sadak Yojana.; Under this budget target of 100% village electrification by 1 January 2018 has been set by the government.. Overall, but all of the above objectives are meaningless if they are not implemented in the desired spirit.

90. [2017 Q12] “Industrial growth rate has lagged behind in the overall growth of Gross-Domestic- Product (GDP) in the post-reform period” Give reasons. How far are the recent changes in Industrial Policy capable of increasing the industrial growth rate? (250 Words, 15 Marks)

The Industrial Policy of 1991 set out a pathway for industrialization in newly liberalizing. Key points: Inadequate Infrastructure: The physical infrastructure suffers from substantial deficits in terms of efficiency and capacity.; Business Environment: The complex multilayer tax system and a lot of tax law compliances and high cost of compliances.; Restrictive Labor Laws: Complex and number of labor laws made the business environment complex and difficult to carry out business and compliance of laws.; Labour Intensive Manufacturing Sector: This sector has a potential but is often neglected.; Poor Expenditure on R&D: Lower investment in R&D is one of the biggest challenges in development of the manufacturing sector.; Poor Technology Adoption by MSME's: Slow adoption of technologies by MSME's, which are considered the backbone of Indian manufacturing sector.; Attracting FDI: The new policy aimed to attract \$100 billion dollar investment/ FDI in a year, from \$60 billion in 2016-17.; Labor Market: The new policy aimed to push for reforms to enhance labor market flexibility with an aim for higher job formations in formal sectors of the economy and performance linked tax incentives etc.. Overall, to achieve \$ 5 trillion economy and increase manufacturing contribution in GDP to 25% then it is imperative to continuously remove the challenges in the way of achieving these targets.

91. [2017 Q13] What are the salient features of ‘inclusive growth’? Has India been experiencing such a growth process? Analyze and suggest measures for inclusive growth. (250 Words, 15 Marks)

Inclusive is economic growth that is distributed fairly across society and creates opportunity for all. Key points: Participation: People are able to participate fully in economic life and have greater say over their future.; Equity: Equality of opportunities makes upward mobility of people possible.; Growth: Higher economic growth will create opportunity for all sections of society and help reduce inequality of opportunity and economic inequality.; Stability: Stable economic growth and stable environment helps businesses, communities, individuals will have sufficient level of stability and confidence.; Sustainability: Sustainable economic growth and development of social wealth over time helps maintain inter-generational well-being.; Children: The number of working children in the 5-14; years age group is estimated to be 4.3 million.; Women: An unfavourable child sex ratio, falling workforce participation, lower asset ownership, levels, high school drop-out rates, and increasing incidence of violent crimes are reflective of the discriminatory practices against them and high levels of anaemia during adolescence etc.; SCs/STs and OBCs: High incidence of

poverty and illiteracy rates among SCs, STs and OBCs.. Overall, making India a giant economy but without addressing inequality is against the constitutional objectives of economic, social, and political justice that needs to be achieved through inclusive growth.

92. [2017 Q14] What are the major reasons for declining rice and wheat yield in the cropping system? How crop diversification is helpful to stabilize the yield of the crop in the system? (250 Words, 15 Marks)

A cropping system is the type and sequence of crops grown and practices used for growing them. Key points: yields of major crops like paddy and wheat are declining; In wheat, India's average; ield in 2013 of 3075 kg/ ha is lower than the world average of 3257 kg/ha.; In paddy production, all Indian states have; ields below that of China and most states have; ields below that of Bangladesh.; India's best state, Punjab, has paddy; ield close to 6000 kg/ha whereas China's; ield is 6709 kg/ha.. Overall, this is a necessary step to achieve the sustainable development goal to ensure zero hunger.

93. [2017 Q15] How do subsidies affect the cropping pattern, crop diversity and economy of farmers? What is the significance of crop insurance, minimum support price and food processing for small and marginal farmers? (250 Words, 15 Marks)

Agricultural subsidies are the support in cash or kind to the farmers from the government. Key points: Cropping Pattern: Selection of crops is influenced by subsidy.; For example, cheap electricity and subsidies on irrigation made farmers of Punjab to grow more and more crops like paddy and wheat.; Economy of Farmers: several subsidies help farmers to limit their expenditure and earn more profit and safe stock of food.; Crop Diversity: Present subsidy structure gives way to the standard staple crops where there is assured market and cost of production is low because of subsidies.; Crop Insurance: Crop insurance is very essential especially in the time of adverse seasonal and climatic changes.; Pradhan Mantri Fasal Bima Yojana (PMFBY); Weather based Crop Insurance Scheme (WBCIS); Coconut Palm insurance scheme (CPIS); Minimum Support Price: Minimum support price (MSP) ensures minimum guaranteed income for crops and protects farmers from market fluctuations and also helps farmers from middlemen exploitation.. Overall, thus, the need is a strong political will, better policy and its implementation.

94. [2017 Q16] Give an account of the growth and development of nuclear science and technology in India. What is the advantage of fast breeder reactor programme in India? (250 Words, 15 Marks)

India's pursuit for peaceful use of nuclear science and technology began with the vision of Dr Homi Bhabha's. Key points: Establishment of Department of Atomic Energy (DEA) in 1954.; First Nuclear Power Plant, 410 MW at Tarapore (Mumbai) Maharashtra, was set up with the 1963 Agreement between the USA and India .; This is based on Boiling Water Reactor technology by using enriched uranium fuel supplied by the USA.; ears of gap India signed an agreement with old ally, Soviet Union, for setting up of two nuclear power plants of thousand MW each which were based on Pressurized Water Reactors technology, at Kudankulam in Tamil Nadu.; The Three-stage Nuclear Power Programme: It was formulated by Dr.; The three stages of nuclear power generation programme are in following manner: First stage: Natural uranium fueled Pressurized Heavy Water Reactors (PHWR's).; FBR's are designed with several safety measures and features which follow redundancy and diversity principle.; Economic viability of FBR depends on successful operation of Prototype FBR and subsequently successful commissioning and operation of FBR in the country.; Fast breeder reactors (FBR's) would use plutonium-239, recovered by reprocessing spent fuel from the first stage, and natural uranium.. Overall, the responsible and peaceful use of nuclear resources for development of the country is essential especially in the era of climate change.

95. [2017 Q17] 'Climate Change' is a global problem. How will India be affected by climate change? How Himalayan and coastal states of India are affected by climate change? (250 Words, 15 Marks)

Climate change is a long-term change in the average weather patterns and characteristics at local, regional, and global levels. Key points: effect of Monsoon: effect of climate change on changing monsoon regime has been observed in terms of rising irregularity in monsoon.; effect on Development: India has been witnessing high growth but developmental needs are suffering because of the climate change as it is causing extreme events, impacting the work days of labour, increasing the cost of development and bringing new challenges like wide-spread diseases.; Geography and Climate of India: India is situated in the South -Asia region and the tropic of cancer divides the country in two parts and it gives rise to differential climate to north and south.; Increased Frequencies of Droughts: Erratic and unpredictable monsoon resulted into drought in some parts and flood like situation in other parts of the country.; Fall in Agricultural Productivity: Climate change is expected to trigger a steep fall in production of cereals as a rise of 0.5-degree Celsius temperature in winter months could cause a decline of 0.45 tonnes fall in wheat production.; Change in River Runoff: Climate change has a strong influence on the precipitation over the Himalayas as well as melting response of glaciers or snow cover in Himalayas.; Life and Livelihoods: These rivers support the life and livelihood of more than 500 million people living downstream in Indo-Gangetic...

96. [2017 Q18] In December 2004, tsunami brought havoc on 14 countries including India. Discuss the factors responsible for the occurrence of Tsunami and its effects on life and economy. In the light of guidelines of NDMA (2010) describe the mechanisms for preparedness to reduce the risk during such events. (250 Words, 15 Marks)

Tsunamis: Tsunamis are giant waves caused by earthquakes or volcanic eruptions under the sea. Key points: But as the waves travel inland, they build up to higher and higher heights as the depth of the ocean decreases.; The speed of tsunami waves depends on ocean depth rather than the distance from the source of the wave.; Tsunami waves may travel as fast as jet planes over deep waters, only slowing down when reaching shallow waters.; Earthquake: It can be generated by movements along fault zones associated with plate boundaries.; The earthquake must occur beneath the ocean or cause the material to slide into the ocean.; The earthquake must be strong, at least magnitude 6.5 on the Richter Scale.; The earthquake must rupture the Earth's surface and it must occur at shallow depth – less than 70km below the surface of the Earth.; The earthquake must cause vertical movement of the seafloor (up to several meters).; Landslide: A landslide that occurs along the coast can force large amounts of water into the sea, disturbing the water and generate a tsunami.. Overall, but still the tsunami is a big force of nature and reducing its effect needs more understanding of nature and technological developments so that on time we can save life and many other things.

97. [2017 Q19] Mob violence is emerging as a serious law and order problem in India. By giving suitable examples, analyze the causes and consequences of such violence. (250 Words, 15 Marks)

y In mob violence a group of people, under the pretext of administering justice, without providing an opportunity of a fair trial, uses physical force against any suspected person. Key points: ears, there have been increasing incidents of loss of life and property because of mob violence.; Social Media: Motivated rumours spread through social media which act as an anonymous force multiplier.; Extremist Ideology: Mob violence, including looting, typically ignites with little planning.; oung, attracted towards instant gratification with brute power.; Climate of Impunity: Support from political parties or similar ideological organizations and groups follow extremist ideology and try to adopt extremist practices.; Lack of Faith in Law and Order: Inadequate response to societal disorder, rising moral policing and low deterrence of law and order.; Silence from society: The harmony in society is decreasing and collective effort to do right is suppressed with a group-think and this is the reason why societal bond is breaking.; Democratic value: India is the biggest democracy in the world, but incidents like mob killing, religious extremism, extremist ideologies are against all the democratic values.; Poor state of justice: Rising incidents of justice and there is deficit of justice when

incidents of lynching happen without holding accused accountable.. Overall, unity in diversity can only be protected by establishing rule of law and regaining people's confidence in the justice system.

98. [2017 Q20] The scourge of terrorism is a grave challenge to national security. What solutions do you suggest curbing this growing menace? What are the major sources of terrorist funding? (250 Words 15 Marks)

Terrorism, the use of violence to create a general climate of fear in a population to bring about the political objective. Key points: Political organizations with both rightist and leftist objectives.; Nationalistic and religious groups.; State institutions like Pakistan's ISI.; Improved Coordination: Better coordination among security agencies is very important to stop terrorist attacks.; Intelligence failure was one of the main reasons behind the 26/11 Mumbai attack.; Greater Centre- State Coordination: State governments can be the immediate responders to any terrorist attacks.; The Maharashtra government created an anti-terrorist special force called Maharashtra Security Guards online of National Security Guards.; NGO's and Civil Society Groups: Greater incorporation of civil society groups and NGOs in the de-radicalization process can be very effective.; Young generations to come out from extremist ideologies.. Overall, countering terrorism needs multi- pronged approach at societal, legal, administrative and security level.

99. [2018 Q1] "Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)". Comment on the progress made in India in this regard. (150 Words, 10 Marks)

The Sustainable Development Goals (SDGs), are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. Key points: Affordable means the energy, which is cheap or subsidized, that is, poor are also benefited in the same way.; Reliable energy means developmental needs of the entire nation can rely upon it.; Sustainable energy takes into the inter-generational equity aspect.; Modern energy encompasses a huge spectrum of energy largely which has low negative externality on the environment and economy.; Pradhan Mantri Ujjwala Yojana: It aimed to provide LPG connections to 8 crore BPL households by 2020.; Compulsory guidelines: The Ministry of Finance has issued mandatory guidelines for adopting energy efficient appliances in all central government buildings which are implemented by Energy Efficient Services Limited (EESL) by 2020.....

100. [2018 Q2] Comment on the important changes introduced in respect of the Long-term Capital Gains Tax (LCGT) and Dividend Distribution Tax (DDT) in the Union Budget for 2018-2019. (150 Words, 10 Marks)

Under the Seventh Schedule of the Constitution, the Union Government is empowered to levy taxes on income other than that from agriculture such as Corporation Tax, Income Tax, Fringe Benefit Tax, Capital Gains Tax (CGT) and Dividend Distribution Tax (DDT). Key points: The tax does not apply to unsold investments.; When an asset is held for 36 months or more, it is treated as a "Long-Term" Capital Gain (LCGT).; Shares and equity mutual funds alone enjoy a special dispensation which is, holding a period of 12 months or more qualifies as long-term in this case.; Government has introduced a levy of 10 % LCGT on profit exceeding the amount of 1 lakh during the sales of shares and equity mutual funds.; Until 2018 if an investor sold his shares /equity Mutual Fund units after holding it for a...

101. [2018 Q3] What do you mean by Minimum Support Price (MSP)? How will MSP rescue the farmers from the low-income trap? (150 Words, 10 Marks)

The MSP is a minimum price guarantee that acts as a safety net or insurance for farmers when they sell a particular set of crops. Key points: Wheat and rice are among the top crops that are procured by the government at MSP from the farmers.; 7 cereals (paddy, wheat, maize, bajra, jowar, ragi and barley).; 5 pulses (chana, arhar/tur, urad, moong and masoor).; 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower and Niger seed).; 4 commercial crops (cotton, sugarcane, copra, and raw jute).; The MSP

is set by the central government before every sowing season for select crops, based on recommendations it receives from the Commission for Agricultural Costs and Prices (CACP).. Overall, the need is expansion of MSP in terms of farmers covered and number of crops balancing the dominance of wheat and rice.

102. [2018 Q4] Examine the role of supermarkets in supply chain management of fruits, vegetables, and food items. How do they eliminate the number of intermediaries? (150 Words, 10 Marks)

Horticulture is cultivation, production and sale of vegetables, fruits, flowers, herbs, ornamental or exotic plants. Key points: In 2012-13, total horticulture production at 269 million tonnes, surpassed total food grain production at 257 million tonnes.; The area under horticulture crops increased to 25.5 million hectares in 2018-19, which is 20% of the total area under food grain.; India's food grain production is estimated to rise by 2% in the 2020-21 crop; ear and it is all-time high at 303.34 million tonnes.; A Supermarket is a large retail store operated on a self-service basis, selling groceries, fresh produce, meat, bakery and dairy products, and sometimes an assortment of non-food goods.; Transportation: The perishability of fruits, vegetables and other food items require faster transportation.. Overall, thus, it can be said that though supermarkets are concentrated in urban areas, but their..

103. [2018 Q5] Discuss the work of 'Bose-Einstein Statistics' done by Prof. Satyendra Nath Bose and show how it revolutionized the field of Physics. (150 Words, 10 Marks)

India has a rich history of contribution in the field of science and one of the giants in scientific research is Satyendra Nath Bose. Key points: The Bose-Einstein distribution describes the statistical behaviour of integer spin particles (boson).; Physicist Paul Dirac was the first to use the term "boson" to describe the particles that obeyed Bose- Einstein Statistics, to celebrate Bose's contribution to developing this theory.; In 1920 while working at Decca university he applied his statistical methods for counting photons.; He sent his paper to Albert Einstein, he recognised the value of statistics.; It brought revolution in the field of Physics in following manner.; It improved the standard model of particle physics.. Overall, though he did not get the Nobel prize for his discovery, his contribution in this field is better than any award which changed fundamental...

104. [2018 Q6] What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (150 Words, 10 Marks)

Solid waste is the unwanted or useless solid materials generated from human activities in residential, industrial or commercial areas. Key points: That is more than 80% of the 334 million tonnes of waste generated across South Asia and about 13% global waste generated every; National Capital Delhi tops the list of Indian cities with the maximum waste generation.; Dominance of informal sector: The informal sector plays a huge role in waste management but without legal status and protection.; Lack of safety gears: Waste collectors generally do not have safety gears like masks, gloves, proper clothes, maintaining personal hygiene and carrying vehicles.; Poor Methods: Lack of proper methods of waste collection and disposal.; Lack of training: Proper training to waste collectors is needed as types and scale of waste is increasing and proper segregation of solid waste needed.. Overall..

105. [2018 Q7] What is wetland? Explain the Ramsar concept of 'wise use' in the context of wetland conservation. Cite two examples of Ramsar sites from India. (150 Words, 10 Marks)

Wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year. Key points: ear or for varying periods of time during the; Water saturation largely determines soil, plant and animal communities living in and on the soil.; At least periodically, the land supports predominantly hydrophytes.; The substrate is predominantly undrained hydric soil.; The substrate is saturated with water or covered by shallow water.; Wetlands support both

aquatic and terrestrial species.. Overall, thus, wetlands needs to be conserved by managing and applying a sustainable development approach and its strict wise use.

106. [2018 Q8] Sikkim is the first 'Organic State' in India. What are the ecological and economic benefits of Organic State? (150 Words, 10 Marks)

Sikkim is the first state in the world to be declared as an organic state. Key points: There is no use of chemical pesticides.; There is no use of chemical fertilisers.; There is a resultant harmonious balance with a complex series of ecosystems.; The certification of all farms according to international standards facilitated by the Sikkim State Organic Certification Agency (SSOCA).; Consumer education and awareness.; The creation of local organic outlets.. Overall, thus, organic farming is the need of the hour and excel another level of settled human civilisation.

107. [2018 Q9] The China Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger 'One Belt One Road' initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same. (150 Words, 10 Marks)

The China-Pakistan Economic Corridor (CPEC) is a massive bilateral project which aims to improve infrastructure within Pakistan for better trade with China. Key points: China's Belt and Road Initiative (BRI) development strategy aims to build connectivity and co- operation across six main economic corridors encompassing most of Asian and European nations.; Infrastructure development: CPEC is mainly focussed on building railways lines, roadways, and gas pipelines to develop China's western province Xinjiang.; Avoid Indian ocean and strait of Malacca: Most major use of this CPEC is to avoid full movement across Indian Ocean and strait of Malacca.; Shortest route: CPEC will open the shortest and more accessible route for China to oil rich countries, African continent, Central and European countries etc.; Improve connectivity: China's ambitious BRI project is focussed on connecting all the continents except Antarctica.; Sovereignty: CPEC crosses...

108. [2018 Q10] Left Wing Extremism (LWE) is showing a downward trend, but still affects many parts of the country. Briefly explain the Government of India's approach to counter the challenges posed by LWE. (150 Words, 10 Marks)

Left Wing Extremism (LWE) is the idea that tries to bring change through violent revolution. Key points: The number of incidents of violence and resultant deaths have decreased by 15.8% and 16.6% respectively in the last three; ears (2016-19) compared with the preceding three; The shrinkage in geographical spread is evident from reduction in violence affected districts to only 60 in 2018.; In 2019, 117 deaths have been reported in LWE related incidents.; LWE is still a big threat as considered by security experts and it can be understood by in last 6 months three major attacks were carried out on security personnel's which killed officers and in recent one more than 20 Jawans were killed in 2021 moist attack.; Left wing extremism is one of the major internal security threats for India was declared in the Review...

109. [2018 Q11] How are the principles followed by NITI Aayog different from those followed by the erstwhile planning commission in India? (250 Words, 15 Marks)

The Planning Commission was established in 1950 and it was dissolved in 2014. Key points: Antyodaya, which advocates prioritizing service and uplift of the poor and marginalized.; Inclusion of the vulnerable and marginalized sections and redressing identity-based inequalities. integrating villages into the development process.; Harnessing India's demographic dividend through education and skilling.; People's participation in the developmental process.; Nurturing an open and accountable style of governance.; Sustainability at the core of the planning and developmental process.; NITI Ayog: It has a CEO with rank equivalent to secretary.; Planning Commission: It had a Deputy chairperson, A member secretary, full members.; Planning commission's approach was top-down and one size fits all approach, which was not as very successful..

Overall, this will create healthy and competitive federalism to achieve ultimate goal development which the earlier planning commission failed to bring to the planning process.

110. [2018 Q12] How would the recent phenomena of protectionism and currency manipulations in world trade affect macroeconomic stability of India? (250 Words, 15 Marks)

Protectionism means government policies that restrict international trade to help domestic industries. Key points: The devaluation in turn lowers the cost of exports from that country.; Recently, the trade war between China and the USA led to a rise in protectionist policies and impacted developing countries like India on its macroeconomic policies.; High pace of China's economic growth and widening of the US trade deficit with China raised tensions between the two largest economies of the world.; The USA removed India from the Generalized System of Preferences (GSP) list.; Withdrawal of the USA from the Trans-Pacific Partnership (TPP).; Other European countries are also getting involved in these trade wars.; India's withdrawal from signing the Regional Comprehensive Economic Partnership (RCEP) treaty.; Global contraction in trade: Protectionism led to a slowdown in the global economy.; Currency War: The policy response of central banks globally to counter the effect of trade war is turning into a currency war.. Overall, thus, to make free trade a true reality, especially for developing and underdeveloped countries, the World Trade Organization should play an active role and revive global best trade practices.

111. [2018 Q13] Assess the role of the National Horticulture Mission (NHM) in boosting the production, productivity, and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (250 Words, 15 Marks)

Horticulture is cultivation, production and sale of high-value crops like vegetables, fruits, flowers, herbs, ornamental or exotic plants. Key points: Horticulture production in India has more than doubled approximately from 146 million tonnes in 2001-02 to 314 million tonnes in 2018-19 surpassing the food grain production 285 million tonnes in 2018-19.; The area under horticulture crops increased to 25.5 million hectare in 2018-19, which is 20% of the total area under food grain.; It has been playing important role in improving productivity, production, and income of farm in following manner; Technology adoption: The mission will focus on production and productivity through the adoption of improved technologies for ensuring the quality of all horticultural crops.; Necessary infrastructure: Efforts will be made to generate the necessary infrastructure in the form of nurseries and improving the existing tissue culture units.; Production and distribution: Production and distribution of planting material nurseries for producing planting material will be established through state or central assistance.; The assistance would be provided for setting up of new nurseries under the Public as well as Private sector; Vegetable seeds production: This programme will ensure the production of seedlings in vegetables is free from a disease which is applied to the hybrid cultivars of vegetables.; The financial assistance for vegetable seed production will be of rupees 50,000 per hectare for the Public sector.. Overall, it is increasingly being recognised that...

112. [2018 Q14] How has the emphasis on certain crops brought about changes in cropping patterns in recent past? Elaborate the emphasis on millets production and consumption. (250 Words, 15 Marks)

It can be defined as the proportion of area under several crops at a point of time. Key points: early sequence and spatial arrangement of sowing and fallow on a given area.; In India, after the Green Revolution and consequent emphasis on food security led to emphasis on certain crops especially rice and wheat cultivation.; Green Revolution: It was started to fulfil food security of India and it given emphasis on wheat and rice.; Paddy, wheat, cotton and sugarcane form a dominating cropping pattern of Indian agriculture because of the Green Revolution.; ear the government announces Minimum support price for 23 crops but most of MSP has been given to Paddy and Wheat which encouraged farmers to grow these crops and give lesser emphasis on other crops like millets, left behind.; Production of millets: Millet is a dry land crop and requires minimum water and marginal conditions of soil fertility to grow well.; As per Indian Council of Agriculture Research

currently total area under millet cultivation is more than 14.72 million hectares.; Millets are grown mostly in dryland and rainfed areas of the country.; Millets are very nutrient rich foods, and it will help to fulfil nutrient needs of our population and at the same time they are friendly crops for India's dryland agriculture.. Overall, as the government plans to promote the production, distribution and consumption of millets India can...

113. [2018 Q15] Why is there so much activity in the field of biotechnology in our country? How has this activity benefitted the field of biopharma? (250 Words, 15 Marks)

Biotechnology is a science-driven industry sector that makes use of living organisms and molecular biology to produce healthcare-related products and therapeutics or to run processes (such as DNA fingerprinting). Key points: Agriculture: Biotechnology is increasingly applied in the field of agriculture for improving agricultural productivity and increasing nutrient quality of seeds and food crops.; Industrial Usage: Industrial activity is the biggest activity after agriculture and several technologies are developed in this sector with respect to application of biotechnology.; Environment: Biotechnology is considered as a solution for combating environmental pollution.; Biopharmaceuticals are medical drugs produced using biotechnology.; Biopharma drugs are almost similar to that of human compounds.; The biggest advantage of biopharma is Gene therapy.; CRISPR-Cas9 is a revolutionary technology and the potential for its application is immense.; Biotechnology allows researchers to use cell fusion, DNA-recombinant technologies and other technologies to modify treatments for specific diseases.. Overall, but certain regulatory hurdles faced by many research institutes and biopharma companies should be eased for attracting investment and new talent which will help to achieve targets under 'Make in India' initiative.

114. [2018 Q16] With growing energy needs should India keep on expanding its nuclear energy programme. Discuss the facts and fears associated with nuclear energy. (250 Words, 15 Marks)

As per International Energy Agency, India's energy demand will increase more than that of any other country over the next two decades. Key points: An expanding economy, population, urbanisation, and industrialisation will result in India's energy needs growing at three times the global average under today's policies, according to IEA's India Energy Outlook 2021.; With these prospects and as a responsible country in the fight against climate change, India needs to shift from fossil fuel-based energy consumption to sustainable and environment friendly nuclear energy.; As per World Nuclear Association, Nuclear energy constitutes only 2.4% of India's total energy basket, which shows the need to improve use of nuclear energy for fulfilling growing demand.; Economic Needs: India is the fastest growing economy in the world today.; Improving Socio-Economic Parameters: Nuclear energy is essential for improving the standard of living of the people.; Meeting Sustainable Development Goals: India is committed to meet all sustainable development goals and in this effort, nuclear energy will play a key role as easy, accessible, and continuous supply of electricity will bring multiplier effect and will help in achieving Sustainable Development Goals.; Nuclear Energy and Foreign Policy Nexus: Nuclear energy plays a substantial role in the formation of bilateral relations among nations.; Energy Availability: Though India's energy production is one of the highest in the world, India is still considered an energy poor country and continues to...

115. [2018 Q17] How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in conservation of flora and fauna? (250 Words, 15 Marks)

The term biodiversity (from "biological diversity") means the variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that Reasons for Varying Biodiversity in India: According to IUCN 2004 total number of plant and animal species are more than 1.5 million. Key points: Biodiversity Hotspots: In India there are 4 biodiversity hotspots, and they are very major in India's crown of biodiversity wealth.; Western ghat and Sri Lanka, and; Sunderbans includes A&N islands.; Himalayan region: Himalayas are running from north-west to north east and from north-south

direction in north eastern states.; Biodiversity gradient is from east to west and low altitude to high in Northern mountains.; Also, the Southern part of Himalaya has more biodiversity than its northern part because the southern part receives more sunlight, precipitation, and more favourable conditions for sustaining life.; Coastal areas: India has more than 7000 kms coastal boundary including its mainland and islands in Arabian sea and Bay of Bengal sea.; In eastern part witnesses numerous deltas which provide and sustains unique species like mangroves and these mangroves provide shelter to a number of animal species.; Coral reefs are another very important ecosystem which we can find in most of the coastal states of India.. Overall, for more comprehensive protection and inclusion of all

116. [2018 Q18] Describe various measures taken in India for Disaster Risk Reduction (DRR) before and after signing ‘Sendai Framework for DRR (2015- 2030)’. How is this framework different from ‘Hyogo Framework for Action, 2005’? (250 Words, 15 Marks)

Disaster Risk Reduction (DRR) is the strategy to minimise the risk from disasters. Key points: Before signing of Sendai Framework for Disaster Risk Reduction (DRR), India had passed the Disaster Management Act in 2005.; This act shifted focus from relief centric approach to more proactive and greater emphasis on mitigation, prevention, and preparedness.; The National Policy on Disaster Management (NPDM) to build a safe and disaster-resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness, and response.; In 2016 India released the country’s first ever National Disaster Management Plan (NDMP).; This is a document based on a global blueprint for reducing disaster risk.; This new plan is based on the four priority areas of Sendai Framework DRR namely: Understanding disaster risk Disaster risk governance Investing in disaster resilient infrastructure. Enhancing disaster preparedness for effective response.; The NDMP has a regional approach which will not only be helpful for disaster management but for disaster planning.; The NDMP can be implemented in a scalable manner in all phases of disaster management.; The National Disaster Management Plan identified several activities such as early warning, information dissemination, fuel, search and rescue, medical care, transportation, and evacuation etc. for all those agencies responding for disasters.. Overall, in this scenario, the Government adopted Sendai Framework and drafted nation and local level plans...

117. [2018 Q19] Data security has assumed significant importance in the digitized world due to rising cyber crimes. The Justice B. N. Srikrishna Committee Report addresses issues related to data security. What, in your view, are the strengths and weaknesses of the Report relating to protection of personal data in cyber space? (250 Words, 15 Marks)

Data is the collection of facts related to an individual or a group or organization. Key points: The processing (collection, recording, analysis, disclosure, etc) of personal data should be done only for “clear, specific and lawful” purposes.; Processing personal data for function of state.; The committee recommends the ‘right to be forgotten’.; Personal data will need to be stored on servers located within India, and transfers outside the country will need to be subject to safeguards.; The “sensitive” personal data (such as passwords, financial data, sexual orientation, biometric data) processed only with explicit consent.; A Data Protection Authority which is supposed to “protect the interests of data principals”, prevent misuse of personal data and ensure compliance with the safeguards and obligations under the data protection framework by corporations, governments, or anyone else.; The committee noted that consent is treated as one of the grounds for processing personal data.; It discussed the principles of data protection that a person whose data is being processed should be able to influence the processing.; The committee had separately recommended the need for separate and more stringent norms for protecting children’s data.. Overall, to achieve Digital India targets and reap the benefits of the digital economy, a strong regime of data protection is needed.

118. [2018 Q20] India's proximity to two of the world's biggest illicit opium-growing states has enhanced her internal security concerns. Explain the linkages between drug trafficking and other illicit activities such as gunrunning, money laundering and human trafficking. What countermeasures should be taken to prevent the same? (250 Words,

on the east and golden crescent (Afghanistan, Iran, and Pakistan) on west which are traditionally world's largest illicit opium growing regions. Key points: Increasing interlinkages and interoperability has been witnessed between drug peddlers and suppliers and that of other criminal groups.; For example, in Afghanistan more than 80% of opium production is controlled by Taliban and Taliban use money earned from opium trade to fund human trafficking, illegal arms and ammunition trade and proliferation of terrorism in the region.; This is one of the biggest concerns for India as Afghanistan is key in our central Asia policy and its close vicinity to India increased this challenge manifold.; Role multiplicity of Drug traffickers or smugglers are increasingly performing role for human trafficking as they already have established supply networks and several other logistical support to carry out these illicit activities.; In similar manner gunrunning and money laundering activities need same type logistical facilities and these supports are shared by several organizations.; For example, it is proven that Pakistan's ISI uses several routes to send arms and ammunition and counterfeit currencies to fund their terrorist activities in the Valley.; There is a big nexus between drug mafias and their lords and thriving arms and weapons business.; The revenue generated from drug trafficking and human trafficking are later used for creating assets which helps these groups for sustaining their business.; India has been...

119. [2019 Q1] Enumerate the indirect taxes which have been subsumed in the Goods and Services Tax (GST) in India. Also, comment on the revenue implications of the GST introduced in India since July 2017. (150 Words 10 Marks)

Originally our constitution provided for separate taxation powers to union and states of indirect taxes but 101st Constitutional Amendment Act ,2016 merged the majority of these taxes into Goods and Services Tax (GST). Key points: Additional Customs Duty (Countervailing Duty).; Special Additional Duty of Customs.; State Value Added Tax/Sales Tax.; Entertainment Tax (other than the tax levied by the local bodies).; Central Sales Tax (levied by the Centre and collected by the States).; Taxes on lottery, betting, and gambling.. Overall, this will make indirect tax structure better and strengthen fiscal federalism.

120. [2019 Q2] Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments. (150 Words 10 Marks)

Since 2014-15, overcoming the effect of the subprime crisis, the Indian economy is witnessing more stable inflation (4-6%) along with steady GDP (6-8%) growth till 2019-20. Key points: Increased Output: Low inflation has always been good for an economy, especially like India, which needs steady and sustainable growth, higher investment in the economy, increased confidence among investors etc. for achieving higher economic growth targets.; Increase Disposable Income: High inflation erodes the purchasing power of the poor and marginalized section of the people.; Macroeconomic Stability: Low inflation rate improves macroeconomic stability by keeping exchange rate stable, improving export and import.; Reforms Facilitator: Steady economic growth helps the government to push for economic reforms like Goods and Service Tax.; Improve Tax Collection: Steady economic growth and low inflation improves tax collection (both direct and indirect) which further improves the spending...

121. [2019 Q3] How far is the Integrated Farming System (IFS) helpful in sustaining agricultural production? (150 Words 10 Marks)

Integrated Farming System (IFS) is an interdependent and interrelated production system based on a few crops, animals and related subsidiary enterprises to maximize the utilization of nutrients of each system and minimize the negative effect of these enterprises on the environment. Key points: Achieve agro-ecological

equilibrium.; Controlling insects-pest, diseases and weeds.; Reducing the use of agro-chemical inputs.; Mitigation of negative effect of agriculture or livestock on the environment.; Increased Farm Income: Through proper residue recycling and allied components and preparing manure which can be again used for organic farming.; Income Stability: Regular stable income through the products like egg, milk, mushroom, vegetables, honey, and silkworm cocoons from the linked activities in integrated farming.. Overall, it is high time that the government should promote and include farming communities in adopting IFS on a large-scale basis.

122. [2019 Q4] Elaborate the impact of the National Watershed Project in increasing agricultural production from water-stressed areas. (150 Words, 10 Marks)

A region is said to be under ‘water stress’ when the demand for water there exceeds the available volume or when poor quality restricts use. Key points: Extremely high levels of water stress mean an average 80 per cent of the available water in a country is used by irrigated agriculture, industries and municipalities every; In India, nine states and union territories (UTs) have been categorised as regions of “extremely high” water stress.; Both surface water and groundwater in India was highly exploited.; ear between 1990 and 2014 in northern India.; Rainfed agriculture is characterised by low levels of productivity and low input usage.; Rainfed areas constitute about 57% of the total 140.30 million hectares cultivated in the country.. Overall, such people not only led to welfare and development but also inspired generations to work with similar spirit...

123. [2019 Q6] What is India’s plan to have its own space station and how will it benefit our space programme? (150 Words 10 Marks)

The Space Station is a large spacecraft that orbits around Earth like a satellite. Key points: India has its plan to build its own space station after the Gaganyaan mission, which will be the first Indian manned mission to space.; Indian Space Research Organization (ISRO) will take this plan of the space station forward in seven; India’s space station will be smaller than the International space station (ISS).; Its primary plan is to set up a space station that will accommodate astronauts for 20 days.; ISRO is simultaneously working on the Space Docking Experiment (SPADEX), a technology which is used for sending people from one spacecraft to another.; Space station will provide a greater number and length of scientific studies than available on other space vehicles and platforms.. Overall, as India is known for low cost and high-end...

124. [2019 Q7] Coastal sand mining, whether legal or illegal, poses one of the biggest threats to our environment. Analyse the impact of sand mining along the Indian coasts, citing specific examples. (150 Words 10 Marks)

Sand mining is the extraction of sand usually from an open pit. Key points: Coastal erosion: Once the mining starts, it leads to more mining if unregulated.; Ecological Disturbance: Sand extraction often results in river and coastal erosion and threats to freshwater and marine fisheries and aquatic ecosystems and lowering of groundwater levels.; Impacts on Marine Biodiversity: Marine sand mining has had an effect on seabed flora and fauna.; Dredging and extraction of aggregates from the benthic (sea bottom) zone destroy organisms, habitats, and ecosystems leading to a net decline in faunal biomass and a shift in species composition.; effect of Inland Biodiversity: Removing sediment from rivers at their coastal deltaic parts causes disturbance in species in the deltaic marshy region.; effect on Climate: The transport of large quantities of aggregates, sometimes over long distances, has a direct...

125. [2019 Q8] Vulnerability is an essential element for defining disaster impacts and its threat to people. How and in what ways can vulnerability to disasters be characterized? Discuss different types of vulnerability with reference to disasters. (150 Words 10 Marks)

According to the Intergovernmental Panel on Climate Change, Vulnerability is defined as the susceptibility of human and environmental systems that are likely to experience harm or damage from the exposure to stresses and from the absence of capacity to adapt. Key points: Exposure (the shocks and stresses experienced by the system); Sensitivity (the response of the system); Adaptive Capacity (the capacity of the system for any kind of adaptive action).. Overall, based upon these elements, vulnerability can be categorized with two approaches: y Scientific

126. [2019 Q9] The banning of “Jamaat-e-Islami” in Jammu and Kashmir brought into focus the role of over-ground workers (OGWs) in assisting terrorist organizations. Examine the role played by OGWs in assisting terrorist organizations in insurgency affected areas. Discuss measures to neutralize the influence of OGWs. (150 Words 10 Marks)

In 2018, over 180 Kashmiri youths joined extremist groups, and around 56% were locals. Key points: In 2018, over 180 Kashmiri youths joined extremist groups, and around 56% were locals.; youth joining terrorist ranks spurred the ban on Jamaat-e-Islami.; Keeping alive insurgency: OGWs are key in expanding the extremist Jehadi ideology.; Logistics support: Their primary role is giving all kinds of logistical roles like providing shelter, helping to create safe passage for militants’ movements etc.; Gathering intelligence: They act as eye and ears for militant organizations and they are key in providing information related to movement of security forces.. Overall, constant evolution of methods for building trust and improving situations is necessary to change the minds and make them fertile ground for nation building once again.

127. [2019 Q10] What is Cyber Dome Project? Explain how it can be useful in controlling internet crimes in India. (150 Words 10 Marks)

Cyberdome Project has led a Centre of Excellence (Cyberdome) for Kerala Police, to meet the long-term security challenges in the digital arena of the modern world, by bridging the gap between the latest changes and innovations in the cyber space and the skill set development of Kerala Police, in combating the emerging cyber threats. y It is envisaged as a collaboration Centre for both the public and private fraternity to converge and share information, as well as resources. • It is dedicated to preventing cybercrime and mitigating cybersecurity threats to the State’s critical information infrastructure. • A crew of ethical hackers, expert coders, youth prodigies skilled in software, law enforcers and civilian volunteers give their service. Key points: It is envisaged as a collaboration Centre for both the public and private fraternity to converge and share information, as...

128. [2019 Q11] It is argued that the strategy of inclusive growth is intended to meet the objectives of inclusiveness and sustainability together. Comment on this statement. (250 Words 15 Marks)

According to the Organization for Economic Cooperation and Development (OECD), Inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all. Key points: Inclusiveness is a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions and is thus an essential ingredient of any successful growth strategy.; Sustainable development means the processes and pathways to achieve sustainability (e.g., sustainable ecology, sustainable production and consumption, good government, education etc.); Reducing Poverty: Growth which is ‘inclusive’ and “pro-poor”, the incomes of poor people grow faster than those of the population, i.e., inequality declines.; Distribution of Wealth: Inclusive growth helps is wider distribution of growth which creates demand in the economy and helps to lead domestic demand-driven economic growth.; Withstand External Shocks: Inclusive growth builds strengths in the economy and growth becomes sustainable in the long term.; Reduces Vulnerability: Inclusive growth helps in reducing vulnerability of all types from the disasters of present time and make people and community future ready this ensures both inclusiveness and sustainability.; Improve Quality of Life: With better income distribution the quality of life substantially improves materially.; e.g., people move away from unsustainable energy sources such as cow dung, wood etc.

to clean energy sources such as LPG.; Change in Development Model: Sustainable development brings the environment in its inclusion thus causing minimum depletion of resources and going for...

129. [2019 Q12] The public expenditure management is a challenge to the Government of India in the context of budget-making during the post- liberalization period. Clarify it. (250 Words 15 Marks)

In general, Public Expenditure Management (PEM) is a prudent way of carrying out government expenditure. Key points: Populist Measures: Vote bank politics has created a lot of pressure on wise public expenditure.; For example, in 2009 the Government in power announced 75,000 crore farm loan waivers.; Global Uncertainties: After the 2008 US subprime crisis compelled the government to pump more money into the economy to revive economic activities and help MSME sectors.; Pandemic: During pandemic, all economic activities were shut, and revenue of the government fell drastically and to revive economic activities the government has announced a stimulus package.; Unchecked Subsidies: Substantial amount of subsidy has been rising in government spending again every time elections come or making government policies a populist one.; Managing Public Debt: Management of public debt is necessary so that the current debt burden should not fall on coming generations.; Containing Inflation: In the era of globalisation and India's import dependency for fuels made India always susceptible for price rise because of rise in fuel prices.; Estimates of revenue and expenditure: to have effective PEM, comprehensive and realistic estimates of revenue and expenditure are essential.; Fiscal Responsibility and Budgetary Management Act 2003: Government is mandated to fiscal deficit to 2.5% by 2023.. Overall, thus, short-sighted populist budgetary exercises can take a back seat for long term sustained economic growth.

130. [2019 Q13] What are the reformative steps taken by the Government to make the food grain distribution system more effective? (250 Words 15 Marks)

Public Distribution System (PDS) is a government- sponsored chain of shops entrusted with the work of distributing basic food and non-food commodities to the needy sections of the society at very cheap prices. Key points: Provide essential consumer goods at cheap and subsidised prices.; To maintain buffer stock to meet any exigencies in food security.; Maintaining minimum nutritional status of population.; Poor Identification: It has legacy issues of inclusion and exclusion error of beneficiaries.; Leakages: Leakages in the delivery system are very high when food grains are transported, at ration shops and at open markets.; Storage Capacity: India's most of food grains are stored in poor conditions proper silos are not available to improve shelf life of food grains.; Environmental damages: Over emphasis on producing rice and wheat and food security raised issue of sustainability and reduced ground water table.; End to end computerisation: Justice Wadhwa Committee report on PDS reforms recommended computerisation to prevent diversion of food grains and enable easy identification of beneficiaries at ration shops.; Universal PDS: Tamil Nadu implements universal PDS in which every household is entitled to subsidised food.. Overall, with efficient and leak-proof PDS India aims to achieve the Sustainable Development Goal 7(zero hunger).

131. [2019 Q14] Elaborate on the policy taken by the Government of India to meet the challenges of the food processing sector. (250 Words 15 Marks)

Food Processing Industry (FPI) in India is a potential source for driving the rural economy as it brings about synergy between the consumer, industry, and agriculture. Key points: The Indian food processing industry accounts for 32 percent of the country's total food market, and is ranked fifth in terms of production, consumption, export and expected growth.; Gross value added in food processing increased from Rs.; Challenges in Food Processing Industry: The Ministry of Food Processing Industries has identified six key challenges faced by the food processing industry; Gaps in Supply Chain Infrastructure: Such as lack of primary processing, storage, and distribution facilities at local or village level which results into wastage.; Seasonality of Operations and Low-Capacity Utilisations: India's regional variations in climatic conditions makes it difficult to run FPI sustainably.; Institutional Gaps in Supply Chain: Dependence on APMC markets

makes FPI's to purchase raw materials at high prices.; Quality and Safety Standards: The issues of quality and safety needs to be improved to target international markets for processed food export from India.; Lack of Private Investment: Food processing industry is Sunrise industry and it need huge investment to build infrastructure like cold storage, cold trucks, and vans, establishing distribution and collection centres.; Pradhan Mantri Kisan SAMPADA Yojana (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters): PM Kisan SAMPADA Yojana is a comprehensive package for modern infrastructure with efficient supply...

132. [2019 Q15] How is the Government of India protecting traditional knowledge of medicine patenting by pharmaceutical companies? (250 Words 15 Marks)

Traditional knowledge (TK) is knowledge, know- how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. Key points: et vulnerable asset to indigenous and local communities who depend on TK for their livelihood.; The healthcare needs of more than 70% population and livelihood of millions of people in India is dependent on traditional medicine.; Traditional Knowledge Digital Library (TKDL): It was initiated in India in 2001 as a digital repository of TK.; It is a pioneering Indian initiative to prevent exploitation and to protect Indian traditional knowledge from wrongful patents mainly at International Patent Offices.; Exclusive Ministry: Ministry of AYUSH has been set up to protect, promote research in traditional medicinal knowledge, marketing and creating awareness for the same.; UNESCO Intangible Cultural Heritage: The government has successfully obtained recognition for its traditional medicine knowledge such as Ayurveda, Yoga, Sowa Rigpa, Unani, etc.; It has helped India to establish links between countries of origin and prevent filing of patents by multinational pharma companies.; Funding: To prevent research and knowledge of traditional medicine being leaked to private players only Centre Scientific and Industrial Research (CSIR) will carry research in this field.; Strengthening IPR regime: In new norms there are provisions to protect traditional knowledge of cultural groups.. Overall, the need is constant upgrading IPR rules...

133. [2019 Q16] How can biotechnology help to improve the living standards of farmers? (250 Words 15 Marks)

Biotechnology is technology based on biology. Key points: ears to make useful food products, such as bread and cheese, and to preserve dairy products.; Increase Crop Productivity: Increase in per acre land productivity is very essential, as Indian agriculture is dominated by small and marginal farmers.; Crop Protection: Genetically Modified crops help much better to defend crops from several insects and viruses, bacteria, and other crop destroying organisms.; Nutritional Value: High quality of nutrition and proteins in food can be increased by use of biotechnology.; Animal Rearing: It helps in four areas of animal rearing; Reproduction, selection and breeding.; Food Processing Industry: In addition to eliminating unwanted components, biotechnology can be used for the inexpensive production of additives that increase the nutritive value of the final product or that improve its flavour, texture or appearance.; Increased Crop Resistance: Increased crop resistance changing weather, climates, pest attack etc. be managed effectively by applying biotechnology in increasing crop resistance.; Developing New Varieties of Food Crops: Improving varieties through R&D of wild varieties of rice.. Overall, though there are controversies surrounding Genetically Modified Crops like BT Brinjal and BT Cotton but improved regulation and more research in this field is needed to improve farm productivity and farmers' income by 2022.

134. [2019 Q17] Define the concept of carrying capacity of an ecosystem as relevant to an environment. Explain how understanding this concept is vital while planning for sustainable development of a region. (250 Words 15 Marks)

The term "carrying capacity" can simply be defined as the maximum population that can be supported or sustained by an ecosystem over time. Key points: An ecosystem breaks down when it can no longer cope with

the pressure from the loads it is carrying.; Similarly, when the carrying capacity of the earth as a system can no longer sustain the pressure of population explosion, the unacceptable negative impacts occur; Economic Planning: Through careful analysis of resources availability and requirements of economy and appropriate strategies can be developed for optimal use of resources while minimizing adverse ecological impacts.; Biodiversity Conservation: National parks, biodiversity parks, and wildlife sanctuaries need a balance between animals and prey base available.; Population Control: Founded on the carrying capacity of a region population control can be considered.; Food Security: Rising population and reducing agricultural land creating pressure on food production and fulfilling demand of rising food demand.; Urban Planning: Every urban center in India have crossed their carrying capacities.; Agricultural Management: Agriculture practices must reflect the carrying capacity of soil, land, available water resources etc.. Overall, analyzing environmental carrying capacity and planning accordingly will help to achieve targets of Sustainable Development Goals.

135. [2019 Q19] Indian Government has recently strengthened the anti-terrorism laws by amending the Unlawful Activities (Prevention) Act (UAPA), 1967 and the NIA Act. Analyse the changes in the context of prevailing security environment while discussing the scope and reasons for opposing the UAPA by human rights organizations. (250 Words 15 Marks)

Amendments to both Unlawful Activities (Prevention) Act (UAPA), 1967 and the NIA Act, aims to eliminate terrorism. Key points: Designating individuals as terrorist: Under the Act, the central government may designate an organisation as a terrorist organisation if it commits, prepares for, promotes terrorism, or involved in terrorism.; Now, UAPA allows the government to declare individuals as terrorists.; Approval for seizure of property by NIA: If the investigation is conducted by an officer of the National Investigation Agency (NIA), the approval of the Director-General of NIA would be required for seizure of such property.; Investigation by NIA: Now the officers of the NIA, of the rank of Inspector or above, to investigate cases.; Insertion to schedule of treaties: The Act defines terrorist acts to include acts committed within the scope of any of the treaties listed in a schedule to the Act.; Scheduled offences: The offences under investigation include- human trafficking, offences related to counterfeit currency or bank notes, manufacture or sale of prohibited arms, cyber- terrorism, and offences under the Explosive Substances Act, 1908.; Jurisdiction of the NIA: The power to investigate scheduled offences committed outside India, subject to international treaties and domestic laws of other countries.; Special Courts: The central government may designate Sessions Courts as Special Courts for the trial of scheduled offences.; Act aims to fight terrorism: Rising danger of terrorism and increasing fundamentalism.. Overall, otherwise...

136. [2019 Q20] Cross-border movement of insurgents is only one of the several security challenges facing the policing of the border in North-East India. Examine the various challenges currently emanating across the India-Myanmar border. Also, discuss the steps to counter the challenges. (250 Words 15 Marks)

Myanmar acts as India's gateway to South-East Asia. Key points: Highly porous and poorly guarded.; Located along remote areas with difficult and diverse terrain.; This region is underdeveloped.; Insurgency hit areas and prone to insurgent activities.; Proximity to opium producing regions.; Cross Border Terrorism: Indo-Myanmar border area have become a safe haven for many insurgent groups.; Free Movement Regime: India-Myanmar has made an agreement which allows people living around the borders of both nations to travel within 16kms of both nations.; Connectivity: Connectivity in the region is poor and connectivity projects are delayed which makes economic prosperity redundant.; The Kaladan Multimodal Project is still not completed and the IMT trilateral highway is under construction.. Overall, the potential of the North-east region in India's growth story can be increased to a major level and its strategic advantage for Act East Policy should take the driver seat by finishing development projects in the region.

137. [2020 Q1] Explain intergenerational and intragenerational issues of equity from the perspective of inclusive growth and sustainable development. (150 Words, 10 Marks)

Equity means just, fair, and equitable distribution of resources and benefits of opportunity. Key points: Intergenerational equity has become important in the present times, because of the growing imbalance in the distribution of resources, ongoing degradation of the environment and depletion of resources.; This growing imbalance can be seen clearly between developing and developed nations or between global north and global south.; also, developed countries do not want to help developing or underdeveloped countries to adopt green technologies, mitigation, and adaptation mitigation which underlines their approach of economic prosperity at the cost of environmental degradation.; In this context the concept of sustainable development is introduced which means the use of resources should be done in such a manner that those resources shall also be available to meet the future needs.; The concept of intra-generational equity provides rights and...

138. [2020 Q2] Define Potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? (150 Words, 10 Marks)

Potential gross domestic product (GDP) is defined in the OECD's Economic Outlook publication, as the level of output that an economy can produce at a constant inflation rate. Key points: Raw Materials: Availability of natural resources such as oil and gas, and available land.; Capital Stock: It includes machinery, plants, assets that help in the production process.; Human Capital: Education and skill level of the workers, the non-accelerating inflation rate of unemployment (NAIRU), and the level of labour efficiency.; Labour: The number of workers available in the country.; Information, Computer and Telecommunications (ICT) Capital: Constant up-gradation in these technologies is important and for that, they need the strongest possible ecosystem of R&D in this field like Artificial Intelligence, Machine Learning.; Technological Knowledge: Expensive technology and poor ecosystem for R&D in the country makes the production process costly and...

139. [2020 Q3] What are the main Constraints in the transport and marketing of agricultural produce in India? (150 Words, 10 Marks)

India is an agriculture-dependent country and over the years agricultural produce has become major in the economy. Key points: ears agricultural produce has become major in the economy.; Principal agricultural commodities export for April 2020 - January 2021 was US\$ 32.12 billion.; ear, food grain production reached a record of 296.65 million tonnes.; Production of horticulture crops in India was estimated at a record 319.56 million metric tonnes (MMT) in FY20.; India is among the 15 leading exporters of agricultural products in the world.; Poor Transportation Network: In India, the interconnectivity between road, railway and ports are not fully developed and utilized.. Overall, thus, to achieve the target of doubling farmers income and accelerating the agriculture growth rate, it is necessary to solve issues related to transportation and agricultural produce marketing and make farming communities and villages self-sufficient...

140. [2020 Q4] What are the challenges and opportunities of food processing sector in the country? How can income of the farmers be substantially increased by encouraging food processing? (150 Words 10 Marks)

Food Processing Industry (FPI) in India is a potential source for driving the rural economy as it brings about synergy between the consumer, industry, and agriculture. Key points: The Indian food processing industry accounts for 32 percent of the country's total food market, and is ranked fifth in terms of production, consumption, export and expected growth.; Gross value added in food processing increased from Rs.; Challenges in Food Processing Industry: The Ministry of Food Processing Industries has identified six key challenges faced by the food processing industry; Gaps in Supply Chain Infrastructure: Such as lack of primary processing, storage, and distribution facilities at local or village level which results in wastage.; Seasonality of Operations and Low-Capacity Utilisations: India's regional variations in climatic conditions makes it difficult to run FPI sustainably.; Institutional Gaps in Supply Chain: Dependence on APMC...

141. [2020 Q5] What do you understand by nanotechnology and how is it helping in health sector? (150 Words, 10 Marks)

Nanotechnology is understanding and control of matter at dimensions between approximately 1 and 100 nanometers, where unique phenomena enable the novel application. Key points: Nanoparticle drug delivery systems: Utilizing degradable and absorbable polymers, provide more specificity to a particular site, thereby increasing the therapeutic efficiency more effectively and thus can be used as effective transport and delivery systems.; Nanocapsules: these are pods that encapsulate drugs, which ensures the drugs are released more slowly and steadily in the body; Dendrimers: Tree-shaped synthetic nano molecules that carry drugs in the tips of the branches.; Nano bio magnets: Nano bio magnets carry drugs for cancer, for instance, into the body and are held at the target site by an external magnet.; Nanotechnology can also provide alternatives to injectable vaccines if the inactive virus is bound up with nanoparticles to increase the...

142. [2020 Q6] How is science interwoven deeply with our lives? What are the striking changes in agriculture triggered off by the science-based technologies? (150 Words, 10 Marks)

Science and science-based technologies have been changing human lives since the ancient time period. Key points: Use of technologies like smartwatches: When we are doing exercise to monitor heartbeat, oxygen level etc.; Use of the internet of things (IoT): Though the internet of things is still in the stages of research and development, its uses have been started already for example IOT based Air conditions that can be operated from distance.; Use of robotic vacuum cleaner: Nowadays the use of robotics in household works is becoming very common especially in cleaning, washing etc.; Use of smart lights in the home: It is a new technology where lights automatically on/off as per the schedule of sunrise and sunset.; Smart TV: Smart TV is now an inseparable part of our life.; The use of biometric attendance: Biometric attendance in office/workplaces...

143. [2020 Q7] How does the draft Environment Impact Assessment (EIA) Notification, 2020 differ from the existing EIA Notification, 2006? (150 Words 10 Marks)

Environmental effect Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural, and human-health impacts, both beneficial and adverse. Key points: It has decentralised the environment clearance process by dividing developmental projects into Two Parts: Category (A) Projects to be appraised at the national level and Category (B) Projects to be appraised at the state level.; Category A projects: These projects are assessed by the effect assessment agency and Expert appraisal committee.; Category B projects: These projects are appraised by State Level Environmental effect Assessment Authority (SEIAA) and State Level Appraisal Committee are constituted to provide category B projects.; Category A projects require mandatory EIA, but they do not undergo a screening process.; Category B projects undergo a screening process, and they are classified...

144. [2020 Q8] What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security? (150 Words 10 Marks)

Water conservation means the preservation, control, and development of water resources, both surface and groundwater, and prevention of pollution. Key points: Phase 1 from 1st July to 15th September 2019 for all States and Union Territories; and; Phase 2 from 1st October to 30th November 2019 for States and UTs receiving the retreating monsoon (Andhra Pradesh, Karnataka, Puducherry, and Tamil Nadu).; Integrated Cybercrime is a criminal activity that either targets or uses a computer, a computer network, or a network device.; Identity fraud (where personal information is stolen and used); Theft of financial or card payment data; Theft and sale of corporate data. Overall, people's participation and literacy in the cyber domain are very major in the cybersecurity environment.

145. [2020 Q10] For effective border area management, discuss the steps required to be taken to deny local support to militants and also suggest ways to manage favourable perception among locals. (150 Words 10 Marks)

India has 15,106.7 km. of land border and a coastline of 7,516.6 km. including island territories with neighbouring countries. Key points: Vulnerability to actions of border criminals.; Restriction/control over movement by forces.; Fear of the unknown—threat of aggression by the enemy, cross border shelling, firing etc.; Lack of industrialisation/economic progress, neglect by Government being frontier areas.; Lack of infrastructure, means of communication, education, medical, water and remoteness.; Providing Gainful Employment: The best way to keep local. Overall, to transform border areas as frontiers of development, it is necessary to work on the capacity building of local people through active involvement in the social, economic, and political process.

146. [2020 Q11] Explain the meaning of investment in an economy in terms of capital formation. Discuss the factors to be considered while designing a concession agreement between a public entity and a private entity. (250 Words 15 Marks)

Investment usually alludes to Gross fixed capital formation (GFCF) which is a macroeconomic aggregate. Key points: Ease of investments made and managed by the private entity, time period, risk sharing, genuine risk transfer, output-based modalities, performance-linked payments, conformance with performance standards, benefits allowed because of comparative advantage, effective contract enforcement, focus on service delivery, monitoring mechanism and arrangement, resource use rationalization, the imposition of standards and conditions arising out of new guidelines or orders and others.; Comparative Advantage: A private entity has comparative advantages as compared to a public entity.; For example, In Oil sector ONGC is trying to build partnerships with private entities such as Shell, Total etc to improve technological skill to explore oils and gas in high temperature areas.; Time Period: While considering concession agreement the time period of project completion is a very important factor.; Contract Enforcement: Effective contract enforcement is very major because in India registering property and actual enforcement of contract take a long time and this increases cost of the project.; Service Delivery: Service delivery on time and effective targeted delivery system is another factor to be considered.; Effective Resource Utilization: Resource utilization is very major in the development of the country; ears that is set to end in 2022.; To meet Revenue Shortfall of States: GST was introduced as one nation one tax by integrating the indirect taxation system of the...

147. [2020 Q13] What are the major factors responsible for making rice-wheat system a success? In spite of this success how has this system become bane in India? (250 Words 15 Marks)

The Green Revolution revolutionised rice and wheat production in the india. Key points: Improved Technologies and access to same: Technologies played a very important role in the rise of the rice-wheat system.; Important role in success of green revolution and introduction of HYV seeds, zero tillage, bed planting, direct seeding etc Improved production of wheat and rice and responsible for making the rice-wheat system a success.; Efficient use of machinery: Though the level of mechanisation is very high, the mechanisation of agriculture has been increasing over a period of time.; Improved methods of irrigation: The prerequisite for success of the green revolution, which focuses on increasing production of rice and wheat, is irrigation methods.; New crop varieties: Impetus to Research and Development in agriculture has improved Seeds Varieties of rice and wheat.; Fertilisers: Use of Neem coated urea and biofertilizers improved the production of wheat and rice systems.; Organic farming: It is a new concept gaining ground in agriculture because of the rising level of demand for organic foods in the market.; Declining Groundwater Table: Rice is a water intensive crop, and it requires a lot of water to take rice crops in a; The rice- wheat system has largely been responsible for the declining groundwater table in areas of Haryana, Punjab etc (areas under green revolution) which created ecological issues and made farming activity unsustainable.. Overall, for achieving sustainable...

148. [2020 Q15] COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. (250 Words 15 Marks)

Since it was first identified in late 2019, COVID-19 has ravaged countries around the world. Key points: Telemedicine: It has been very useful especially in countries like India to provide medical prescriptions and pandemic related information to the remotest possible corner of the country.; Software and Apps: Apps to manage the flow of Information like Aarogya Setu.; Biotechnology: Increased diagnostic kits for faster and accurate detection.; Robotics: Robots may be deployed to take care of patients in isolation wards by serving them food, medicines etc.; Virtual biometrics: Facial and iris recognition solutions integrated with infra-red thermometers are increasingly being used for screening.; Artificial intelligence: AI is lending a hand in diagnosing and developing a cure for the illness.; Work from home: Almost every country in the world has been following the work from home norms for continuing work especially IT industry etc.; Apps such as google meet, zoom, skype etc. bridged gaps and ensured connectivity between companies and employees, teachers and students, friends and families etc.; Participation of universities and research institutions: For testing covid cases inventions such as Chitra GeneLAMP-N developed by Shrichitra medical institutions.. Overall, scientific tools like temperature measurement instruments, app-based surveillance and AI and ML etc used in managing covid-19 in the best possible manner.

149. [2020 Q16] Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our Government for this purpose? (250 Words, 15 Marks)

India is endowed with vast solar energy potential. Key points: ear energy is incident over India's land area with most parts receiving 4-7 kWh per sq. m per day.; ears from 2.6 GW in March,2014 to 30 GW in July 2019.; Pollution Free: Solar power is pollution free and causes no greenhouse gases emission after installation.; Reduce Petroleum Energy Demand: India imports more than 80% of its total energy demand which makes India vulnerable to external price shocks.; Achieving Targets of Paris Agreement: Under INDCs India agreed to reduce 33-35% of fossil fuel related emission, increase non-fossil fuel-based energy consumption by 40% etc.; Solar Energy Diplomacy: By formation of an international solar energy alliance, India is leading the solar energy rich countries on a global level.; Economic Benefits: Increasing investment in the solar energy sector will give a boost to domestic industries manufacturing solar photovoltaic cells, generating employment, reducing costly imports, and increasing export to ISA members and other countries.; National Solar Mission: It is one of the eight key National Mission's which comprise India's National Action Plan on Climate Change (NAPCC).; The scheme for Development of Solar Parks and Ultra-mega Solar Power Projects: The scheme was rolled out by the Ministry of New & Renewable Energy in 2014 to set up at least 25 Solar Parks and Ultra Mega Solar Power Projects targeting over 40,000 MW of solar power..

150. [2020 Q17] What are the key features of the National Clean Air Programme (NCAP) initiated by the Government of India? (250 Words 15 Marks)

Outdoor and household particulate matter pollution contributed to the deaths of more than 1,16,000 Indian infants in their first month of life in 2019, according to the State of Global Air 2020 report by the U.S.-based Health Effects Institute. Key points: Targets: Targets to achieve 20% to 30% reduction in Particulate Matter concentrations by 2024 keeping 2017 as the base; ear for the comparison of concentration.; Non-attainable Cities: Cities are declared non- attainment if over a 5-year period they consistently do not meet the National Ambient Air Quality Standards (NAAQS) for PM 10 or NO₂.; City specific plans: The city specific action plans have been prepared which include measures for strengthening the monitoring network, reducing vehicular/industrial emissions, increasing public awareness etc.; Committees: Implementation of the city specific action plans are regularly monitored by Committees at Central and State level namely Steering Committee, Monitoring Committee, and Implementation Committee.; State Pollution Control Boards: Air

quality of cities is monitored by State Pollution Control Boards which publishes their results from time to time.; Making determined efforts to deal with the air pollution problem across the country in a comprehensive manner.; Facilitating collaborative, multi-scale and cross-sectoral coordination between the relevant central ministries, state governments and local bodies.; Emphasis on awareness and capacity building initiatives: This programme has given emphasis on inclusion of people and creating people's movement in abating the issue of pollution.. Overall...

151. [2020 Q18] Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach.(250 Words, 15 Marks)

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Key points: ears, the Government of India has brought about a paradigm shift in the approach to disaster management.; Resilient infrastructure: India presented a practical approach and roadmap with the launch of a global Coalition for Disaster Resilient Infrastructure (CDRI) to make the infrastructure resilient in the face of disasters.; It provides member countries technical support and capacity development, research, and knowledge management, to facilitate and encourage investment in disaster-resilient infrastructure systems.; Cyclone alert: Indian Coast Guard with the assistance of ICG Remote Operating Centres (ROC) and Stations (ROS), NAVTEX warning (Navigational Text Message) and ISN (International Safety Net) activated one week in advance by Maritime Rescue Coordination Centres (MRCCs) prevented the loss of fishermen lives and reduced effect from Cyclone Amphan and Nisarga.; National cyclone risk mitigation project: Recurrent cyclones account for large scale deaths, loss of livelihood opportunities, loss of public and private property, and severe damage to infrastructure.; Cyclone warning management: IMD is to launch a dynamic, effect-based cyclone warning system aiming at minimising economic losses.; Partnering neighbourhood: To improve existing emergency preparedness and strengthen regional response mechanisms, the field training exercises are conducted, for instance, 2nd BIMSTEC Disaster Management Exercise on flood rescue at the Ramachandi Beach, Puri.; The National disaster management authority released an earthquake zone map for better prediction...

152. [2020 Q19] What are the determinants of left-wing extremism in Eastern part of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas? (250 Words 15 Marks)

A number of Left-Wing Extremist outfits have been operating in certain remote and poorly connected pockets of the country for a few decades now. Key points: Origin and pro revolutionary ideas in the region: The roots of LWE in India lie in the leftist/ Communist political movements, labour and agrarian unrests, the revolutionary societies and the tribal revolts that erupted during several phases of colonial rule in India.; Failed land reforms: Electoral politics was dominated by the landowners and the land reforms that were promised were not being taken up in the expected spirit.; Support to leftist parties: This disillusionment found expression in the increased support in favour of the left parties in elections and given fertile ground for rise in extremist thinking in Bengal and peripheral regions.; Naxalbari phase: The Naxalbari incident could be seen as the trigger that launched the transformation of a mainly political and socio-economic agrarian movement into an armed struggle.; Leadership: The radical hard-line Communist leaders like Charu Majumdar, Jangal Santhal and Kanu Sanyal who were able to motivate and mobilise the landless peasants to forcibly occupy the land belonging to the landlords whom they called "class enemies".; Governance related factors: The malfunctioning of government machinery in eastern India in terms of inefficiency, corruption and exploitation is largely considered as the main factor behind the creation of a power vacuum as well as a space...

153. [2021 Q1] Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before the year 2015 and after the year 2015? (10 Marks, 150 Words)

Gross Domestic Product (or GDP) is a commonly used acronym. Key points: Factors used to calculate GDP are made in accordance with a global initiative to accurately record economic data.; GDP at factor cost replaced by GDP at market price; Pre-2015: GDP at factor cost was calculated.; Post-2015: Adopted the international standard of measuring GDP at market price and Gross Value Added (GVA) at base price for sector-specific estimates.; In addition to the cost of production, the new measures also involve taxes and product subsidies.; Change in data used to measure manufacturing sector growth. Overall, because it estimates more indicators, including consumption, employment, and company performance, as well as variables that are more responsive to recent changes, the new method is statistically more reliable.

154. [2021 Q2] Distinguish between Capital Budget and Revenue Budget. Explain the components of both these Budgets. (10 Marks, 150 Words)

In Article 112 of the Indian Constitution, the Union Budget for a given year is referred to as the Annual Financial Statement (AFS). Key points: It is referred to as the Annual Financial Statement (AFS).; The total annual budget includes both the capital and revenue budgets.; Both capital inflows and outflows are covered under the capital budget.; The government's tax and other revenue receipts and the expenditures funded by those same revenues are referred to as the Revenue Budget, on the other hand.; Both revenue expenditures and revenue receipts make up the revenue budget.; The term "revenue receipts" means payments that do not directly affect the government's assets or liabilities.. Overall, a country's budget is governed by a legal system that specifies who is in charge of the budget or different components of it, how the budget is...

155. [2021 Q3] How did land reforms in some parts of the country help to improve the socio-economic conditions of marginal and small farmers? (10 Marks, 150 Words)

Agrarian reform that focuses on modifying laws, rules, or practices around land ownership is known as "land reform." The lands that farmers farmed were not their property during the British Raj. Key points: Elimination of the Zamindari System: This eliminated the layer of middlemen that stood between the state and the cultivators.; Updating Land Records: The updating, (now digitization) of land records aids in lowering litigation, providing security for landowners in the event that they choose to enter into a tenancy, improving small farmers' access to financing, and improving agricultural policymaking. (For instance, DILRMP, the Digital India Land Records Modernisation Programme).; Landholding Ceilings: It served as a deterrent to the concentration of land in a select few hands.; Reforms in Tenancy: During the time before independence, tenants paid outrageous rent.; Consolidating Landholdings: It stopped land holdings from becoming...

156. [2021 Q4] How and to what extent would micro-irrigation help in solving India's water crisis? (10 Marks 150 Words)

A contemporary form of irrigation known as micro- irrigation distributes water by drippers, sprinklers, and other emitters to the surface or subsurface of the soil. Key points: Efficiency in water utilization is ensured by micro- irrigation.; In micro-irrigation, the targeted water delivery prevents nutrients from washing away, minimising nutrient loss or leaching.; In areas where groundwater aquifers are decreasing, it can help with the needs of dryland farming.; The amount of water needed for agriculture can be decreased by making efficient use of water by micro-irrigation.; For marginal and small farmers in particular, upfront costs are substantial.; The cost of maintaining the tubes and sprinklers may be out of pocket.. Overall, in fact, micro-irrigation can be a first step toward making farming more productive, profitable, and sustainable.

157. [2021 Q5] How is S-400 air defence system technically superior to any other system presently available in the world? (10 Marks, 150 Words)

Russia has developed the mobile surface-to-air missile (SAM) system known as the S-400 Triumf. Key points: The S-400 Triumf can simultaneously track and destroy a variety of incoming objects, including aeroplanes, missiles, and unmanned aerial vehicles (UAV).; Its several coverage envelopes range in size from 30 feet to

one lakh feet above sea level and 40 kilometres to 400 kilometres in distance.; The entire system operates on its own and doesn't need human intervention until absolutely necessary.; This system not only has the ability to operate other Air Defense Systems available but also can share data with other systems placed nearby.; Advantage of S-400 over THAAD; The American THAAD is a one-dimensional missile system, in contrast to the Russian S-400, as it can only fire one type of missile up to a range of 150–200 km.. Overall, in...

158. [2021 Q6] Explain the purpose of the Green Grid Initiative launched at World Leaders Summit of the COP26 UN Climate Change Conference in Glasgow in November, 2021. When was this idea first floated in the International Solar Alliance (ISA)? (10 Marks, 150 Words)

Green Grids Initiative — One Sun, One World, One Grid is an effort to create a global green energy infrastructure that focuses mostly on solar and wind energy, led by the International Solar Alliance, India, and the United Kingdom. Key points: To accelerate the decarbonization of energy production.; To establish a global network of interconnected solar power grids to provide green energy around-the-clock.; To assist in boosting financial support for R&D centres by combining human, technological, and financial resources.; To connect Asia, Africa, and the rest of the world in three phases, totalling 2600 GW, to transfer solar energy to other nations by the; Using the different time zones, seasons, resources, and pricing across the nation and area to develop and scale interregional energy systems.; To launch a cooperative initiative to reduce costs, increase efficiency, and draw...

159. [2021 Q7] Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve these revised standards? (10 Marks, 150 Words)

After a gap of 15 years, new Global Air Quality Guidelines (AQGs) were announced by the World Health Organization (WHO). Key points: ears, new Global Air Quality Guidelines (AQGs) were announced by the World Health Organization (WHO).; According to the 2021 standard, the; early average PM 10 concentration should not be more than 15 micrograms per cubic metre of air, and the 24-hour average shouldn't be higher than 45 micrograms per cubic metre.; The recommendations suggest lower levels of major air pollutants, some of which also have a Changes in AQGs: negative effect on climate change, to protect people's health.; Provide interim targets to guide reduction efforts towards the ultimate and timely achievement of the AQG levels for those countries that substantially exceed the AQG levels.; Countries that strive to meet these benchmark levels will be reducing global...

160. [2021 Q8] Discuss about the vulnerability of India to earthquake related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. (10 Marks, 150 Words)

During an earthquake, energy is released instantly from deformed rocks, which causes the ground to shake or tremble. Key points: The country is vulnerable to earthquakes of moderate to extremely high strength because of the landmass's penetration of the Eurasian plate.; Risks have increased as a result of dense populations, large-scale unscientific buildings, and unplanned urbanisation.; Because of earthquakes, areas in the Himalayan foothills are susceptible to liquefaction and landslides.; The number of earthquakes caused by humans has increased as a result of activities like mining, nuclear explosions, and groundwater extraction.; ears, according to a media report.; Because the Andaman and Nicobar Islands are located on an inter-plate border, they frequently undergo destructive earthquakes.. Overall, nDMA has released a to do and not do list during and after the earthquake.

161. [2021 Q9] Discuss how emerging technologies and globalisation contribute to money laundering. Elaborate measures to tackle the problem of money laundering both at national and international levels. (10

Marks, 150 Words)

Money laundering can also be defined as any act or attempted act to conceal or disguise the identity of illegally obtained proceeds so that they appear to have originated from legitimate sources. Key points: The shift in payment methods: Money launderers now have additional entry points thanks to the rising popularity of new non-cash payment options like prepaid cards, internet payments, and mobile payments.; Need for rapid transactions: These new payment methods are susceptible to money laundering activities because of the high transaction speed and the limited face-to-face contact between the person initiating the transaction and the service provider.; Development in Financial technologies as a result of globalisation: Money can flow quickly and easily anywhere in the world thanks to rapid advancements in financial information, technology, and communication.; of cryptocurrency: These alternative digital payment methods, which are not...

162. [2021 Q10] Keeping in view India's internal security, analyse the impact of cross-border cyber-attacks. Also discuss defensive measures against these sophisticated attacks. (10 Marks, 150 Words)

Any criminal conduct where a computer, communication device, or computer network is used to perform or facilitate a crime is referred to as cybercrime. Key points: Sovereign concerns: The old notions of sovereignty, jurisdiction, and privacy have been questioned by the global nature of cyberspace and, more crucially, by the actors' anonymity.; effect on Critical Infrastructure: Attacks on vital national infrastructure, including as energy and health institutions, were being carried out via cyber tools, and radicalization was being utilised to undermine societal cohesion.; Remote Terror Attacks: Terrorists have utilised social media to organise and carry out terrorist attacks as well as to spread hate speech and violent propaganda, enlist; oung people, and collect money.; Financial loss: According to the Data Security Council of India, India was the second-most severely hit nation by cyberattacks in 2019, with losses from...

163. [2021 Q11] Do you agree that the Indian economy has recently experienced V-shaped recovery? Give reasons in support of your answer. (15 Marks, 250 Words)

After a major economic fall, there is a swift and persistent recovery in key economic performance indicators. Key points: According to the Economic Survey, the economy will recover in a V-shape and real GDP will expand by 11% between 2021 and 2022.; The recovery has been V-shaped, as seen by the 7.5 percent fall in Q2 and the improvement across all important economic indicators, even though GDP shrank by 23.9 percent in Q1.; According to the survey, India's economy will grow by 7.7 percent annually, which is in line with earlier-released government advanced forecasts of; The effect of Covid-19 on India's economy was greatly lessened thanks to the nation's actions.; According to the report, the economy recovered more quickly over the course of the; ear in states with higher beginning stringency.; The Economic Survey also revealed that the objectives of India's economic strategy during Covid-19 were to minimise suffering and maximise long-term gain.; Additionally, it stated that the prompt strict lockdown was to blame for the current V-shaped economic rebound.; As part of the Atma Nirbhar Bharat Mission, India started a number of multi-sectoral supply- side structural reforms to increase the flexibility and resilience of supply chains.. Overall, both the government's and critics' statements of a V-shaped rebound and a sharply declining economy are false.

164. [2021 Q12] "Investment in infrastructure is essential for more rapid and inclusive economic growth." Discuss in the light of India's experience. (15 Marks, 250 Words)

In India, the infrastructure industry is a major economic engine. Key points: Creation of Jobs – Construction of infrastructure, including roads, buildings, railroads, and other structures, requires a lot of labour, which increases job prospects in both the formal and informal economy while also boosting domestic demand.; Farmer Income – By concentrating on improved irrigation infrastructure and storage, processing, and marketing infrastructure, infrastructure investment will be important in achieving a twofold increase in farmer revenue.; Health and Well-being- Infrastructure improvement of better primary healthcare

infrastructure, including computerised health records and healthcare facilities (telemedicine).; Logistic Cost – Building world-class ports, inland waterways, trains, and highways will lower logistical costs, increase competitiveness, and encourage exports.; By generating new jobs and economic activity, lowering production and transportation costs through better connectivity and transportation, increasing overall production capacity, connecting markets and other economic facilities that may extend outside of the nation, and enhancing access to essential facilities like health, education, and other basic services, infrastructure development promotes inclusive growth and the reduction of poverty.; It should be emphasised that having high-quality infrastructure is essential for both rapid economic growth and inclusive growth.; In the Union Budget 2021, the government set aside Rs.; As part of the GatiShakti National Master Plan, the government plans to create a geospatial digital platform to make it easier to plan and manage infrastructure like telecom networks, gas pipelines, roads...

165. [2021 Q13] What are the salient features of the National Food Security Act, 2013? How has the Food Security Bill helped in eliminating hunger and malnutrition in India? (15 Marks, 250 Words)

About two-thirds of the population will receive food grains through the National Food Security Act of 2013. Key points: Coverage and entitlement: With a uniform entitlement of 5 kg/person/month, up to 75% of the rural population and 50% of the urban population will be covered under TPDS.; Identification of households: The task of locating eligible households must be completed by the States/UTS.; Nutritional support: Pregnant women, nursing mothers and children (between the ages of six months and fourteen; ears) will be entitled to meals in accordance with the ICDS, MDM's dietary standards (PM-Poshan).; Maternity benefit: Maternity benefits of at least 6000 rupees are because of pregnant women and nursing mothers.; Women empowerment: For the purposes of issuing ration cards, the household's eldest woman who is at least 18; ears old will be considered to be the head of the household.; Transparency/Accountability: Provisions for social audits, vigilance committee formation, PDS record publication, etc.; Food security allowance: In the event that the beneficiaries are not given the appropriate dietary grains or meals, they are entitled to it.. Overall, further, it is important to use technology to address structural obstacles in the execution of the food bill.

166. [2021 Q14] What are the present challenges before crop diversification? How do emerging technologies provide an opportunity for crop diversification? (15 Marks, 250 Words)

Crop diversification is the process of incorporating new crops or cropping systems into an existing farm's agricultural production while taking into account the several socio-economic and environmental rewards. Key points: effect of Green Revolution: There has been a shift away from monocultures of coarse grains and toward monocultures of wheat and rice (Government policy of MSP).; Monsoon Dependence: India's cultivable land is rain-fed to the tune of about 55%, with a strong reliance on the monsoon.; Fragmented land holding: It makes it challenging to employ effective contemporary technologies on a broad scale, increases the expense of managing property boundaries, causes land conflicts, etc.; Shift from Food crops to Commercial Crops: Cotton in the Deccan region and sugarcane in the Green Revolution belt and Krishna-Godavari basin are two examples of this.; Human factors: Subsistence farming is still practised and there is major population pressure on the sector.; Infrastructural Factors: A lack of basic infrastructure, including power, transportation, and communications in rural areas. poor post-harvest processing infrastructure is also mentioned.; Soil and Water Sensors: Instead of using a predetermined schedule to decide when to irrigate and fertilise, the farm can use these sensors to monitor moisture and nitrogen levels.; Weather Tracking: Using this technology, farmers can acquire enough advance notice of hail, frost, and other weather disasters to make plans to protect their crops or, at the very least, minimise losses.; Satellite...

167. [2021 Q15] What are the research and developmental achievements in applied biotechnology? How will these achievements help to uplift the poorer sections of society? (15 Marks, 250 Words)

Technology based on biology is known as biotechnology. Key points: Genetically engineered crops with increased nutritional value, pest resistance, and crop output are created via biotechnology.; Many drugs, like Insulin, are produced using recombinant DNA technology.; Additionally, waste management and pollution reduction use biotechnology.; Biotechnology is used for the diagnosis of a number of diseases.; To combat the COVID-19 pandemic, RNA (mRNA)-based vaccine development is being used.; IVF, test tube children, and other assisted reproductive technologies are all led by biotechnology.; By boosting crop productivity and enhancing its resistance to pests and environmental changes, biotechnology is helping marginal farmers increase their income.; It has revolutionised medical science, making world-class care and a regulated death rate achievable in India alone.; Through genome sequencing, biotechnology provides access to data on people's health from all around India, which ultimately helps the government create focused policy initiatives.. Overall, all social classes must receive an equitable share of its advantages, though.

168. [2021 Q16] The Nobel Prize in Physics of 2014 was jointly awarded to Akasaki, Amano and Nakamura for the invention of Blue LEDs in 1990s. How has this invention impacted the everyday life of human beings? (15 Marks, 250 Words)

LEDs are semiconductors that have been designed to produce light when activated. Key points: Isamu Akasaki, Hiroshi Amano, and Shuji Nakamura shared the 2014 Nobel Prize in Physics for their development of effective blue light-emitting diodes, which allowed for the development of white light sources that are brilliant and energy-efficient.; There were only red and green LEDs accessible; blue LEDs were not developed, which limited the production of white LEDs.; because of the fact that white LEDs can only be produced by mixing the three major LED colours (green, red, and blue).; thus, the Nobel laureates revolutionary blue LEDs' primary component was gallium nitride.; Conservation of Electricity: More than 50% of the electricity used by a contemporary white LED light bulb is converted into light.; Easy Access: because of their efficiency, white LEDs are a desirable option for providing lighting to people who live in areas without access to electricity.; Other Technological Advancement: LEDs are used in the electronics sector to backlight the LCDs found in many smartphones, computers, and televisions.; Increased Data Storage Capability: The digital optical discs used in Blu-ray players, which are the DVD player's replacement, are read using blue LED lasers.; Compatibility: LEDs come in a wide range of sizes, from a few millimetres to many feet.. Overall, these developments demonstrate how LEDs will continue to have an effect on people's daily lives for years to...

169. [2021 Q17] Describe the major outcomes of the 26th Session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? (15 Marks, 250 Words)

The 26th UN Conference of the Parties on Climate Change (COP26) was held in Glasgow, UK, with the goal of finalising the guidelines for carrying out the Paris Agreement and convincing all nations to commit to a net-zero target by a particular year. Briefly define landslides. • Paris Agreement and convincing all nations to commit to a net-zero target by a particular year. Key points: Briefly define landslides.; Paris Agreement and convincing all nations to commit to a net-zero target by a particular year; Outcomes of the Conference; The COP decided to gradually phase out coal power for the first time.; Implementing the long overdue \$100 billion in annual support for the green transformation in underdeveloped countries.; Preventing deforestation in an effort to save current nature-based emissions-capture methods.; The Paris targets of limiting global warming to 1.5 degrees Celsius were retained by the completion of the Paris Agreement rulebook.; The member nations came to an agreement on the Glasgow Climate Pact, which requires them to report their progress toward greater climate ambition the next year, at COP27 Egypt.. Overall, thus, the nations should continuously work to achieve their goals and use cutting-edge carbon-neutral technologies.

170. [2021 Q18] Describe the various causes and the effects of landslides. Mention the important components of the National Landslide Risk Management Strategy. (15 Marks, 250 Words)

The sliding down of a slope of a mass of rock, rubble, or earth is known as a landslide. Key points: Climate Change: More water rushes over the steep slope as a result of increased glacier melting and intense rainfall events brought on by rising global temperatures.; Tectonic Activity: The Himalayas, a young fold mountain range, are located above a seismically active convergence zone.; Increasing Population: Pressure on land increases as population grows but land availability remains constant.; Drainage System: Himalayan rivers are still in their; Rapid river flow over an incline causes vertical corrosion and down-cutting.; A landslide can have major effects, such as the loss of life, the devastation of infrastructure, harm to the land, and the depletion of natural resources.; Additionally, landslide debris can obstruct waterways, raising the danger of flooding.; Massive earthquakes or volcanic activity can cause deep landslides that can obliterate thousands of square kilometres of land and kill thousands of people.. Overall, initiatives of National Landslide Risk Management Strategy are commendable in this direction.

171. [2021 Q19] Analyse the multidimensional challenges posed by external state and non-state actors, to the internal security of India. Also discuss measures required to be taken to combat these threats. (15 Marks, 250 Words)

Give a brief idea about the external state and non-state actors. • • Mention the challenges faced to the internal security of India by external state actors. • Write about the challenges faced to the internal security of India by non-state actors. • Highlight the measures to combat these threats. • Conclude why security is required within the borders as well and not only on the borders. Key points: Mention the challenges faced to the internal security of India by external state actors.; Write about the challenges faced to the internal security of India by non-state actors.; Highlight the measures to combat these threats.; Conclude why security is required within the borders as well and not only on the borders.; A few of India's surrounding nations provide finance, training, or coordination to the insurgency organisations.; Cyberattacks by external state actors could also compromise national security. (For instance, cyberattacks coming from China).; State actors also pay their proxies inside and outside of India to sow unrest there and degrade India's standing on international stages.; Multinational Corporations (MNCs) may pose a threat to national security, particularly in the areas of data security and cyberspace, as well as by influencing the laws of the countries in which they operate.; Potential risks to India's peaceful internal security environment include non- state organisations with anarchic and fundamentalist ideas that are incompatible with the country's reputation...

172. [2021 Q20] Analyse the complexity and intensity of terrorism, its causes, linkages and obnoxious nexus. Also suggest measures required to be taken to eradicate the menace of terrorism. (15 Marks, 250 Words)

The deliberate use of violence or the threat of violence to sow fear in governments or societies to coerce or intimidate them into pursuing objectives that are typically political, religious, or ideological is known as terrorism. Key points: Psycho-pathological explanations for terrorism have a tendency to divest terrorism of socio- economic and political motivations.; Perceptions of unfairness and deprivation, particularly among communities with distinct cultures.; Ideological terrorism is supported by a lack of political legitimacy, continuity, and integration for the political periphery.; According to socioeconomic theories, those who experience several types of deprivation are more likely to turn to terrorism or are more likely to be recruited by organisations that use terrorist tactics.; Extreme beliefs can occasionally produce animosity toward other societal groups and even inspire terrorism.; One nation's terrorism may spread to nearby regions.; Opportunities for terrorist violence to shape public opinion and allocation of resources are other reasons for such acts.; As a war via proxy develops, hegemony in the international system by one or two actors will result in a high level of transnational anti- systematic terrorism.; Organised crime and terrorism work together to thrive and survive.. Overall, thus, a leader must possess both domain knowledge and imagination to overcome a variety of ethical conundrums.

173. [2022 Q1] Why is Public Private Partnership (PPP) required in infrastructure projects? Examine the role of PPP model in the redevelopment of Railway Stations in India. (150 Words,10)

Introduction According to the World Bank, Public Private Partnership (PPP) is “A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears major risk and management responsibility and remuneration is linked to performance.” PPP required in Infrastructure Projects: y The creation of durable and high-quality infrastructure is a prerequisite for rapid economic development and requires sustained investment supported well by technological innovation, a skilled workforce and excellent project management. Key points: According to the World Bank, Public Private Partnership (PPP) is “A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears major risk and management responsibility and remuneration is linked to performance.” PPP required in Infrastructure Projects; The creation of durable...

174. [2022 Q2] Is inclusive growth possible under market economy? State the significance of financial inclusion in achieving economic growth in India. (150 Words, 10 Marks)

Inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all. Key points: Wider economic and social inequalities and increased unemployment rates are possible outcomes.; Additionally, labour can be taken advantage of to increase profits without raising pay.; Because they influence demand and supply and because profiteering is prioritised over social welfare, it might be more difficult to provide for basic needs.; Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segments of the rural population.; Financial inclusion also mitigates the exploitation of vulnerable sections by usurious money lenders by facilitating easy access to formal credit.; Financial inclusion is an innovative concept that helps to achieve the sustainable development of the country, by making available financial services to the unreached people with the help...

175. [2022 Q3] What are the major challenges of the Public Distribution System (PDS) in India? How can it be made effective and transparent? (150 Words, 10 Marks)

The Public Distribution System (PDS) evolved as a system of management of scarcity through the distribution of food grains at affordable prices. Key points: Nutritional Security: The world's largest food security project, India's PDS, has been successful in preventing famines but has failed to guarantee nutrition security.; Corruption issue: The PDS has leakage and corruption problems, which cause subsidised food grains intended for the needy to be sold on the illicit market or wind up in the hands of middlemen.; Ineffective Targeting: It can be difficult to locate and target the appropriate beneficiaries.; Supply Chain Management: Poor infrastructure, storage facilities, and transportation logistics cause food grains to spoil and distribution to be delayed.; Grievance Redress: It is challenging to identify and rectify irregularities and grievances in the PDS because of weak monitoring procedures and inadequate accountability.; Poor product...

176. [2022 Q4] Elaborate the scope and significance of the food processing industry in India. (150 Words, 10 Marks)

According to Year End Review 2022-Ministry of Food Processing Industries, the food processing sector has been identified as one of the Champion Sectors under “Make in India” and has emerged as an important segment of the Indian economy in terms of its contribution to GDP, exports, investment and employment. Key points: India ranks #1 in the world for the production of a variety of foods, including milk, ginger, bananas, guavas, papayas, and mangos.; It ranks second in producing rice, wheat, potatoes, sugarcane, cashew nuts, tea, etc.; It is among the top 5 producers of things like coffee, tobacco, spices, and seeds.; Agricultural land in India was reported at 60.22 % in 2020, according to the World Bank collection of development indicators.; India has a multitude of resources that it can use, such as a large variety of domestic...

177. [2022 Q5] The increase in life expectancy in the country has led to newer health challenges in the community. What are those challenges and what steps need to be taken to meet them ? (Answer in 150 words)

The current life expectancy for India in 2023 is 70.42 years, a 0.33% increase from 2022. Key points: eases, a 0.33% increase from 2022.. Overall, emphasizing preventive healthcare, strengthening healthcare infrastructure, and promoting mental health support will pave the way for improved overall well-being and longevity in the community.

178. [2022 Q6] Each year a large amount of plant material, cellulose, is deposited on the surface of Planet Earth. What are the natural processes this cellulose undergoes before yielding carbon dioxide, water and other end products? (Answer in 150 words)

Cellulose is a complex carbohydrate and a primary structural component of plant cell walls. Key points: yielding carbon dioxide, water, and other end products: Decomposition by Microorganisms: The primary process involved in cellulose decomposition is carried out by microorganisms, such as bacteria and fungi.. Overall, this cycle of cellulose decomposition plays a important role in maintaining the balance of carbon in the atmosphere and sustaining the health and productivity of ecosystems on Planet Earth.

179. [2022 Q7] Discuss in detail the photochemical smog emphasizing its formation, effects and mitigation. Explain the 1999 Gothenburg Protocol. (Answer in 150 words)

Photochemical smog is a harmful air pollution phenomenon that occurs in urban areas with high levels of vehicle emissions and industrial activities. Key points: yields and harm to sensitive plant species.. Overall, by adopting comprehensive strategies to reduce emissions and promoting international cooperation, as exemplified by the Gothenburg Protocol, we can take major steps toward improving air quality and protecting public health from the harmful effects of smog.

180. [2022 Q8] Explain the mechanism and occurrence of cloudburst in the context of the Indian subcontinent. Discuss two recent examples. (Answer in 150 words)

Cloudburst is a weather phenomenon characterized by an intense and sudden release of a large amount of precipitation within a short period. Overall, as climate change continues to influence weather patterns, addressing the challenges posed by cloudbursts becomes even more critical for the well-being and safety of communities in the Indian subcontinent.

181. [2022 Q9] Discuss the types of organised crimes. Describe the linkages between terrorists and organised crime that exist at the national and transnational levels. (Answer in 150 words)

According to UNODC, contain a definition of 'organised criminal group'. Key points: ease's incarceration; to obtain, directly or indirectly, a financial or other material benefit.; Drug manufacture, delivery, and sale are all part of drug trafficking, which includes substances like cocaine, heroin, and methamphetamine.; Human trafficking is the practice of exploiting others for financial gain, sexual gratification, or other causes.; Money laundering is the process of disguising and passing off the proceeds of illicit conduct as lawful financial transactions.; Arms trafficking is the illegal exchange of weapons, ammo, and related materials that supports armed conflict and criminal activity.; Cybercrime is the term for illegal actions carried out via digital technology, including hacking, identity theft, financial fraud, and data breaches.. Overall, international cooperation may result from resolutions adopted by the UNSC and other institutional organisations like the FATF.

182. [2022 Q10] What are the maritime security challenges in India? Discuss the organisational, technical and procedural initiatives taken to improve maritime security. (Answer in 150 words)

India has a rich maritime heritage and the earliest reference to maritime activities is contained in the Rig Veda. Key points: Illegal migration: Compared to travelling by land or air, crossing international waters is a better approach to entering a foreign country.; Drug trafficking: Drug trafficking, especially the transportation of drugs through marine channels, takes use of the maritime realm.; Pirate and Armed Robbery: Commercial shipping and maritime trade are threatened by the prevalence of piracy and armed robbery in some areas.; Maritime Terrorism: The risk of terrorist actions like piracy, hijacking, and smuggling presents a serious obstacle to maritime security.; Maritime boundary disputes: Conflicts with nearby nations over their maritime borders can result in hostilities and pose security hazards.; The Indian Ocean Rim Association, formerly known as the Indian Ocean Rim Initiative and the Indian Ocean Rim...

183. [2022 Q11] “Economic growth in the recent past has been led by an increase in labour activity.” Explain this statement. Suggest the growth pattern that will lead to creation of more jobs without compromising labour productivity. (Answer in 250 words)

According to the International Labour Organisation, Labour productivity is an important economic indicator that is closely linked to economic growth, competitiveness, and living standards within an economy. Key points: The labour productivity growth in India measured in terms of growth in real GDP per person employed for the two time periods show that it was 3.0% during 2000-2005, while, it increased at an annual rate of 6.7% during the 2005-2013 period.; The Labour Productivity growth during 2000- 2013 in India has all along been better than the comparative position in respect of benchmark countries such as the United States (except China).; Workforce productivity has increased dramatically as a result of government programmes like the Pradhan Mantri Kusal Vikas Yojana and the Skill India programme.; The improvement of infrastructure facilities boosts both worker productivity and quality of life.; Demand and Consumption are led by an increase in labour productivity, when more people are employed and receiving income, it encourages consumption and raises total demand.; India needs an industrial and trade policy.; Special initiatives are needed to generate employment in labour-intensive sectors.; Cluster development is also required for micro, small, and medium-sized enterprises (MSMEs) to help in job generation.; Coordinate urban development with manufacturing clusters to create jobs.. Overall, economies may maximise the potential of labour while promoting productivity, innovation, and competitiveness by implementing the indicated growth patterns.

184. [2022 Q12] Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective? Explain. (Answer in 250 words)

Introduction At the 26th session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Glasgow, United Kingdom. Key points: At the 26th session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Glasgow, United Kingdom.; Subsidies to electricity transmission and distribution make up the largest bucket at around INR 1.3 lakh crore (USD 18.2 billion) in FY 2020.; Oil and gas subsidies increased by 16% from FY 2019 to FY 2020, reaching INR 55,347 crore (USD 7.8 billion).; Subsidies to renewable energy fell nearly 45% from their peak in FY 2017, stagnating at around INR 8,000 crore in FY 2020.; Electric vehicle subsidies have more than doubled since FY 2019, reaching INR 1,141 crore (USD 161 million) in FY 2020.; Investment in renewable energy projects: In FY 2020, seven major Indian energy public sector undertakings (equivalent to state-owned enterprises) spent INR 22,261 crore (USD 3.1 billion) on fossil fuel projects—11 times as much as they invested in renewable energy projects.; Total capital expenditure of energy public sector undertakings in India stood at INR 1.5 lakh crore (USD 22.4 billion) in FY 2020 and is expected to increase in the near term.; Reducing subsidies for fossil fuels causes higher tariffs on conventional energy and increasing subsidies for renewable makes low tariffs...

185. [2022 Q13] What are the main bottlenecks in upstream and downstream process of marketing of agricultural products in India ? (Answer in 250 words)

The marketing of agricultural products in India involves several processes, from the upstream stages of production to the downstream stages of distribution and consumption. Overall, by resolving these issues, India can enhance the marketing efficiency of agricultural products, ensure better returns for farmers, and provide consumers with a steady supply of quality produce at reasonable prices

186. [2022 Q14] What is Integrated Farming System ? How is it helpful to small and marginal farmers in India ? (Answer in 250 words)

Integrated Farming System (IFS) is a comprehensive agricultural approach that combines different farming activities and components within a single system. Key points: ear, reducing their dependency on a single crop and minimising income fluctuations.. Overall, encouraging the adoption of Integrated Farming System can play a important role in enhancing the resilience and well-being of small and marginal farmers, ultimately leading to a more sustainable and inclusive agricultural sector in India.

187. [2022 Q15] Launched on 25th December, 2021, James Webb Space Telescope has been much in the news since then. What are its unique features which make it superior to its predecessor Space Telescopes ? What are the key goals of this mission ? What potential benefits does it hold for the human race? (Answer in 250 words)

The James Webb Space Telescope (JWST), launched on 25th December 2021, is a revolutionary space observatory that has captured global attention because of its groundbreaking capabilities. Overall, its successful mission represents a remarkable achievement for humanity's quest to understand the universe and our place in it.

188. [2022 Q16] What is the basic principle behind vaccine development? How do vaccines work? What approaches were adopted by the Indian vaccine manufacturers to produce COVID-19 vaccines ? (Answer in 250 words)

Vaccine development is based on the principle of introducing a weakened or inactivated form of a pathogen or a specific component of it into the body to stimulate the immune system. Overall, their contributions have been instrumental in accelerating the vaccination drive in India and globally, contributing to the fight against the COVID-19 pandemic.

189. [2022 Q17] Discuss global warming and mention its effects on the global climate. Explain the control measures to bring down the level of greenhouse gases that cause global warming, in the light of the Kyoto Protocol, 1997. (Answer in 250 words, 15 Marks)

Global warming is a pressing concern, one that has attracted major attention worldwide. Key points: Increasing Global Temperatures: This is the most immediate and evident consequence of global warming, leading to heatwaves and higher average temperatures globally.; Melting Ice Caps and Rising Sea Levels: Rising temperatures lead to melting polar ice caps, which in turn cause sea levels to rise.; Shifts in Ecosystems and Biodiversity: Changing climatic conditions disrupt habitats, potentially leading to species extinction.; Threat to Food Security: Changes in weather patterns can effect agriculture, reducing food production and increasing the risk of food shortages.; Emission Reduction Targets: The protocol set legally binding emission reduction targets for developed countries, recognizing their historical contribution to the current levels of greenhouse gases in the atmosphere.; Flexibility Mechanisms: Three market-based mechanisms were introduced: International Emission Trading, Clean Development Mechanism (CDM), and Joint Implementation (JI).; Reporting and Verification: The protocol established a robust transparency, reporting, and review system to ensure the accountability of countries in meeting their commitments.; Assistance to Developing Countries: The protocol encouraged developed countries to assist developing countries in climate

change mitigation and adaptation, recognizing the different capacities and responsibilities across countries.. Overall, also in the CoP 26 Glasgow Summit,

190. [2022 Q18] Explain the causes and effects of coastal erosion in India. What are the available coastal management techniques for combating the hazard? (Answer in 250 words, 15 Marks)

Coastal erosion, a major environmental issue, is the wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, wave currents, or drainage. Key points: Loss of Land: Coastal erosion results in the loss of land, which can lead to the displacement of human settlements and the loss of agricultural land.; Damage to Infrastructure: It causes damage to coastal infrastructure such as roads, bridges, and buildings, leading to economic losses.; Threat to Biodiversity: Coastal ecosystems like mangroves and coral reefs are severely affected, endangering the species that rely on these habitats.; Impacts on Livelihoods: Fishing and tourism, vital to many coastal communities, are directly affected, threatening livelihoods and exacerbating poverty.; Hard Engineering Techniques: These involve the construction of physical structures to reduce wave energy and sediment movement.; Soft Engineering Techniques: These are more environmentally friendly techniques that work with natural processes.; Integrated Coastal Zone Management (ICZM): This approach integrates the management of geophysical, biological, and human activities within a coastal area, acknowledging the interdependence of ecosystems and human communities.; Community Involvement: Local communities are engaged in efforts to manage and protect the coastlines, fostering sustainable practices and conservation awareness.. Overall, implementing comprehensive coastal management strategies, combining hard and soft engineering techniques with integrated approaches and community participation, is important to protect and sustain the country's diverse and vibrant coastlines.

191. [2022 Q19] What are the different elements of cyber security? Keeping in view the challenges in cyber security, examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy. (Answer in 250 words, 15 Marks)

Cybersecurity is an essential facet of the digital landscape, intending to protect systems, networks, and data from digital attacks. Key points: Network Security: This involves protecting a computer network from intruders, be it targeted attackers or opportunistic malware.; Application Security: Focused on keeping software and devices free of threats.; Information Security: Protects the integrity and privacy of data, both in storage and in transit.; Operational Security: Includes the processes and decisions for handling and protecting data assets.; Disaster Recovery and Business Continuity: Define how an organization responds to a cyber- security incident or any other event that causes the loss of operations or data.; End-User Education: Users may be tricked into providing sensitive information, so user education is one of the most vital defenses.; In 2013, India launched the National Cyber Security Policy, aimed at protecting information and building capabilities to prevent cyber threats.; In 2020, the Government of India announced the development of a new National Cyber Security Strategy to address the contemporary challenges of cybersecurity.; Furthermore, the Indian Computer Emergency Response Team (CERT-In) plays a pivotal role in India's cybersecurity strategy.. Overall, while India has made substantial strides in developing a National Cyber Security Strategy, the dynamic nature of cybersecurity threats calls for continuous upgrades, capacity building, and international cooperation to keep pace with new forms of cybercrime and ensure a secure digital future for all.

192. [2022 Q20] Naxalism is a social, economic, and developmental issue manifesting as a violent internal security threat. In this context, discussing the emerging issues suggest a multilayered strategy to tackle the menace of Naxalism. (Answer in 250 words, 15 Marks)

Naxalism, a longstanding challenge in India, is not just an internal security issue but a complex socio-economic problem deeply rooted in poverty, social inequality, and underdevelopment. Key points: Socio-economic issues: Extreme poverty, lack of quality education, healthcare, and economic opportunities are

primary factors that create a sense of dissatisfaction and disenfranchisement among the local population, leading many to join the Naxal ranks.; Political issues: The perceived sense of alienation and neglect by the mainstream political system, coupled with corruption at local levels, aggravates the discontent among the affected communities.; Developmental issues: The lack of infrastructure and limited access to essential services such as education, healthcare, and connectivity exacerbates the social and economic disparities in the Naxal-affected regions.; Socio-economic Development: The government must intensify efforts to reduce poverty and enhance the socio-economic development of the Naxal-affected regions.; Good Governance and Political Reforms: Addressing corruption, ensuring the delivery of basic services, promoting local participation in governance, and resolving land and forest rights issues are important.; Security Measures: While addressing the root causes of Naxalism, it is equally important to strengthen the security apparatus to combat Naxal violence.; Negotiation and Dialogue: Engaging in dialogue with the Naxal groups, involving civil society, and ensuring the inclusion of local communities in the peace process can contribute significantly to the resolution of the conflict.; Legal Frameworks and Judicial Reforms: Strengthening legal frameworks and fast-tracking A...

193. [2023 Q1] Faster economic growth requires increased share of the manufacturing sector in GDP, particularly of MSMEs. Comment on the present policies of the Government in this regard. (10 Marks, 150 Words)

Manufacturing contributes only ~16–17% to India's GDP, compared to 28% in China and 25% in South Korea. Key points: Make in India & Atmanirbhar Bharat: These initiatives focus on promoting domestic manufacturing and attracting FDI to reduce import dependency.; PLI Schemes: Covering 14 key sectors, they provide direct incentives to boost scale, competitiveness, and global export share.; MSME Financing Support: Schemes like ECLGS and CGTMSE improve liquidity and provide credit guarantees to small firms.; Digital & Skill Initiatives: Udyam registration formalizes units, Skill India enhances workforce productivity, and TReDS eases invoice financing.; Credit Constraints: MSMEs still face limited access to affordable loans and high interest costs.; Infrastructure Gaps: Deficient logistics, high power costs, and raw material bottlenecks hamper competitiveness.. Overall, government initiatives provide a strong foundation, but bridging gaps in credit, infrastructure, and competitiveness is essential to make...

194. [2023 Q2] What is the status of digitalization in the Indian economy? Examine the problems faced in this regard and suggest improvements. (10 Marks, 150 Words)

India's digital economy is rapidly expanding, with the Digital India programme allocated ₹21,936 crore in Budget 2024-25, up from ₹16,549 crore in the previous year. Key points: Platforms like UPI and Aadhaar continue to redefine governance, finance, and service delivery.; UPI: India dominates global digital payments, processing billions of transactions monthly, making digital payments accessible and low-cost.; JAM Trinity: Aadhaar, Jan Dhan, and Mobile enable direct transfer of subsidies to millions, reducing leakages.; E-Governance: Initiatives like DigiLocker, e-Shram, and CoWIN improved transparency and citizen service delivery.; Digital Ecosystem Growth: The IndiaAI Mission, with an outlay of ₹10,372 crore over five years, aims to build AI innovation and infrastructure.. Overall, India's digital transformation is remarkable, but ensuring inclusive access, digital literacy, and cybersecurity will be important to build a resilient and equitable digital economy.

195. [2023 Q3] How does e-Technology help farmers in production and marketing of agricultural produce? (10 Marks, 150 Words)

E-technology in agriculture integrates ICT, AI, IoT, and digital platforms to assist farmers in decision-making, resource use, and market access. Key points: Satellite advisory & soil health cards: ISRO-backed advisories and 23 crore distributed Soil Health Cards guide farmers in crop choice and nutrient application, reducing input misuse.; AI apps: Mobile applications like Plantix detect pest and disease stress in crops, helping cut;

ield losses estimated at 15–20%.; Drone use: Subsidized under the Sub-Mission on Agricultural Mechanization (SMAM), drones are now used for spraying pesticides and fertilizers, reducing labour costs and time.; IoT sensors: Smart irrigation systems optimize water and fertilizer usage, increasing efficiency by 20–25%.; Kisan Suvidha app: Offers real-time weather, input, and market updates to millions of registered farmers, aiding timely decisions.. Overall, with better connectivity, literacy, and trust, it can transform agriculture into a...

196. [2023 Q4] State the objectives and measures of land reforms in India. Discuss how land ceiling policy on landholding can be considered as an effective reform under economic criteria. (10 Marks, 150 Words)

Land reforms in India were central to agrarian restructuring after independence. Key points: Equitable distribution: Redistribute land to landless and marginal farmers to reduce inequality.; Social justice: Eliminate exploitative zamindari and empower actual cultivators.; Tenure security: Protect tenants from eviction, encouraging them to invest in land improvement.; Productivity: Optimize use of scarce land resources for higher; Poverty alleviation: Provide livelihood security to weaker sections like SCs and STs.; Abolition of intermediaries: Removal of zamindars and jagirdars benefitted nearly 20 million tenants.. Overall, yet, without strong privacy safeguards and ethical oversight, it risks eroding individual rights in healthcare.

197. [2023 Q6] Discuss several ways in which microorganisms can help in meeting the current fuel shortage. (10 Marks, 150 Words)

Microorganisms such as bacteria, fungi, and algae can convert biomass and waste into clean fuels. Key points: Bioethanol: Yeast ferments sugarcane or crop residues into ethanol, important for India's 20% ethanol blending target by 2025-26.; Biodiesel: Microbes convert waste oils and lipids into biodiesel, lowering diesel imports.; Biogas: Anaerobic bacteria digest organic waste to release methane, powering rural households.; Biohydrogen: Cyanobacteria and algae split water into hydrogen, a clean transport fuel.; Algal fuels: Microalgae produce high oil; ields, seen as the future for aviation fuel.. Overall, with better policies, R&D, and scaling, microbial fuels can transform India's energy future.

198. [2023 Q7] Dam failures are always catastrophic, especially on the downstream side, resulting in colossal loss of life and property. Analyze various causes of dam failures. Give two examples of large dam failures. (10 Marks, 150 Words)

Dams are vital infrastructures for irrigation, hydropower, and water supply. Key points: Structural Defects: Poor design, weak foundations, aging structures, seepage.; Hydrological Causes: Excess rainfall, inadequate spillway capacity, flash floods.; Seismic & Geological Factors: Earthquakes, landslides near reservoirs.; Operational/Management Issues: Negligence, poor maintenance, mismanagement of floodgates.; External Factors: Terrorism, sabotage, glacial lake outburst floods (GLOFs); Machhu Dam-II (1979, Gujarat): Heavy rains, inadequate spillway, ~2,000 deaths.. Overall, a strict dam safety law, real-time monitoring, periodic inspection, and disaster preparedness are essential to reduce risks.

199. [2023 Q8] What is oil pollution? What are its impacts on the marine ecosystem? In what way is oil pollution particularly harmful for a country like India? (10 Marks, 150 Words)

Oil pollution means the contamination of oceans and seas by petroleum hydrocarbons because of spills, tanker accidents, drilling leaks, or run-off.It disrupts marine life, coastal ecosystems, and human livelihoods dependent on the sea. Key points: Smothering of marine organisms: Oil coats fish gills, bird feathers, and turtle shells, suffocating them.; Reduced photosynthesis: Oil films block sunlight, lowering productivity of phytoplankton and seaweeds.; Food chain disruption: Hydrocarbons accumulate in fish, shellfish, and marine mammals, impacting higher predators.; Toxicity to biodiversity: Long-term effects on corals, mangroves, and breeding grounds.; Economic damage: Decline in fisheries, aquaculture, and marine tourism.; Long coastline:

India has ~7,500 km coastline, highly vulnerable to spills.. Overall, preventive regulation, quick response, and sustainable clean-up are essential to protect marine wealth.

200. [2023 Q9] Winning of ‘Hearts and Minds’ in terrorism- affected areas is an essential step in restoring the trust of the population. Discuss the measures adopted by the Government in this respect as part of the conflict resolution in Jammu and Kashmir. (10 Marks, 150 Words)

“Winning hearts and minds” is a counterinsurgency strategy aimed at earning the trust of local communities. Measures by the Government: • Political Integration: Abrogation of Articles 370 and 35A (2019) for uniformity and closer integration with India. • Development Initiatives: Prime Minister’s Development Package (2015), industrial policies (2020–30), support schemes for artisans, cooperatives, and self-help groups. • Infrastructure: Rail connectivity (Udhampur– Katra, Banihal–Baramulla), JKIDFC projects, AIIMS, IIT, IIM, medical and nursing colleges. • Tourism & Cultural Integration: PRASAD scheme, tourist centers, heritage promotion. • Social Welfare: 100% saturation in schemes like Saubhagya, Ujjwala, Ujala, Indradhanush. Key points: Political Integration: Abrogation of Articles 370 and 35A (2019) for uniformity and closer integration with India.; Development Initiatives: Prime Minister’s Development Package (2015), industrial policies (2020–30), support schemes for artisans, cooperatives, and self-help groups.; Infrastructure: Rail connectivity (Udhampur– Katra, Banihal–Baramulla), JKIDFC...

201. [2023 Q10] The use of unmanned aerial vehicles (UAVs) by our adversaries across the borders to ferry arms/ ammunitions, drugs, etc., is a serious threat to the internal security. Comment on the measures being taken to tackle this threat. (10 Marks, 150 Words)

The use of UAVs (drones) by adversaries to smuggle arms, explosives, and narcotics poses a grave threat as they bypass traditional border security. Key points: Regulatory Framework: DGCA’s Civil Aviation Requirements (2018); National Counter Rogue Drone Guidelines.; Anti-Drone Systems: DRDO’s indigenous Counter-UAS technology, including D4S, Sky Fence, Drone guns, and ATHENA.; Radar and Detection: Deployment of low-altitude radar and tracking systems at vulnerable border points.; Indigenous Development & Private Sector Collaboration: Joint efforts with Indian firms to enhance counter-drone capabilities.; Bilateral Engagements: Talks with neighboring countries to prevent cross-border misuse.. Overall, uAV threats are dynamic and evolving, but with indigenous innovation, robust regulations, and cross-border cooperation, India is strengthening its preparedness to neutralize such challenges.

202. [2023 Q11] Most of the unemployment in India is structural in nature. Examine the methodology adopted to compute unemployment in the country and suggest improvements. (15 Marks, 250 Words)

Nature of Unemployment in India • Methodology of Measurement: Explain NSSO/PLFS indicators. • Issues: Limitations of methodology. • Improvements: Suggest reforms. • Balanced closure. Key points: Nature of Unemployment in India; Methodology of Measurement: Explain NSSO/PLFS indicators.; Issues: Limitations of methodology.; Improvements: Suggest reforms.; Balanced closure.; Skill–job mismatch: Large workforce in agriculture (~45% of labour force) contributes only ~18% of GDP, showing disguised unemployment.; Education–industry gap: Graduates often lack employable skills demanded by industry.; Regional imbalances: Unemployment higher in urban areas among educated; Informal dominance: Over 80% of India’s workforce remains in informal jobs without social security.. Overall, a shift to real-time, inclusive, and skill-linked measurement systems can help India design better employment policies to harness its demographic dividend.

203. [2023 Q12] Distinguish between ‘care economy’ and ‘monetized economy’. How can care economy be brought into monetized economy through women empowerment? (15 Marks, 250 Words)

The care economy means unpaid work, mainly by women, in household chores, childcare, eldercare, and emotional labour. Key points: Nature of Work: Care economy involves non- market, unpaid work like cooking,

cleaning, caregiving; monetized economy involves paid labour in formal or informal markets.; Visibility in GDP: Care work is excluded from GDP; monetized work is included and measured.; Gender Role: Care economy is female-dominated; monetized economy has male dominance in higher-paying jobs.; Economic Value: Though unpaid, care work sustains labour productivity by enabling others to work; monetized economy generates direct income.; Social Recognition: Care economy lacks recognition and social security; monetized economy offers wages, contracts, and legal safeguards.; Recognition of Unpaid Work: Time-use surveys (like India's 2019 NSSO survey) should quantify women's unpaid care work to reflect its economic value.; Skill Development: Training women in professional caregiving, nursing, and childcare can shift care work into formal sectors.; Institutional Support: Expansion of crèches, daycare, and elderly care centres under government schemes can create jobs.; Financial Inclusion: Linking women caregivers to microfinance, SHGs, and digital platforms can formalize their services.. Overall, by empowering women through recognition, skill development, and institutional support, India can transform unpaid care into a productive, monetized sector, advancing both gender equality and economic growth.

204. [2023 Q13] Explain the changes in cropping pattern in India in the context of changes in consumption pattern and marketing conditions. (15 Marks, 250 Words)

Cropping pattern means the distribution of cultivated area among several crops in a region at a given time. Key points: Shift towards high-value crops: Rising incomes and urban lifestyles increased demand for fruits, vegetables, milk, and poultry; farmers are gradually moving away from traditional cereals.; Protein-rich foods: Growing demand for pulses, soybean, and oilseeds to address protein needs has led to higher acreage under these crops, especially after government promotion of pulses during shortages.; Processed food demand: Expansion of food processing and poultry industries boosted demand for maize, tomato, and potato cultivation, diversifying cropping patterns in states like Bihar and Madhya Pradesh.; Health and nutrition trends: Growing interest in organic produce and coarse grains like millets (declared “Shree Anna” in 2023) encouraged farmers to reintroduce traditional crops.; Regional diversification: Punjab and Haryana, once dominated by wheat-paddy cycles, are slowly shifting towards maize, vegetables, and horticulture because of rising consumer demand and groundwater stress.; MSP policy bias: Assured procurement of wheat and rice has encouraged monocropping in Green Revolution states, while discouraging diversification.; Export orientation: Global demand increased the share of basmati rice, spices, cotton, and horticultural exports (India is the largest exporter of spices).; Contract farming and FPOs: Examples include PepsiCo's potato contracts in Punjab and Maharashtra's grape FPOs supplying export markets, giving farmers market assurance.; Cold storage and logistics: Improved storage and transportation facilities have enabled production of perishable...

205. [2023 Q14] What are the direct and indirect subsidies provided to farm sector in India? Discuss the issues raised by the World Trade Organization (WTO) in relation to agricultural subsidies. (15 Marks, 250 Words)

Farm subsidies are government transfers and concessions given to farmers to support production, reduce risks, and ensure food security. In India, subsidies are important as agriculture employs nearly 45% of workforce but contributes only ~18% of GDP. Key points: Fertilizer Subsidy: Government bears the gap between cost and sale price; in 2023–24, subsidy was ~₹1.75 lakh crore.; Food Subsidy: Distributed via PDS and NFSA, providing cheap foodgrains to ~81 crore people.; Input Subsidies: Support for seeds, pesticides, irrigation under schemes like PMKSY.; Direct Income Transfer: PM-KISAN gives ₹6,000 annually to ~11 crore farmers.; Crop Insurance Subsidy: Government shares premium under PMFBY to reduce farmer risk.; Power Subsidy: Free/cheap electricity for irrigation, especially in Green Revolution states.; Irrigation Subsidy: Canal irrigation water supplied at rates much below cost.; Credit Subsidy: Concessional crop loans at 4–7% interest.; Export/Transport Aid: Freight support and export incentives for agricultural products.. Overall, a balanced

approach combining domestic reforms with assertive multilateral negotiations is essential to safeguard farmer interests while complying with global rules.

206. [2023 Q15] The adoption of electric vehicles is rapidly growing worldwide. How do electric vehicles contribute to reducing carbon emissions and what are the key benefits they offer compared to traditional combustion engine vehicles? (15 Marks, 250 Words)

Electric Vehicles (EVs) are central to reducing carbon dependency and promoting sustainable mobility. Key points: Lower demand for fossil fuels → reduced GHG emissions.; Renewable energy integration for charging.; Zero tailpipe emissions improve urban air quality.; EVs are ~70% more energy efficient than ICE vehicles.; Potential for complete decarbonisation as grids become cleaner.; Maintenance: EVs → low; ICE vehicles → high because of moving parts.; Running Cost: Electricity is cheaper than volatile fuel prices.; Carbon Footprint: EVs (with renewables) → minimal; ICE → high.; Safety: EVs cut power in crashes; ICE carry fire risk.. Overall, but challenges like charging infrastructure, battery disposal, and rare mineral dependency must be addressed.

207. [2023 Q16] What is the main task of India's third moon mission which could not be achieved in its earlier mission? List the countries that have achieved this task. Introduce the subsystems in the spacecraft launched and explain the role of the 'Virtual Launch Control Centre' at the Vikram Sarabhai Space Centre which contributed to the successful launch from Sriharikota. (15 Marks, 250 Words)

India's Chandrayaan-3 mission (2023) was launched by LVM3-M4 from Sriharikota to demonstrate advanced space technology capabilities. Key points: The mission's primary objective was to achieve a soft landing on the Moon, which Chandrayaan-2 could not accomplish.; This task was critical as a soft landing enables in-situ experiments, rover deployment, and long-term exploration.; The landing was successfully achieved on 23rd August 2023, making India the first country to reach the lunar south pole region, an area rich in water-ice deposits and minerals.; Soviet Union (1966): Achieved the first-ever soft landing with its Luna 9 mission.; United States (1966): Followed with Surveyor missions and later Apollo crewed landings.; China (2013): Landed Chang'e-3 and later Chang'e-4 on the far side of the Moon.; India (2023): With Chandrayaan-3, became the fourth nation and the first at the south pole to master this complex technology.; Vikram Lander: The lander was built to execute a controlled soft landing on the Moon's surface.; Lander Payloads: RAMBHA-LP (Langmuir Probe): Designed to measure the near-surface plasma (ions and electrons) density and study its variation over time.. Overall, the mission highlighted India's ability to develop indigenous subsystems and digital innovations like VLCC, showing how technology integration can ensure future success in deep-space exploration.

208. [2023 Q17] Comment on the National Wetland Conservation Programme initiated by the Government of India and name a few India's wetlands of international importance included in Ramsar sites. (15 Marks, 250 Words)

Wetlands, often called "kidneys of the earth," are important for water filtration, biodiversity, and flood control. Key points: Establish guidelines for wetland conservation and management.; Prioritise wetlands requiring urgent protection.; Monitor and prepare an inventory of wetlands.; Integrate conservation with biodiversity and livelihood needs.; Limited role of states → delays in action.; Data collection and research gaps.; Funding delays from Centre.; Political and administrative bottlenecks.; Bhoj Wetlands (Madhya Pradesh). Overall, a multidisciplinary, community-based approach is essential for their sustainable use.

209. [2023 Q18] The Intergovernmental Panel on Climate Change (IPCC) has predicted a global sea level rise of about one metre by AD 2100. What would be its impact on India and other countries in the Indian Ocean region? (15 Marks)

According to IPCC's Sixth Assessment Report, sea levels may rise between 0.45–2.1 m by 2100 depending on emissions. Key points: Coastal erosion: Threatens beaches (e.g., Versova, Mumbai); Wetland loss: Kuttanad (Kerala) under risk; Biodiversity loss: Sea turtles losing nesting beaches, coral bleaching because of sedimentation; Damage to coastal infrastructure (ports, bridges, airports); Livelihood loss for fishermen because of receding coastlines (NCCR report); Tourism and shipping industries negatively affected; Frequent flooding of low-lying coasts; Intensified cyclones/storms; Submergence of island nations (e.g., Maldives). Overall, adaptation strategies like emission reduction, afforestation near coasts, resilient infrastructure, and international cooperation are important for India and the Indian Ocean region.

210. [2023 Q19] What are the internal security challenges being faced by India? Give out the role of Central Intelligence and Investigative Agencies tasked to counter such threats. (15 Marks)

India's vast geography and diversity expose it to multiple internal security challenges ranging from terrorism to cybercrime. Key points: Terrorism and Insurgencies: J&K militancy, Left Wing Extremism, Northeastern insurgencies; Cyber Threats: Espionage, warfare, cyber- terrorism, frauds; Drug Trafficking: Golden Crescent and Golden Triangle routes funding terror; Human Trafficking: Cross-border and domestic networks; Economic Crimes: Money laundering, black money, tax evasion; Communal and Caste Violence: Religious and caste-based conflicts; Espionage: Foreign intelligence activities; IB: Domestic intelligence, counterterrorism, counter-intelligence; RAW: External intelligence, monitoring geopolitical developments. Overall, effective coordination, modernization of intelligence, and global cooperation are vital for safeguarding sovereignty and ensuring internal stability.

211. [2023 Q20] Give out the major sources of terror funding in India and the efforts being made to curtail these sources. In the light of this, also discuss the aim and objective of the No Money for Terror (NMFT) Conference recently held at New Delhi in November 2022. (15 Marks)

Terror financing sustains extremist networks and remains one of the most critical internal security challenges. Key points: Illegal Drug Trade: Golden Crescent-linked narcotics financing militancy; Fake Currency Rackets: Counterfeit Indian notes circulated by adversaries; Money Laundering & Hawala: Misuse of informal financial channels; Kidnapping & Extortion: Revenue for terror groups; Foreign Donations: Support from state and non- state actors; Strengthened UAPA and financial tracking laws; FATF collaboration for global standards; Monitoring hawala and informal channels; Upgraded surveillance and intelligence networks. Overall, nMFT shows India's commitment to lead international cooperation in countering the financial roots of terrorism.

212. [2024 Q1] Examine the pattern and trend of public expenditure on social services in the post- reforms period in India. To what extent this has been in consonance with achieving the objective of inclusive growth? (150 Words, 10 Marks)

Social services encompass essential areas like education, health, housing, sanitation, nutrition, and welfare aimed at improving the quality of life for all citizens. Key points: The overall rise in expenditure on social services indicates a commitment to improving social infrastructure; Programmes like PM-JAY (Ayushman Bharat) for health insurance, Pradhan Mantri Awas Yojana (PMAY) for housing, and Swachh Bharat Mission (SBM) for sanitation reflect this increased financial commitment; Health: The introduction of schemes like PM- JAY has reduced out-of-pocket healthcare expenditure for the poor; Education: Near 100% enrolment in primary education is a major achievement, but challenges in skill development and employability persist; Sanitation: The SBM has achieved its goal of making India 100% open defecation free, indicating a successful sanitation drive; SC/ST Welfare: There has been a positive effect on enrolment and entrepreneurship through welfare schemes for Scheduled...

213. [2024 Q2] What are the causes of persistent high food inflation in India? Comment on the effectiveness of the monetary policy of the RBI to control this type of inflation. (150 Words, 10 Marks)

India's achievement of food security after the Green Revolution has significantly reduced the threat of widespread hunger. Key points: El Niño and Drought Years: Frequent droughts and irregular monsoon patterns, often linked to El Niño, negatively affect agricultural yields, leading to reduced supply and price spikes.; Global Warming: Climate change impacts, such as higher temperatures, have damaged sensitive crops like tomatoes, leading to reduced supply and higher prices.; Supply Chain and Infrastructure Constraints; Inadequate Irrigation and Infrastructure: Limited irrigation infrastructure in many parts of India makes agricultural output highly dependent on seasonal rainfall, impacting food stability.; Supply and Storage Issues: Lack of proper cold storage facilities and logistical challenges hinder the efficient distribution of perishable items, contributing to wastage and higher prices.. Overall, while the RBI plays a critical role in managing broader inflation, addressing food inflation demands...

214. [2024 Q3] What were the factors responsible for the successful implementation of land reforms in some parts of the country? Elaborate. (150 Words, 10 Marks)

Land reforms refer to government-led initiatives aimed at redistributing agricultural land to landless individuals, reducing inequalities in land ownership, and enhancing agricultural productivity. Key points: Strong Political Will: A decisive and unwavering commitment from political leaders has been a key driver in the successful implementation of land reforms.; Legislative and Legal Backing: Robust laws and amendments to existing legislation have provided a legal framework to enforce land reforms.; Active Involvement of Local Bodies: The participation of local governance structures like Panchayats, local governments, and village councils has been important.; Support from Farmer Unions and Movements: Farmer unions and local movements have often acted as pressure groups, advocating for the rights of landless farmers and tenants.; Administrative Commitment: Efficient bureaucratic machinery and dedicated administrative efforts have been essential in identifying landless individuals, enforcing land ceilings, and ensuring that redistributive...

215. [2024 Q4] Explain the role of millets for ensuring health and nutritional security in India. (150 Words, 10 Marks)

Y Millets (Shree Anna) are a group of small-seeded grains often termed Nutri-cereals or Dryland-cereals like Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi), etc. • Their resilience in adverse climatic conditions and ability to grow in rain-fed regions makes them important for sustainable agriculture, especially in India, where 60% of cultivated land is rain-fed. Key points: Their resilience in adverse climatic conditions and ability to grow in rain-fed regions makes them important for sustainable agriculture, especially in India, where 60% of cultivated land is rain-fed.; Rich in Nutrients: Millets are packed with essential nutrients, including proteins, dietary fibre, vitamins, and minerals like iron, calcium, and magnesium.; Low Glycemic Index: Millets have a low glycemic index, which helps regulate blood sugar levels, making them beneficial for people with obesity, diabetes and lifestyle problems to maintain healthy weight....

216. [2024 Q5] What is the present world scenario of intellectual property rights with respect to life materials? Although, India is second in the world to file patents, still only a few have been commercialized. Explain the reasons behind this less commercialization. (150 Words, 10 Marks)

Intellectual property (IP) laws protect creators' rights, enabling them to earn recognition or financial benefits from their inventions. Key points: Globally, there has been a surge in patent filings related to life materials (biotechnology, genetics, pharmaceuticals).; Patentability of life materials, especially genes and living organisms, has been controversial.; Intellectual property is governed globally by agreements such as TRIPS (Trade-Related Aspects of Intellectual Property Rights) under the WTO, which mandates member countries to adopt IPR regimes for life sciences, including pharmaceuticals and biotechnology.; ear run of growth

unmatched by any other country among the top 10 filers”; Missing link Industry-Academia: because of this weak linkage innovations remain confined to laboratories and fail to find industrial partners to develop them into marketable products.; Limited Investment and Funding: Indian startups and firms often lack the venture capital or government support needed...

217. [2024 Q6] What is the technology being employed for electronic toll collection on highways? What are its advantages and limitations? What are the proposed changes that will make this process seamless? Would this transition carry any potential hazards? (150 Words, 10 Marks)

India currently employs FASTag, a Radio Frequency Identification (RFID) passive tag, for electronic toll collection. y FASTag is affixed on a vehicle’s windshield and is linked to a prepaid account, allowing toll payments to be deducted automatically as vehicles pass through toll plazas. • This technology reduces the need for stopping at toll booths, improving traffic flow. Key points: FASTag is affixed on a vehicle’s windshield and is linked to a prepaid account, allowing toll payments to be deducted automatically as vehicles pass through toll plazas.; This technology reduces the need for stopping at toll booths, improving traffic flow.; Time-saving: Vehicles no longer need to stop for cash payments, which helps reduce congestion at toll plazas.; Cost-effective: It cuts down the need for cash handling and speeds up transactions.; Environmentally friendly: Faster traffic movement reduces fuel consumption and...

218. [2024 Q7] Industrial pollution of river water is a significant environmental issue in India. Discuss the various mitigation measures to deal with this problem and also the government’s initiatives in this regard. (150 Words, 10 Marks)

Industrial pollution of river water is indeed a pressing environmental issue in India. Key points: According to the World Bank, the health costs attributed to water pollution in India constitute around 3 percent of the nation’s GDP, totalling nearly \$6.7-8.7 billion on an annual basis.; Based on Biochemical Oxygen Demand (BOD) levels, CPCB identified 311 polluted river stretches across 279 rivers in 30 states and union territories in 2022.; Case study: Industrial heavy metal contamination; Rapid urbanisation and population growth resulting in industrialization pose a major threat of heavy metal pollution for nearby water bodies.; High amounts of heavy metals in water can cause several health effects such as reduced growth and development, cancer, organ damage, nervous system damage, etc.; Industrial discharge, especially from chemical, textile, and dyeing units in Ahmedabad, contributes to Sabarmati River’s pollution.. Overall, protecting...

219. [2024 Q8] What role do environmental NGOs and activists play in influencing Environmental Impact Assessment (EIA) outcomes for major projects in India? Cite four examples with all important details. (150 Words, 10 Marks)

y Environmental NGOs and activists in India play a important role in shaping Environmental effect Assessments (EIA) by bringing in scientific expertise, public advocacy, and legal interventions. • They often mobilize public opinion, conduct independent studies, and legally challenge projects with adverse ecological impacts. Key points: They often mobilize public opinion, conduct independent studies, and legally challenge projects with adverse ecological impacts.; Public Participation: Often, affected communities, particularly in remote or tribal areas, are unaware of the proposed projects and their potential impacts.; E.g The NGO POSCO Pratirodh Sangram Samiti (PPSS) played a leading role in mobilizing local communities and challenging the project on environmental and social grounds.; Enhancing depth in EIAs and ensuring proper implementation of Guidelines: EIAs prepared by project proponents can sometimes be incomplete or biased, presenting only a favorable view of a project’s environmental...

220. [2024 Q9] Explain how narco-terrorism has emerged as a serious threat across the country. Suggest suitable measures to counter narco-terrorism. (150 Words, 10 Marks)

Narcoterrorism has been defined as an “alliance between drug producers and an insurgent group carrying out terrorist attacks”. The term itself was coined in 1983 by the then president of Peru, Fernando Belaúnde, to describe the violent acts carried out by organised criminal syndicates against anti-narcotics law enforcement agencies in Latin America. Key points: India's location: India is located in between Golden crescent (Afghanistan, Pakistan and Iran) and golden triangle (Myanmar, Thailand, Laos) , which makes India's position more vulnerable for narcoterrorism activities .; Narcoterrorism in Northeastern States of India: The Northeast region of India, sharing borders with Myanmar (part of the ‘Golden Triangle’), is another major hub for narcoterrorism.; The porous borders in this region have historically been exploited by insurgent groups to smuggle drugs, which are then sold to finance their militant activities.; The situation...

221. [2024 Q10] Describe the context and salient features of the Digital Personal Data Protection Act, 2023. (Answer in 150 words, 10 Marks)

The Digital Personal Data Protection Act ,2023 provides for the processing of digital personal data in a manner that recognizes both the rights of the individuals to protect their personal data and the need to process such personal data for lawful purposes and for matters connected therewith or incidental thereto. Personal data is information that relates to an identified or identifiable individual. Key points: Defines personal data and sensitive personal data.; Establishes principles for processing personal data, including consent, purpose limitation, and storage limitation.; Requires data fiduciaries (entities collecting personal data) to undertake certain duties like implementing security safeguards and data protection effect assessments.; Provides rights to individuals/data principles such as the right to access, correction, and erasure of their personal data.; Mandates data breach notifications and establishes a Data Protection Authority to oversee compliance and handle grievances, and...

222. [2024 Q11] Discuss the merits and demerits of the four ‘Labour Codes’ in the context of labour market reforms in India. What has been the progress so far in this regard? (250 words, 15 Marks)

The Indian government has consolidated 44 existing labour laws into four comprehensive Labour Codes: (1) Code on Social Security 2020, (2) Occupational Safety, Health and Working Conditions Code 2020, (3) Industrial Relations Code 2020, and (4) Code on Wages 2019. Key points: Ease of Doing Business and Simplified Compliance: By merging 44 separate laws into four codes, the government has significantly reduced bureaucratic complexity, encouraging investment and industrial growth.; Reduction of Inspector Raj: The Labour Codes reduce the discretionary powers of labour inspectors, shifting to a more transparent system with online inspections and digital compliance, thereby minimizing corruption and harassment faced by businesses.; Empowerment of Women in the Workforce: Under the new codes, women are allowed to work night shifts, provided the workplace ensures safety and transportation.; Enhanced Maternity Benefits and Workplace Amenities: The Labour Codes mandate better maternity benefits and provision for additional facilities for women returning to work post- childbirth, promoting a more inclusive work environment.; Inter-State Migrant Workers’ Protection: Employers are now required to provide inter- state migrant workers with an annual journey allowance for travel, easing the burden of migration.; Inclusion of Gig and Platform Workers: For the first time, gig workers and platform workers are legally recognized, which opens avenues for extending social security benefits to them.; Equal Treatment for Fixed-Term Employees: Fixed-term employees are now entitled to the same social security benefits as permanent...

223. [2024 Q12] What is the need for expanding the regional air connectivity in India? In this context, discuss the government’s UDAN Scheme and its achievements. (250 words, 15 Marks)

Expanding regional air connectivity is important for India to bridge the gap between metropolitan and smaller cities, ensuring holistic economic development and improved ease of living. Key points: Geographical Challenges in Hill States: In states with difficult terrains like the North-East and hilly regions, roads and railways often face disruptions, particularly during heavy rains.; Efficient Movement of Goods and People:

Faster transportation of goods, critical documents, and people can significantly contribute to economic activities, particularly in remote and underserved regions.; Medical and Emergency Services: Air connectivity is essential for the timely transportation of critical patients, medicines, and healthcare professionals, especially during emergencies.; Export Opportunities for Local Products: Faster export of perishable and exotic items like herbs, orchids, and flowers from regions like the North-East can boost local economies and encourage entrepreneurship.; Tourism and Economic Opportunities: Improved connectivity can attract affluent travelers, professionals, and tourists who would otherwise avoid smaller cities because of limited transport options, helping stimulate local tourism and economic activities.; Enhancing Government and Private Sector Presence: Poor connectivity to regions in Eastern India and the North-East deters civil servants, private professionals, and entrepreneurs from serving in these areas, hindering regional development.; Viability Gap Funding (VGF): The government subsidizes ticket prices to make flights affordable by providing financial support to airline companies for the losses incurred because of selling tickets at cheaper rates.; Regulated Airfares: The government caps...

224. [2024 Q13] What are the major challenges faced by the Indian irrigation system in recent times? State the measures taken by the government for efficient irrigation management. (Answer in 250 words, 15 Marks)

Indian agriculture remains predominantly rainfed covering about 60% of the country's net sown area and accounts for 40% of the total food production. • Agriculture sector, which provides 45.67% of total employment to the growing population, alone consumes more than 90% of total groundwater in irrigation. • The outrageous dependency on groundwater for irrigation has led to depletion of water tables in 64% districts of the country between 2002 and 2016. Key points: Agriculture sector, which provides 45.67% of total employment to the growing population, alone consumes more than 90% of total groundwater in irrigation.; The outrageous dependency on groundwater for irrigation has led to depletion of water tables in 64% districts of the country between 2002 and 2016.; Over-exploitation of Groundwater: States with the highest dependency on ground water for irrigation include Punjab (79% of the area irrigated is by tube-wells and wells), Uttar Pradesh (80%) and Uttarakhand (67%).; Inefficient Water Use: Inefficient water use is a major challenge in India's irrigation system, leading to excessive water wastage and reduced agricultural productivity.; Unequal Distribution of Water Resources: This disparity often leads to unequal agricultural productivity, exacerbating economic inequalities among farmers and communities.; effect of Climate Change: Increased frequency of extreme weather events, such as droughts and floods, disrupt irrigation schedules and water availability.; Water-Intensive Agriculture: Crops like rice and sugarcane require substantial water resources, often leading to unsustainable...

225. [2024 Q14] Elucidate the importance of buffer stocks for stabilizing agricultural prices in India. What are the challenges associated with the storage of buffer stock? Discuss. (250 words, 15 Marks)

Buffer stocks refer to the reserve of essential food grains like wheat and rice maintained by the government to stabilize prices, ensure food security, and manage supply during emergencies. Key points: Food Security: Buffer stocks are important to ensuring the availability of food grains for schemes like the Targeted Public Distribution System (TPDS) and welfare initiatives like PM POSHAN, particularly for vulnerable sections of society.; Price Stability: By regulating the supply of food grains in the open market, buffer stocks help control inflation and stabilize food prices, preventing sudden price surges because of unexpected supply-demand imbalances.; Crisis Management: In situations like natural disasters, unexpected crop failures, or economic disruptions, buffer stocks act as a safety net to provide immediate relief without relying on international imports.; Support for Welfare Programs: Buffer stocks ensure the continuous release of food grains for welfare schemes, addressing malnutrition, hunger, and food scarcity, especially in economically disadvantaged regions.; Economic Costs and Subsidy Burden: Maintaining buffer stocks involves high storage costs and subsidies.; Storage Inefficiencies: Poor storage conditions, including inadequate maintenance of warehouses, often result in major grain losses because of heat, humidity, and pests, leading to wastage and

inefficiency.; Regional Disparities in Procurement: The majority of food grain procurement is concentrated in North-Western states, causing economic benefits to be unevenly distributed.; Overstocking and Rotting of Grains: Critics argue that the FCI often holds excess grain beyond...

226. [2024 Q15] The world is facing an acute shortage of clean and safe freshwater. What are the alternative technologies which can solve this crisis? Briefly discuss any three such technologies citing their key merits and demerits. (250 words, 15 Marks)

According to the United Nations, as of 2022, 2.2 billion people lacked access to safe drinking water, and by 2030, the global shortfall in freshwater resources could reach 40%. Key points: UV Water Purification: Ultraviolet (UV) water purification uses UV light to destroy harmful microorganisms, making water safe to drink.; Effectively kills bacteria, viruses, and other pathogens without using chemicals.; Low energy consumption, making it suitable for remote and off-grid areas.; Only purifies biological contaminants, so it must be paired with other systems to remove chemical pollutants.; Requires clear water for optimal performance, as UV light cannot penetrate turbid water.; Reverse Osmosis (RO): RO is a filtration process that removes contaminants from water by forcing it through a semipermeable membrane.; Highly effective in removing a wide range of contaminants, including heavy metals, salts, and chemicals.; Provides high-quality drinking water, suitable for both residential and industrial use.; Water-intensive, with major waste (up to 50% of input water may be discarded as brine).. Overall, a combination of these technologies, tailored to regional needs and infrastructure, could provide a sustainable way to meet the rising demand for clean water.

227. [2024 Q16] What are asteroids? How real is the threat of them causing the extinction of life? What strategies have been developed to prevent such a catastrophe? (Answer in 250 words, 15 Marks)

Asteroids, sometimes called minor planets, are rocky, airless remnants left over from the early formation of our solar system about 4.6 billion years ago. Key points: Most asteroids can be found orbiting the Sun between Mars and Jupiter within the main asteroid belt.; Main Asteroid Belt: Asteroids orbiting between Mars and Jupiter.; Trojan Asteroids: Asteroids share an orbit with a larger planet.; Near-Earth Asteroids (NEAs): These asteroids pass close to Earth.; NEAs are further divided into groups (Atira, Aten, Apollo and Amor).; While asteroid impacts of this magnitude are rare, they are not impossible.; Statistically, impacts from smaller objects (a few metres wide) are more frequent but tend to burn up in Earth's atmosphere.; ISRO Chairman Dr.; In a worst-case scenario, a collision with an asteroid of this magnitude could lead to catastrophic consequences, including mass extinction.. Overall, continued investment in planetary defence is important to safeguarding humanity from these potentially devastating natural events.

228. [2024 Q17] What is disaster resilience? How is it determined? Describe various elements of a resilience framework. Also mention the global targets of Sendai Framework for Disaster Risk Reduction (2015-2030). (250 words, 15 Marks)

y Disaster resilience is the ability of individuals, communities, organisations and states to adapt to and recover from hazards, shocks or stresses without compromising long-term prospects for development. Key points: According to the Hyogo Framework for Action (UNISDR, 2005), disaster resilience is determined by the degree to which individuals, communities and public and private organisations are capable of organising themselves to learn from past disasters and reduce their risks to future ones, at international, regional, national and local levels.; Preparedness: The level of awareness, training, and proactive measures taken by individuals, communities, and institutions before a disaster strikes.; Example: Early warning systems for floods and cyclones.; Response Capacity: The efficiency and speed of emergency response, including infrastructure, logistics, and human resources.; Adaptive Capacity: The ability of a system or community to adapt to changing risks, learn from past disasters, and incorporate innovations to enhance resilience.; Example: Communities rebuilding homes with cyclone-resistant features in Odisha post- Cyclone Fani (2019);

Institutional Capacity: Strength and effectiveness of local governance and disaster management systems.; Social Capital and Networks: The role of community networks, local organisations, and social bonds in recovery and resilience.; Context: Whose resilience is being built – such as a social group, socio-economic or political system, environmental context or institution.. Overall, global Targets of Sendai Framework for Disaster Risk Reduction (2015-2030): y Substantially reduce global disaster mortality by 2030, with the aim...

229. [2024 Q18] Flooding in urban areas is an emerging climate- induced disaster. Discuss the causes of this disaster. Mention the features of two such major floods in the last two decades in India. Describe the policies and frameworks in India that aim at tackling such floods. (250 words, 15 Marks)

According to the National Disaster Management Authority of India, Urban flooding is significantly different from rural flooding as urbanisation leads to developed catchments, which increases the flood peaks from 1.8 to 8 times and flood volumes by up to 6 times. Key points: Intensified Monsoons: Climate change has led to more intense and erratic monsoon seasons, resulting in heavy rainfall that urban drainage systems often cannot accommodate.; Flash Flooding: Sudden, heavy downpours can cause flash floods in urban areas, overwhelming existing infrastructure and leading to rapid inundation.; Glacial Melt: The melting of glaciers, particularly in the Himalayas, contributes to increased river flows during monsoon seasons, raising the risk of riverine flooding in downstream urban areas.; Sea Level Rise: Coastal cities face a dual threat as rising sea levels increase the baseline for storm surges and high tides, compounding flooding risks during monsoon events.; Climate Change: For example, Mumbai experienced record rainfall in 2021 because of the changing monsoon pattern driven by climate change.; Unplanned Urbanisation: Cities like Bangalore, and in Chennai encroachments over riverbeds and wetlands have made the city highly vulnerable to flooding.; Change in natural drainage Pattern: because of infrastructure development like roads, sometimes there is a modification in natural drainage pattern leading to change in hydrological cycle.; Land Use Change and concretisation: The conversion of permeable surfaces (fields, parks) into impermeable surfaces (roads, concrete buildings).Unlike natural surfaces...

230. [2024 Q19] India has a long and troubled border with China and Pakistan fraught with contentious issues. Examine the conflicting issues and security challenges along the border. Also give out the development being undertaken in these areas under the Border Area Development Programme (BADP) and Border Infrastructure and Management (BIM) Scheme. (250 words, 15 Marks)

India confronts formidable dual challenges on its borders with China and Pakistan, significantly shaping its national security framework. Key points: Western Sector – DISPUTED – This comprises the Aksai Chin sector.; Central Sector – UNDISPUTED – China has recognized India's sovereignty over Sikkim.; Eastern Sector – DISPUTED – Arunachal Pradesh's border is claimed by China to be its territory and is the largest disputed area, covering around 90,000 sq. km.; Aggressive stand-off between Indian and Chinese armies as seen in the Galwan Valley incident.; China is building up strong Infrastructure for quick mobilisation.; China plans to expand the 4000 km railway network in Aksai chin.; China is building sustainable Concrete Infrastructure under Land borders law to promote coordination between border defence and ensure economic development in border areas.; Pakistan lays an illegal claim over Kashmir.; Pakistan sponsors cross border terrorism with the objective to 'bleed India through thousand Cuts'.. Overall, by enhancing diplomatic efforts and communication channels, along with bolstering defence capabilities, India can foster a more secure and cooperative neighbourhood.

231. [2024 Q20] Social media and encrypting messaging services pose a serious security challenge. What measures have been adopted at various levels to address the security implications of social media? Also suggest any other remedies to address the problem. (250 words, 15 Marks)

Social media connects billions of people worldwide, but it also brings major security risks. Key points: Data privacy and unauthorised access: Social media platforms collect vast amounts of personal user data, which

can be vulnerable to breaches or misuse.; Misinformation and disinformation campaigns: The rapid spread of false or misleading information on social media platforms can pose security threats, especially when used for political manipulation, inciting violence, or undermining public trust in institutions.; Balancing privacy with law enforcement needs: While strong encryption protects user privacy, it can also hinder law enforcement efforts to investigate crimes or prevent terrorist activities.; Verification of user identity: Encrypted messaging services often prioritise anonymity, making it difficult to verify the true identity of users.; Data Protection Laws: The EU's General Data Protection Regulation (GDPR) and USA's Cybersecurity and Infrastructure Security Agency-CISA aim to regulate how user data is collected and used by social media companies and mitigate cyber threats like hacking and identity theft.; Collaborative Global Efforts: Agencies like Interpol, Europol etc work on monitoring and mitigating cyber crimes linked to social media, including cyber fraud, terrorism recruitment, and child exploitation.; The International Fact-Checking Network (IFCN) works globally to verify content on social media.; UNESCO's MIL (Media and Information Literacy) program works globally to raise awareness among the public on how to identify disinformation on social media.; Two-factor authentication: Most major social media platforms now...

232. [2025 Q1] Distinguish between the Human Development Index (HDI) and the Inequality-adjusted Human Development Index (IHDI) with special reference to India. Why is the IHDI considered a better indicator of inclusive growth? (Answer in 150 words)

HDI measures average achievement in health, education and income through life expectancy, schooling indicators and per capita income. IHDI adjusts the same achievements for inequality in their distribution. If all citizens enjoyed equal outcomes, HDI and IHDI would be the same; the gap between them shows loss due to inequality. In India, improvements in income, schooling and life expectancy coexist with regional, caste, gender and rural-urban disparities. Therefore HDI alone may hide uneven access to nutrition, quality education, health care and decent work. IHDI is a better indicator of inclusive growth because it asks who benefits from development, not merely how high the national average is. It encourages policies for public health, learning outcomes, social protection, women's empowerment and balanced regional development. Thus HDI shows potential human development, while IHDI reveals how fairly that development is shared.

233. [2025 Q2] What are the challenges before the Indian economy when the world is moving away from free trade and multilateralism to protectionism and bilateralism? How can these challenges be met? (Answer in 150 words)

A shift from free trade and multilateralism to protectionism and bilateralism creates several challenges for India. Export markets face tariff and non-tariff barriers, supply chains become politicised, and WTO-based dispute settlement weakens. Smaller firms may struggle with rules of origin, standards and fragmented bilateral agreements. Protectionism can raise input costs for sectors dependent on imported components. Strategic rivalry also affects technology, semiconductors, critical minerals and energy. India can respond by diversifying markets, signing carefully designed trade agreements, strengthening domestic manufacturing and improving logistics. Production-linked incentives, quality standards, skilling and lower compliance burdens can make firms competitive. India should also deepen South-South trade, protect MSMEs, invest in R&D and use digital public infrastructure for trade facilitation. At the global level, India must continue supporting WTO reform and resilient, transparent supply chains. The aim should be open strategic autonomy: globally engaged but domestically capable.

234. [2025 Q3] Explain the factors influencing the decision of the farmers on the selection of high value crops in India. (Answer in 150 words)

Farmers choose high-value crops such as fruits, vegetables, spices, flowers, medicinal plants and plantation crops after weighing profit against risk. Market demand and price expectations are the first determinants. Access to assured irrigation, cold chains, storage, transport and nearby mandis or processors matters because

many high-value crops are perishable. Soil, climate, rainfall, pest incidence and farm size influence suitability. Availability of quality seeds, credit, crop insurance, extension advice and labour also shapes decisions. Contract farming, export opportunities, food processing units and e-commerce platforms can encourage diversification. Government incentives, subsidies for micro-irrigation and horticulture missions reduce entry barriers. However, farmers may avoid high-value crops due to price volatility, lack of storage, high initial investment and market intermediaries. Social learning from neighbouring farmers also matters. Thus crop choice is driven by agro-climatic suitability, profitability, risk management and market connectivity.

235. [2025 Q4] Elaborate the scope and significance of supply chain management of agricultural commodities in India. (Answer in 150 words)

Supply chain management in agriculture covers the movement of produce from farm to consumer through aggregation, grading, storage, processing, transport, wholesale, retail and export. Its scope includes input supply, farm logistics, warehouses, cold chains, quality testing, digital platforms, food processing, traceability and market information. In India it is significant because large post-harvest losses, fragmented holdings and price volatility reduce farmer income and consumer welfare. Efficient supply chains can improve price realisation, reduce wastage, stabilise food inflation and support exports. For perishables such as fruits, vegetables, milk, fish and meat, cold-chain management is especially crucial. Farmer producer organisations, e-NAM, contract farming, food parks and private logistics can strengthen linkages. Better supply chains also help nutrition by making diverse foods available across regions. The challenge is to ensure that farmers, not only intermediaries, capture value through transparent markets and bargaining power.

236. [2025 Q5] The fusion energy programme in India has steadily evolved over the past few decades. Mention India's contributions to the international fusion energy project International Thermonuclear Experimental Reactor (ITER). What will be the implications of the success of this project for the future of global energy? (Answer in 150 words)

India's fusion programme has grown through plasma research, tokamak experiments and participation in the International Thermonuclear Experimental Reactor. India contributes as a full ITER partner by supplying critical components such as cryostat systems, in-wall shielding, cooling-water systems, power supplies, diagnostics and related engineering expertise. Indian institutions and industries have gained experience in high-precision fabrication, superconducting systems, vacuum technology and complex project management. If ITER succeeds, it will demonstrate that controlled fusion can produce net energy on a large scale. Fusion would offer abundant fuel from hydrogen isotopes, very low carbon emissions, no runaway chain reaction and less long-lived radioactive waste than fission. It could transform global energy security and help decarbonise heavy electricity demand. However, commercial fusion still faces challenges of cost, materials, tritium breeding and continuous operation. ITER's success would therefore be a decisive scientific step, not an immediate commercial solution.

237. [2025 Q6] How can India achieve energy independence through clean technology by 2047? How can biotechnology play a crucial role in this endeavour? (Answer in 150 words)

India can move toward energy independence by combining renewable power, storage, green hydrogen, electric mobility, smart grids, energy efficiency, domestic manufacturing and circular use of critical minerals. Solar, wind, hydro, nuclear and bioenergy can reduce import dependence on oil, gas and coal. Clean cooking, public transport and electrification of industry will also lower fossil-fuel demand. Biotechnology can support this transition through second-generation ethanol, compressed biogas, algae-based fuels, microbial enzymes for biomass conversion and bio-remediation of energy waste. Improved energy crops and agricultural residue management can create rural bioenergy without threatening food security. Bio-refineries can produce fuels, chemicals and materials from renewable feedstock. India should invest in R&D, grid storage,

local manufacturing, green finance and stable regulation. Biotechnology's role is especially important in hard-to-electrify sectors and waste-to-energy systems. By 2047, clean technology must become an industrial, agricultural and scientific mission.

238. [2025 Q7] What is Carbon Capture, Utilization and Storage (CCUS)? What is the potential role of CCUS in tackling climate change? (Answer in 150 words)

Carbon Capture, Utilization and Storage is a set of technologies that capture carbon dioxide from industrial sources or directly from air, transport it, use it in products or store it underground in geological formations. Capture may occur in power plants, cement, steel, refineries and chemical industries. Utilization includes enhanced oil recovery, synthetic fuels, building materials or chemicals, though permanent storage has greater climate value. CCUS can help tackle climate change by reducing emissions from hard-to-abate sectors where electrification is difficult. For India, it may be relevant in cement, steel and coal-linked industries during the transition to renewables. It can also support low-carbon hydrogen production. However, CCUS is costly, energy-intensive and requires safe storage sites, monitoring and liability rules. It should not delay emission cuts or renewable deployment. Its best role is as a complementary tool for unavoidable industrial emissions.

239. [2025 Q8] Seawater intrusion in the coastal aquifers is a major concern in India. What are the causes of seawater intrusion and the remedial measures to combat this hazard? (Answer in 150 words)

Seawater intrusion occurs when saline water moves into freshwater coastal aquifers, making groundwater unfit for drinking and irrigation. In India, it is caused by excessive groundwater extraction, reduced recharge, sea-level rise, coastal erosion, drought, unregulated borewells and destruction of wetlands and mangroves. Urbanisation, tourism and industries in coastal zones increase demand and disturb the natural freshwater-saltwater balance. Deltaic areas are also affected when river flows decline due to upstream use. Remedial measures include regulating groundwater withdrawal, promoting rainwater harvesting, artificial recharge, check dams, recharge wells and aquifer mapping. Maintaining environmental flows in rivers, protecting mangroves and wetlands, and preventing sand mining help coastal resilience. Conjunctive use of surface and groundwater, desalination where feasible, crop diversification and community monitoring are also needed. Coastal aquifer management should be integrated with land-use planning and climate adaptation to protect livelihoods and drinking-water security.

240. [2025 Q9] Terrorism is a global scourge. How has it manifested in India? Elaborate with contemporary examples. What are the counter measures adopted by the State? Explain. (Answer in 150 words)

Terrorism in India has appeared in cross-border, religious extremist, separatist, left-wing extremist and cyber-enabled forms. Jammu and Kashmir has faced infiltration, targeted killings and attacks on security forces. Punjab earlier faced militancy, while the North-East has seen insurgent violence linked to identity and borders. Left-wing extremism has affected parts of central and eastern India. Urban terror attacks, radicalisation through online networks and drone-based smuggling show newer manifestations. Counter-measures include intelligence coordination through agencies and fusion centres, strengthening of NIA and UAPA framework, border fencing, coastal security, financial tracking, cyber monitoring and modernisation of police forces. Development programmes, surrender policies and community engagement are used in LWE and insurgency-affected areas. International cooperation against terror financing and safe havens is also important. A balanced approach is needed: firm security response, speedy justice, de-radicalisation, protection of rights and addressing local grievances.

241. [2025 Q10] The Government of India recently stated that Left Wing Extremism (LWE) will be eliminated by 2025. What do you understand by LWE and how are the people affected by it? What measures have been taken by the government to eliminate LWE? (Answer in 150 words)

Left Wing Extremism refers to Maoist-inspired armed movements that claim to fight socio-economic injustice but use violence against the state, civilians and infrastructure. It has affected tribal and forested regions where poverty, land alienation, weak governance and exploitation created grievances. People suffer through killings, extortion, displacement, fear, disruption of schools, roads, health services and markets. Development is delayed because contractors, officials and teachers avoid affected areas. Government measures combine security and development. They include specialised forces, police modernisation, intelligence sharing, fortified police stations, road connectivity, mobile towers, banking access, skill programmes, surrender-cum-rehabilitation policies and development of aspirational districts. Rights-based measures such as forest rights, land records, PDS, education and health outreach are equally important. The state must isolate violent groups while winning people's trust. Elimination of LWE requires justice, local participation, jobs and accountable administration, not security action alone.

242. [2025 Q11] Explain how the Fiscal Health Index (FHI) can be used as a tool for assessing the fiscal performance of states in India. In what way would it encourage the states to adopt prudent and sustainable fiscal policies? (Answer in 250 words)

A Fiscal Health Index can assess states through indicators such as revenue mobilisation, quality of expenditure, debt sustainability, fiscal deficit, interest burden, capital expenditure, committed liabilities and transparency. It converts scattered budget numbers into a comparable framework. Such an index helps identify whether a state is financing growth through productive investment or through unsustainable borrowing and subsidies. It can also reveal risks from guarantees, off-budget liabilities and low own-tax effort. For policymakers, the FHI can support early warning, peer comparison and evidence-based fiscal correction. For citizens and investors, it improves transparency and trust. It can encourage prudent policies by linking incentives, grants or borrowing flexibility to fiscal performance. States may be motivated to widen tax bases, reduce wasteful expenditure, improve public enterprises, prioritise health and infrastructure, and manage debt better. However, the index should not punish poorer states for structural disadvantages. It must account for developmental needs, disaster vulnerability and revenue capacity. Used carefully, FHI can promote cooperative fiscal federalism by creating a common language of sustainability. Its purpose should be reform and support, not naming and shaming alone.

243. [2025 Q12] Discuss the rationale of the Production Linked Incentive (PLI) scheme. What are its achievements? In what way can the functioning and outcomes of the scheme be improved? (Answer in 250 words)

The Production Linked Incentive scheme is based on the rationale that India needs scale manufacturing, export competitiveness, technology upgrading and reduced import dependence in strategic sectors. Instead of general subsidies, it rewards firms for incremental production, encouraging investment and capacity creation. Sectors such as electronics, pharmaceuticals, automobiles, solar modules, telecom and food processing were chosen to build domestic value chains and integrate India with global supply networks. Achievements include expansion of mobile-phone manufacturing, increased exports in some sectors, fresh investments, job creation and greater policy attention to manufacturing. It has also signalled stability to investors seeking China-plus-one locations. However, outcomes vary across sectors. Challenges include low domestic value addition, dependence on imported components, delayed disbursement, complex compliance, limited MSME participation and inadequate R&D. Improvement requires deeper supply-chain localisation, design capabilities, skilled labour, logistics efficiency and predictable tax policy. Incentives should be tied not only to output but also to value addition, exports, employment quality and innovation. MSMEs should be integrated through vendor development. Periodic evaluation can shift support from underperforming sectors. PLI should be part of a wider industrial ecosystem, not a standalone subsidy.

244. [2025 Q13] Examine the factors responsible for depleting groundwater in India. What are the steps taken by the government to mitigate such depletion of groundwater? (Answer in 250 words)

Groundwater depletion in India is driven by over-extraction for irrigation, domestic use and industry. Free or cheap electricity, water-intensive crops such as paddy and sugarcane, fragmented regulation of borewells and weak pricing have encouraged unsustainable pumping. Urbanisation reduces recharge through concretisation, while pollution, sand mining and loss of tanks and wetlands damage aquifers. Climate variability also affects natural recharge. In north-western India and parts of the Gangetic plain, Green Revolution cropping patterns have severely stressed groundwater. Government measures include Atal Bhujal Yojana for community-led groundwater management, Jal Shakti Abhiyan, aquifer mapping by CGWB, watershed programmes, PMKSY, micro-irrigation support, MGNREGA water-conservation works and promotion of rainwater harvesting. Some states regulate borewells and encourage crop diversification. The Catch the Rain campaign and rejuvenation of traditional water bodies also support recharge. Yet implementation remains uneven because groundwater is largely treated as a private resource attached to land. Mitigation requires participatory aquifer budgeting, metering of large users, rational power subsidies, shift to less water-intensive crops, treated wastewater reuse and urban recharge planning. Sustainable groundwater management must combine technology, incentives and community discipline.

245. [2025 Q14] Examine the scope of the food processing industries in India. Elaborate the measures taken by the government in the food processing industries for generating employment opportunities. (Answer in 250 words)

India has vast scope for food processing because it is a leading producer of milk, cereals, fruits, vegetables, fish, spices and livestock products, but still loses value due to weak storage and processing. Rising incomes, urbanisation, demand for ready-to-eat foods, exports and nutrition-focused products create a large market. Food processing links agriculture with industry, reduces wastage, improves farmer income and generates jobs in grading, packaging, logistics, cold chains, quality testing, retail and exports. It is especially employment-intensive for women and rural youth. Government measures include Pradhan Mantri Kisan Sampada Yojana, mega food parks, integrated cold-chain schemes, Operation Greens, PM Formalisation of Micro Food Processing Enterprises, production-linked incentives for food processing and support for farmer producer organisations. Infrastructure such as testing labs, irradiation facilities, warehouses and processing clusters has been promoted. Credit, skill development and ODOP branding also help small enterprises. However, challenges remain: fragmented supply, quality standards, high logistics cost and limited technology adoption. Stronger farmer-industry linkages, local processing units, export certification and waste-to-value systems can expand employment while reducing post-harvest losses.

246. [2025 Q15] How does nanotechnology offer significant advancements in the field of agriculture? How can this technology help to uplift the socio-economic status of farmers? (Answer in 250 words)

Nanotechnology works at the scale of 1 to 100 nanometres, where materials show special properties. In agriculture, it can improve input efficiency, crop protection and resource conservation. Nano-fertilisers can release nutrients in a controlled manner, reducing wastage and soil pollution. Nano-pesticides may target pests more precisely and lower chemical load. Nano-sensors can detect soil moisture, nutrient deficiency, plant stress and diseases early, enabling precision farming. Nanomaterials can improve seed treatment, water purification, packaging and post-harvest shelf life. For farmers, these gains can reduce input costs, improve yields, limit crop losses and fetch better prices through quality preservation. Smallholders may benefit if nano-products are affordable, safe and supported by extension services. It can also create rural enterprises in diagnostics, custom hiring and agri-advisory services. However, risks include uncertain ecological effects, misuse, high cost, regulatory gaps and lack of awareness. Farmer upliftment requires field trials, biosafety standards, transparent labelling, public research and training through Krishi Vigyan

Kendras. Nanotechnology should complement sustainable agriculture, not deepen dependence on expensive proprietary inputs. Used responsibly, it can raise productivity, income and resilience.

247. [2025 Q16] India aims to become a semiconductor manufacturing hub. What are the challenges faced by the semiconductor industry in India? Mention the salient features of the India Semiconductor Mission.

(Answer in 250 words)

India's semiconductor ambition faces challenges of high capital cost, technology complexity, shortage of fabrication experience, dependence on imported equipment and chemicals, long gestation periods and global competition. Semiconductor fabs need uninterrupted power, ultra-pure water, clean rooms, skilled engineers and strong intellectual property ecosystems. India also has gaps in component supply chains, packaging capacity, design-to-manufacturing linkages and advanced research. Policy uncertainty and infrastructure delays can deter investors. The India Semiconductor Mission seeks to build a domestic semiconductor and display ecosystem through fiscal support for fabs, display fabs, compound semiconductors, outsourced assembly and testing, and design-linked incentives. It aims to attract global firms, support domestic design companies, create skilled manpower, and coordinate central and state policies. Recent approvals for fabrication and assembly units show progress. However, India must avoid focusing only on prestige fabs. A practical strategy should combine chip design, packaging, testing, power electronics, sensors, automotive chips and strategic partnerships. Universities, industry and start-ups need stronger R&D links. With stable incentives, talent development and infrastructure, India can become a trusted node in global semiconductor supply chains.

248. [2025 Q17] Mineral resources are fundamental to the country's economy and these are exploited by mining. Why is mining considered an environmental hazard? Explain the remedial measures required to reduce the environmental hazard due to mining. (Answer in 250 words)

Mining is economically important because minerals support energy, infrastructure, manufacturing and technology. Yet it is considered an environmental hazard because it disturbs land, forests, water and communities. Open-cast mining removes vegetation and topsoil, causing erosion, habitat loss and landscape scars. Underground mining may cause subsidence. Dust, blasting and transport pollute air and damage health. Acid mine drainage, heavy metals and slurry contaminate rivers and groundwater. Mining also fragments wildlife corridors and displaces tribal and rural communities. Remedial measures must begin with careful environmental impact assessment, cumulative impact studies and no-go zones for ecologically sensitive areas. Scientific mine planning, controlled blasting, dust suppression, water treatment, tailings management and safe overburden disposal are essential. Progressive mine closure, backfilling, afforestation and restoration of topsoil should be enforced. Remote sensing, drones and real-time monitoring can detect illegal mining. Local communities must receive consent, compensation, health safeguards and benefit-sharing through district mineral foundations. Circular economy, recycling and efficient mineral use can reduce pressure on new extraction. Mining cannot be made impact-free, but strict regulation, technology and community participation can reduce its environmental cost.

249. [2025 Q18] Write a review on India's climate commitments under the Paris Agreement (2015) and mention how these have been further strengthened in COP26 (2021). In this direction, how has the first Nationally Determined Contribution intended by India been updated in 2022? (Answer in 250 words)

Under the Paris Agreement, India committed to reduce the emissions intensity of GDP, increase the share of non-fossil electricity capacity and create additional carbon sink through forests and trees. India framed its approach around equity, common but differentiated responsibilities and development needs. At COP26 in Glasgow, India strengthened ambition through the Panchamrit announcements: reaching 500 GW non-fossil energy capacity, meeting 50 percent of energy requirements from renewables, reducing projected carbon emissions by one billion tonnes, reducing emissions intensity by 45 percent by 2030, and achieving net zero

by 2070. In 2022, India updated its Nationally Determined Contribution. It committed to reduce emissions intensity of GDP by 45 percent from 2005 levels by 2030 and achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with support of technology transfer and climate finance. It also emphasised LiFE, or Lifestyle for Environment, as a behavioural approach. India's commitments are significant for a developing country with low per capita emissions. The main challenges are finance, storage, grid integration, just transition and industrial decarbonisation. Overall, India has moved from cautious pledges to clearer long-term climate direction while retaining the principle of climate justice.

250. [2025 Q19] What are the major challenges to internal security and peace process in the North-Eastern States? Map the various peace accords and agreements initiated by the government in the past decade. (Answer in 250 words)

The North-East faces internal security challenges due to ethnic diversity, historical grievances, porous international borders, migration anxieties, land and identity conflicts, insurgent networks, extortion, drug trafficking and weak connectivity in difficult terrain. Some groups demand autonomy, others seek protection of culture, resources or political representation. Cross-border sanctuaries and illegal arms flows have complicated peace efforts. Development deficits and distrust of state institutions also affect reconciliation. In the past decade, the government has pursued dialogue, ceasefire and accords. Important initiatives include the Framework Agreement with NSCN(IM), agreements with Bodo groups leading to the Bodo Accord, Bru-Reang settlement, Karbi Anglong Agreement, Assam-Meghalaya border understanding, agreements with Dimasas groups and other ceasefire arrangements. Suspension of Operations agreements and rehabilitation packages have encouraged cadres to join the mainstream. These efforts are supported by infrastructure, Act East policy, autonomous councils and development programmes. However, peace remains fragile where final settlements are delayed or rival groups feel excluded. Durable peace requires inclusive negotiations, implementation of accords, border management, livelihood opportunities, justice for victims, cultural autonomy and federal sensitivity. Security operations can contain violence, but trust-building and governance deliver peace.

251. [2025 Q20] Why is maritime security vital to protect India's sea trade? Discuss maritime and coastal security challenges and the way forward. (Answer in 250 words)

Maritime security is vital because India depends heavily on sea lanes for trade, energy imports, container traffic, fisheries and strategic connectivity. A disruption in the Arabian Sea, Indian Ocean chokepoints or Bay of Bengal can affect oil supplies, exports, inflation and national security. India's long coastline, island territories and exclusive economic zone make maritime governance complex. Challenges include piracy, terrorism, smuggling, illegal fishing, trafficking, cyber threats to ports, marine pollution, grey-zone naval activity, and vulnerability of offshore energy assets. Coastal security gaps were exposed by the 2008 Mumbai attacks. Coordination among Navy, Coast Guard, marine police, customs, fisheries and port authorities remains crucial. The way forward includes maritime domain awareness, coastal radar chains, vessel tracking, stronger marine police, port security audits, community participation of fishermen, island infrastructure and quick-response mechanisms. Blue-water naval capability, partnerships through SAGAR, information-sharing with friendly countries and protection of sea lines of communication are essential. Cybersecurity and resilience of ports and logistics must receive greater attention. Maritime security should integrate trade, environment, fisheries and defence. Protecting the seas means protecting India's economy and strategic autonomy.