



VISION IAS

www.visionias.in

VISION IAS

R

N

11 OCT 2017

NO.

03

RECEIVED

GENERAL STUDIES (TEST CODE : 876)

Name of Candidate	AKHIL PILANI		
Medium Eng./Hindi	ENGLISH	Registration Number	26515
Center	ORN	Date	11/10/2017

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
7	12.5	
8	12.5	
9	12.5	
10	12.5	
11	12.5	
12	12.5	
13	12.5	
14	12.5	
15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

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

75, 3rd Floor, Old Rajinder Nagar Market, Near Axis Bank, New Delhi – 110060

103, 1st Floor, B/1-2, Ansal Building, Behind UCO Bank, Dr. Mukherjee Nagar, Delhi – 110009

EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Answer all the questions in NOT MORE THAN 200 WORDS each. Content of the answers is more important than its length. All questions carry equal marks.

12.5X20=250

1. While India has taken a number of steps in order to substantially improve its ranking in the World Bank's 'Ease of Doing Business' Index, it needs to take further action in this regard. Elaborate. Also analyse the utility of these rankings vis-a-vis India's objective of facilitating a sound entrepreneurial environment.

जहां, भारत ने विश्व बैंक के 'इज ऑफ़ डूइंग बिज़नेस' (व्यापार करने की सुगमता) सूचकांक में अपनी रैंकिंग में सार्थक सुधार करने हेतु कई कदम उठाए हैं, वहीं भारत को इस संबंध में आगे और अधिक कार्यवाही करने की आवश्यकता है। सविस्तार वर्णन कीजिए। साथ ही सुदृढ़ उद्यमिता वातावरण प्रदान करने के भारत के उद्देश्य के परिप्रेक्ष्य में ऐसी रैंकिंग की उपयोगिता का भी विश्लेषण कीजिए।

India ranked 130 in World Bank's 'Ease of Doing Business' Index, improving its ranking by just 1 compared to the previous year.

Steps taken by India to improve its ranking :

- a) Implementing GST for indirect tax reform
- b) Streamlining processes, procedures by removing bureaucratic delays, single window clearance system (Invest India) etc.

- c) ease for entry and exit of firms : e.g. simple registration of Companies, easy exit by implementing Insolvency and Bankruptcy code.
- d) India has significantly improved its ranking in some of the parameters e.g. getting electricity connection.
- e) Improving infrastructure : roads, railways, ports, inland waterways.

The above steps need to be augmented by the following :

- a) Improving physical infrastructure
- b) Direct tax reforms, reducing exemptions etc
- c) Reforming labour laws
- d) greater use of ICT in governance
- e) Improving transparency and accountability

The World Bank Ranking's ~~are~~^{do} not fully reflect India's efforts because

a) They ignore the reforms by states like Andhra Pradesh, Telangana and measure their ~~index~~ considering only 2 cities - Delhi and Mumbai

b) Many reforms are taken after the cutoff date, so they are not reflected in the rankings

Still, India should try to improve its ranking as it can improve India's image in the global business environment.

2. In wake of the agrarian crisis that the country is witnessing, discuss the need for adopting an income-centric approach in preference to a production-centric one as the basis of agricultural policy. In this context, also highlight the steps that should be taken to achieve the goal of doubling the income of farmers by 2021-22 and the challenges that exist.

देश द्वारा सामना किए जा रहे कृषि संकट के आलोक में, कृषि नीति के आधार के रूप में उत्पादन-केंद्रित दृष्टिकोण के स्थान पर आय-केंद्रित दृष्टिकोण अपनाने की आवश्यकता पर चर्चा कीजिए। इस संदर्भ में, 2021-22 तक किसानों की आय दोगुना करने का लक्ष्य प्राप्त करने के लिए जो कदम उठाए जाने चाहिए, उनके साथ-साथ विद्यमान चुनौतियों पर भी प्रकाश डालिए।

The agrarian crisis is reflected by stagnating yields, increasing farmer distress, low incomes, post harvest losses etc.

The production centric approach focusses on ~~the~~ consumer and market and ignores the producer i.e. the farmer.

Thus market controls and regulation of agriculture ensures that production is adequate and interests of the consumer and the economy are maintained.

In order to secure the interest of the farmers, there is need

to shift to income centric approach which guarantees a basic income to the farmers for their produce. MC Swaminathan report also suggests that MSP should be 50% more than cost of production.

Steps to double farmer income

- a) Improve agricultural productivity:
Agro climatic cropping pattern, climate smart agriculture, GM crops
- b) Water and Fertilizer Use:
Rationalizing ~~use~~ fertilizer subsidy, improving N:P:K ratio (4:2:1), irrigation facilities, micro irrigation etc
- c) Integrated farming system:
Agro forestry, livestock, fisheries etc can supplement

the incomes

d) Pricing and marketing freedom:

APMC reforms, ENAM, export freedom for commodities, reforming essential commodities etc

e) other measures: Improving infrastructure (roads, storage infra etc), organic farming etc

Challenges: Farmers lack

Control over access to credit, insurance, pricing, marketing of produce etc. Also vulnerability to monsoon, faulty cropping pattern, poor implementation of policies etc are some of the challenges.

3. It is argued that India's fiscal centre of gravity has rapidly shifted from the Centre to the States. Analyse the statement in context of the debate on fiscal discipline. Also, enumerate the key recommendations of the N.K. Singh panel on Fiscal Responsibility and Budget Management Act.

यह तर्क दिया जाता है कि भारत का राजकोषीय गुरुत्वाकर्षण का केंद्र तेजी से केन्द्र से राज्यों की ओर स्थानांतरित हुआ है। राजकोषीय अनुशासन पर वाद-विवाद के संदर्भ में इस कथन का विश्लेषण कीजिए। साथ ही, राजकोषीय उत्तरदायित्व एवं बजट प्रबंधन अधिनियम पर एन. के. सिंह पैनल की प्रमुख अनुशंसाओं को सूचीबद्ध कीजिए।

Fiscal policy is the use of Government revenue collection and expenditure to influence the economy. Fiscal discipline is maintaining a limit on fiscal spending.

How India's fiscal centre of gravity has shifted from Centre to States.

- a) Greater Devolution to States according to Recommendation of 14th Finance Commission
- b) The concept of Special Category States is no longer used
- c) Rationalizing Centrally Sponsored Schemes

d) Niti Aayog - replacing Planning Commission

The recent events and policies of states have impacted the fiscal discipline

a) UDAY scheme for restructuring Power DISCOMS

b) Loan waivers to farmers given by states like Uttar Pradesh.

Recommendations of NK Singh Panel on Fiscal Responsibility and Budget Management Act

a) Repeal the existing act and

b) Flexibility to Centre on maintaining fiscal deficit at 3% by 2017-18

c) Debt to GDP should be 60% from current 69%. Out of it,

40% for Centre and 20% for States

- d) Fiscal Council should be established : ^{for} independent assessment of fiscal policy, advising government on escape clause

- e) ESCAPE CLAUSE : The government can trigger the escape clause to push the fiscal limits in cases like structural reforms, war, natural disaster etc

4. Strategic sale of state-run firms is a prudent step to deal with the challenges being faced by the public sector enterprises in India. Comment. Also enumerate other measures that can be taken in light of NITI Aayog's suggestions in this regard.

भारत में सार्वजनिक क्षेत्र के उद्यमों द्वारा सामना की जा रही चुनौतियों से निपटने के लिए राज्य-संचालित उद्यमों की रणनीतिक बिक्री एक विवेकपूर्ण कदम है। टिप्पणी कीजिए। साथ ही इस संबंध में नीति आयोग के सुझावों के प्रकाश में उठाए जा सकने वाले अन्य उपायों को भी सूचीबद्ध कीजिए।

Strategic sale refers to divesting shares in the company as well as management control.

The government no longer remains the largest shareholder.

How strategic sale is a prudent step to deal with challenges faced by PSE's in India

- a) Raise revenue for the company, which can be invested back or used to create infrastructure.
- b) Improve efficiency and meritocracy
- c) Better allocation of resources
- d) Promote competition

- c) Introduce professionalism from the private sector
- b) Reduce burden on the exchequer
- g) Raise revenue for State and meet its target. ^{72000 crore in 2017-18}
- However, strategic sale is

criticized :-

- a) goes against idea of ^{socialism} ~~socialistic~~ economy
- b) Cray capitalism and under valuation of public assets
- c) No guarantee that private sector will improve efficiency and profits.

NITI Aayog's suggestions

- a) Strengthening profit making public sector enterprises
- b) Strategic sale of loss making units
- c) Monetizing assets of public

sector enterprises e.g. ^{prime} land
of PSE's can be monetized

5. Shell companies in India are neither legally defined nor properly understood. Analyse in the light of recent developments, prevalent understanding and steps required to effectively deal with shell companies.

भारत में शेल कंपनियां न तो कानूनी रूप से परिभाषित हैं और न ही उनके विषय में उचित समझ है। हाल के घटनाक्रमों, व्याप्त (प्रचलित) समझ और शेल कंपनियों से प्रभावी ढंग से निपटने हेतु आवश्यक कदमों के आलोक में विश्लेषण कीजिए।

There is no formal definition of a shell company. However, a shell company is understood to be one that does not have active business operations or physical assets. It is usually incorporated for tax evasion or avoidance purposes, money laundering, hiding black money etc.

They are not legally defined in Companies Act. Also they are not properly understood as some shell companies may be used for legitimate purposes.

also - e.g Incorporating a shell company to raise funds for a start up.

In order to curb tax evasion, money laundering etc, the government has cancelled the licenses of over 1.5 lakh companies which it considered to be shell companies.

PROS of such a step :

- a) Tackle black money
 - b) Curb tax evasion
 - c) strengthening provisions related to BEPS, FATF guidelines, information sharing
 - d) Useful for national security as well $\therefore$ such companies are a part of money laundering
- CONS : a) Legitimate companies

may also suffer

- STEPS Required :
- a) Define shell company in the Companies Act
 - b) Strict action against fraudulent Companies under FEMA act, Black money act etc
 - c) International Cooperation

6. If a larger population in India is to be involved in the economy in a big way, Small and Medium Enterprises (SMEs) are key. Elaborate. Also discuss the challenges faced by the SME sector in India and give an account of the measures taken by the government to deal with these.

यदि भारत में एक बड़ी आबादी को अर्थव्यवस्था में बड़े पैमाने पर सम्मिलित करना है, तो लघु और मध्यम उद्यम (SMEs) महत्वपूर्ण हैं। सविस्तार वर्णन कीजिए। इसके साथ ही, भारत में SME क्षेत्रक द्वारा सामना की जाने वाली चुनौतियों पर भी चर्चा कीजिए और इनसे निपटने के लिए सरकार द्वारा उठाए गए कदमों का विवरण भी प्रदान कीजिए।

Small and Medium Enterprises form a major proportion of contribution to GDP, employment etc. Therefore they engage a large population in the economy in a big way.

- a) SME's contribute to various sectors like manufacturing, services, food processing and agriculture, tourism etc. Also they provide employment in Tier II and Tier III cities where they form majority of enterprises.

Challenges faced by SME sector

- a) Stagnant or declining productivity
- b) Incentives to stay small
means that SME's are unable to transform into big companies
- c) Increased competition ∴ of relaxed FDI norms, globalisation e.g. Chinese products flooding Indian market
- d) Access to credit ∴ of NPA problem of banks
- e) Adaptability to reforms like demonetization, GST has been poor.
- f) Complex laws : e.g. labour laws, informal labour,
- g) Other factors like declining global demand, Poor supporting infrastructure like erratic power supply, roads etc.

Steps taken by the Government

- a) MUDRA Yojana
- b) Start up India / Stand up India
Scheme
- c) Pradhan Mantri Rozgar Pratsahan
Yojana
- d) Skill India

7. What are the reasons for the growing informalization of industrial labour in India? Discuss the issues associated with the phenomenon and reforms required to deal with them.

भारत में औद्योगिक श्रम के बढ़ते अनौपचारिकरण के क्या कारण हैं? इस परिघटना से जुड़े मुद्दों और उनसे निपटने हेतु आवश्यक सुधारों पर चर्चा कीजिए।

Informal labour is characterised by ease of entry, low skill, low wages, and mainly composed of immigrant labour. They have little chance of promotion, no fringe benefits, harsh work environment and long working hours. Over 90% employment in India is in unorganized sector.

Reasons : a) Globalisation :

Growth of wage labour, subcontractorship etc.

b) Decreasing power of trade unions

c) Agricultural distress pushing rural labour to industrial areas as informal labour

d) Poverty, illiteracy, unemployment also leading to growth of informal

industrial labour.

- c) Low skill and adaptability to technology combined with greater mechanisation
- f) Low bargaining power of labour
- g) Complex laws forcing industries to remain unorganized
Issues associated with this

Phenomenon:

- a) Poor working conditions:
low wages, long working hours, exploitation
- b) Low productivity of industries
- c) Companies evade paying tax by remaining in the unorganized sector.
- d) Livelihood guarantee has to be provided by state.
- e) No social security, vicious cycle of poverty

- Steps needed:
- a) Incentives to Companies to shift from being informal to formal sector
 - b) Simplify laws, processes etc for easy compliance
 - c) Minimum wages act passed by the Centre: Wage Code Bill 2017
 - d) Skilling of labour force.
Skill India, DDV - Gramin Kaushal Yojana, DDV - Kaushal Vikas Yojana.
 - e) Social Security for labour:
e.g insurance, pension products
 - f) Self employment: MUDRA, Startup India / Stand up India

8. A number of far-reaching developments have taken place in the local and global energy space which have to be reflected in our own energy policy framework. Discuss.

स्थानीय और वैश्विक ऊर्जा क्षेत्र में कई दूरगामी घटनाएं घटित हुई हैं, जिन्हें हमारी अपनी ऊर्जा नीति के ढांचे में प्रतिबिंबित होना है। चर्चा कीजिए।

India needs to maintain a balance between its development needs and its commitment towards climate change via the Paris Deal. It needs to reflect the following local and global developments in the energy space in its energy policy.

LOCAL DEVELOPMENTS :

- a) Ambitious target of 175 GW of renewable energy : 100 GW (Solar) , 60 GW (wind) , 10 GW (Biomass) , 5 GW (Small hydro).
- b) Balancing its requirement for development , growth , providing

electricity access to millions.

- c) Fulfilling targets under electrification schemes like village electrification, Saubhagya scheme to provide electricity connections to households.

- d) Improving energy efficiency (c) Reforming DISCOMS
GLOBAL Developments

- a) Ambitious Intentional National Development Contributions (INDC) to the Paris Climate Deal

- b) Leadership of the International Solar Alliance

- c) Negotiating its interests in the Paris Deal taking into account various provisions like transparency, global stocktake, finance and technology transfer

- d) International Cooperation
with countries having similar
interests.

Therefore, our energy policy
needs to assess current and
future demand, capacity etc
while improving productivity,
efficiency, financing options
etc.

9. The Indian IT-BPM (Information Technology-Business Process Management) industry is a global powerhouse today and its impact on India and the world has been unprecedented. Comment. Also, mention the challenges being faced by India's IT-BPM sector.

भारतीय IT-BPM (Information Technology-Business Process Management या सूचना प्रौद्योगिकी-व्यापार प्रक्रिया प्रबंधन) उद्योग आज एक वैश्विक शक्ति का केंद्र है और भारत एवं विश्व पर इसका प्रभाव अभूतपूर्व रहा है। टिप्पणी कीजिए। साथ ही, भारत के IT-BPM क्षेत्रक द्वारा सामना की जा रही चुनौतियों का भी उल्लेख कीजिए।

Post LPG reforms, the Indian IT-BPM industry took off the services industry, making India a global ~~goss~~ powerhouse today.

Impact on India

- a) Companies like Infosys, TCS grew manifold.
- b) Boom for engineering colleges and India became a Technological powerhouse
- c) Foreign exchange ~~earn~~ earnings.
- d) Contribution to GDP
- e) Improving India's image at the international level.

- B) India produced leaders in the technology domain
- g) International migration and Brain drain

Impact on world

- a) Boost to globalisation
- b) Cheap Indian labour improved ~~cost~~ competitiveness of foreign Companies
- c) International migration

- Challenges :
- a) Increasing protectionism : US Visa policy targeting Indian Companies
 - b) Issues faced by immigrants : security, culture, acceptance etc
 - c) Quality, skills, employability of engineers decreasing due to unregulated growth of engineering colleges

10. An effective multi-modal logistics and transport sector will make the Indian economy more competitive. Analyse.

एक प्रभावी मल्टी-मॉडल लॉजिस्टिक्स (बहु-रूपात्मक संभरण) और परिवहन क्षेत्रक भारतीय अर्थव्यवस्था को और अधिक प्रतिस्पर्धी बनाएगा। विश्लेषण कीजिए।

Physical infrastructure like effective multi-modal logistics and transport sector forms the basis for the economy.

A multi-modal logistics and transport sector ensures efficient utilization of means of transport, first mile and last mile connectivity etc.

It has the potential to make the economy more competitive in the following ways

- a) AGRICULTURE: Better transport ensures reduced costs, reduce post harvest losses, remove demand supply gap etc
- b) Reduce cost of transport,

- c) Reduce delays
- d) Reduce dependence on only one mode
of transport
- e) Efficient utilization of
resources
- f) Environment friendly : Railways,
Inland waterways etc are
more environment friendly than
roads
- g) Boost to exports via port
connectivity
- h) Generate employment by
forward and backward linkages
in various sectors like agri
agriculture.
- i) Improve competitiveness of
goods and services by reducing
costs.
- j) Ease of doing business will
attract more FDI, thereby boosting

- the economy.
- 4) Important for schemes like Make in India, Sagas, etc.
In order to ensure the above, the following is required
- Recover stalled projects
 - Public private partnership
 - Resolve NPA crisis
 - Coordination and cooperation among ministries, departments etc
 - Sector specific regulators
 - First mile and last mile connectivity

11. Climate change threatens sustainable development, impairs socio-economic development and reinforces cycles of poverty across the globe. In this context, discuss the utility of climate risk insurance as an instrument within a comprehensive climate risk management system.

जलवायु परिवर्तन पूरे विश्व में संधारणीय विकास को जोखिम में डालता है, सामाजिक-आर्थिक विकास को क्षीण करता है और गरीबी के चक्र को मजबूत बनाता है। इस संदर्भ में, व्यापक जलवायु जोखिम प्रबंधन प्रणाली के अंतर्गत एक साधन के रूप में जलवायु जोखिम बीमा की उपयोगिता पर चर्चा कीजिए।

Climate change poses a threat to agriculture, food security, coastal areas via sea level rise, increased frequency of extreme weather events etc. It

threatens sustainable development and socio economic development. The poor and vulnerable are the most susceptible to climate change as they lack the resources to mitigate and adapt to it.

In this context, climate risk insurance could provide insurance ~~due to~~ to people / companies / states to recover from the damages caused

by climate change.

- Utility: a) Incentive to produce climate friendly products as the cost of insurance will be built in the cost of product.
- b) social security to ~~the~~ ^{the} poor, and climate refugees
- c) It can help adapt to climate change

- Challenges: a) The effects of climate change are ~~not~~ complex and interlinked
- b) Methodology to assess damages
- c) Affordability of such insurance products.

Climate Risk insurance can be considered within a comprehensive climate risk management system which includes:

- a) Vulnerability maps , assessing the threat levels
- b) Mitigating the effects of Climate Change : e.g Afforestation, improving energy efficiency, clean fuel, etc
- c) Adapting to climate change : Climate Smart Agriculture, resilient cities etc and infrastructure.

12. Why are women particularly vulnerable to the impact of natural disasters? Also analyse, with adequate examples, how women can play a more effective role in disaster risk management cycle.

प्राकृतिक आपदाओं के प्रभावों के प्रति महिलाएं विशेष रूप से सुभेद्य क्यों होती हैं? साथ ही, समुचित उदाहरणों के साथ विश्लेषण कीजिए कि किस प्रकार महिलाएं आपदा जोखिम प्रबंधन चक्र में अधिक प्रभावी भूमिका निभा सकती हैं।

Natural disasters cause immense loss to life and property. However, certain sections like ^{women} are more vulnerable due to lack of resources and capacity to deal with natural disasters:

- a) Dependence on men within the family (physical, sexual)
- b) Exploitation in the aftermath of disaster
- c) Lack of control of resources leading to low capacity to recover from disasters
- d) Government benefits not available to women as they

are mostly in the name of male
member.

13. In view of the seriousness of heat waves and its consequences, greater attention is required for dealing with it as a natural disaster. Analyse in the context of recent developments and the actions taken by relevant government bodies.

हीट वेव (ग्रीष्म लहर) और उसके परिणामों की गंभीरता के आलोक में, एक प्राकृतिक आपदा के रूप में इससे निपटने हेतु अधिक ध्यान दिए जाने की आवश्यकता है। हाल के घटनाक्रमों और संबद्ध सरकारी निकायों द्वारा उठाए गए कदमों के संदर्भ में विश्लेषण कीजिए।

According to Indian Meteorology Department, a Heat wave is defined as a period where the temperature of a place is greater than 3°C ~~the~~ compared to ^{average} maximum daily temperature for 3 consecutive days.

Consequences of heat wave can range from dehydration, heat stroke, to death.

It also impacts animals and plants.

∴ It should be considered as a natural disaster and appropriate measures should be taken.

Heat waves are common in central parts of the country like Rajasthan, Odisha, Madhya Pradesh.

Actions taken :

- a) Odisha has launched a plan to tackle heat waves
 - i) Early warning system : to inform of the situation
 - (ii) Public outreach : Informing public to reach places of safety through displays on traffic lights, media
 - (iii) Website and mobile app to show places of shelter and availability of water on highways
 - (iv) Proper Change the timings of schools and offices

- 5) NDMA has issued guidelines
to declare and manage
heatwaves.
-

14. While genome editing offers immense potential benefits in the area of healthcare, there are a lot of apprehensions regarding its use. Discuss.

जहां, जीनोम एडिटिंग स्वास्थ्य सेवा के क्षेत्र में बहुत अधिक लाभ की संभावना प्रस्तुत करता है, वहीं इसके उपयोग के संबंध में काफी आशंकाएं भी मौजूद हैं। चर्चा कीजिए।

Genome editing is a type of genetic engineering in which DNA is inserted, deleted or replaced in the genome of a living organism using engineered nucleases or molecular scissors like CRISPR / CAS 9.

Benefits in area of Healthcare :

- a) Disease diagnosis : Identifying particular disease causing genes
- b) Treatment : Removing / Replacing infected genes to cure disease like Parkinson's disease

- c) Drug delivery to specific places
 - d) Pharmacogenomics : which is the study of genome in drug response
 - e) gene editing can also be use to prevent diseases like dengue, Chikungunya by modifying genes of mosquitoes
 - f) Stem cell therapy
 - g) Construction of new organs
 - h) Inserting new genes in an organisms
- Apprehensions regarding its use
- a) It may cause permanent changes which will be carried in future as well.

- b) Ethical issues : designer babies, modifying traits etc.
- c) Unintentional damage to environment / species.

WAY FORWARD : Appropriate regulation from a scientific, social, environmental, economic and ethical perspective is needed for this technology.

15. Discuss various ways in which supercomputers have benefitted mankind over the years. Also enumerate the objectives of the National Supercomputing Mission and the mechanism for its implementation.

उन विभिन्न तरीकों पर चर्चा कीजिए जिसके माध्यम से विगत वर्षों में सुपर कंप्यूटरों ने मानव जाति को लाभान्वित किया है। इसके साथ ही राष्ट्रीय सुपरकंप्यूटिंग मिशन के उद्देश्यों और इसके कार्यान्वयन के तंत्र को भी सूचीबद्ध कीजिए।

A Super computer is a computer with a high level of computing performance compared to a general purpose computer. The processing power of a super computer enables it to perform multiple tasks simultaneously or perform ^{big} tasks within a reasonable time.

Benefits of Super computer

- a) Monsoon forecasting : using dynamic model by IMD.
- b) ECONOMY : Performing simultaneous tasks, analyzing data,

identifying patterns etc
can help individuals,
businesses, governments.

c) Governance

National Supercomputing
Mission aims to build
India's capability in
supercomputers
Indian supercomputer to

feature ~~to~~ in top ~~3~~ Super
Computer list

expanding the reach by
providing super computers
in districts

16. Widely seen as a disruption for the traditional banking and financial institutions, cryptocurrencies have gained significant traction lately, at the same time creating a regulatory nightmare for regulators across the globe. Discuss.

पारंपरिक बैंकिंग और वित्तीय संस्थानों के लिए व्यापक रूप से व्यवधान के रूप में देखी जाने वाली, साथ ही विश्व भर में नियामकों के लिए एक नियामकीय दुःस्वप्न का निर्माण करने वाली, क्रिप्टोकॉरेसीने हाल ही में महत्वपूर्ण पकड़ स्थापित की है। चर्चा कीजिए।

Cryptocurrencies are digital or virtual currency based on the principle of cryptography. Bitcoin has recently gained significant traction.

Cryptocurrency and its underlying technology (BLOCKCHAIN) is widely seen as a disruption for traditional banking and financial institutions.

- a) Ease of entry / Low barriers to entry
- b) Cost competitiveness : no clearing houses or middlemen involved
- c) Based on open source methods - logy and public participation

- d) Blockchain can ensure the validity of all units of cryptocurrency at any time.
- e) It can help in preventing counterfeiting, improving security.
- f) It ~~can~~ has immunity from government led financial retribution.
- At the same time, it is creating a regulatory nightmare for regulators across the globe.
- a) Cryptocurrencies are not regulated by any central authority.
It faces regulatory uncertainty.
- b) Security of bitcoin wallets, prone to cyber attacks, DDoS attacks.
- c) Bitcoins used for tax evasion, money laundering, illegal activities.

- d) They are prone to price volatility
- e) Lack of liquidity and
acceptance

WAY FORWARD : While bit coins need to be regulated and studied further as. A Committee has been constituted by RBI for the same. Also Blockchain technology can be adapted to various other uses to improve governance

17. An internationally-binding agreement to strengthen the Outer Space Treaty of 1967 is both desirable and increasingly a necessity. Analyse in view of the traditional and emerging challenges in this arena.

1967 की बाह्य अंतरिक्ष संधि को मजबूत बनाने हेतु एक अंतरराष्ट्रीय बाध्यकारी समझौता वांछनीय और साथ ही एक आवश्यकता दोनों है। इस क्षेत्र में पारंपरिक और उभरती हुई चुनौतियों के आलोक में विश्लेषण कीजिए।

Outer space Treaty, 1967 aims to promote international cooperation to promote peaceful use of outer space, prevent militarization of space, use of outer space for benefit of mankind etc. However the treaty which was passed in 1967 suffers from certain limitations:

- a) It is not internationally binding
- b) It lacks enforcement powers or a security/space police to punish violations
- c) ~~It~~ In view of traditional and emerging challenges:
 - i) Greater private sector partici-

- pattern in outer space
- (ii) exploiting the loopholes in the treaty by member countries
 - (iii) Increasing activity of in outer space for various activities like security, socio economic development
 - (iv) Increasing space debris
 - (v) Testing and deployment of weapons by member states. e.g. Intercontinental Ballistic Missiles, Anti-Satellite weapons
 - (vi) Emergence of outer space as a medium of warfare

(vii) Increasing capabilities of countries to use satellites for various purposes like reconnaissance, invasion of privacy etc.

∴ In view of the above, an internationally binding agreement to strengthen the Outer Space Treaty 1967 is both desirable and a necessity. It should contain provisions to deal with challenges mentioned above.

18. Even after nearly 60 years in existence, AFSPA remains at the centre of debates with respect to countering violent insurgencies, role of the states and local communities. Discuss.

अस्तित्व में आने के लगभग 60 वर्षों के बाद भी, हिंसक उग्रवाद का मुकाबला करने और राज्यों व स्थानीय समुदायों की भूमिका को लेकर AFSPA वाद-विवाद के केंद्र में बना हुआ है। चर्चा कीजिए।

Armed Forces Special Powers Act gives special ~~power~~ ^{powers} forces, privileges and immunity to the armed forces to restore peace in a disturbed area.

Powers like search and seize any vehicle, arrest anyone without warrant, legal immunity, fire upon anyone after warning are given to the armed forces.

Arguments for AFSPA

- a) Maintain peace in disturbed area, counter violent insurgencies
- b) Repealing it would affect the morale of the forces

Arguments against 2 a) Misuse
of the powers : engaging in sexual
exploitation, illegal shootouts

b) Local community feels alienated
against the armed forces

c) Reduces trust in democracy,
by impinging of fundamental
rights

d) It has been ineffective even
after 60 years.

Role of the States : The states
are not consulted ^{in some cases} by the
Centre before imposing AFSPA.

It reduces the role of the
state police and impinges on
state subject of law and
order. Also, it leads to poor
coordination between local police
and the armed forces leading
to language issues, local intelligence

defects etc .

The local communities feel alienated with act as they feel it is misused too often.

WAY FORWARD : The Supreme Court as well as various committees like Ts Verma Committee have suggested humanizing AFSPA and making the armed forces accountable for their actions .

19. Analyse the challenges and opportunities inherent in the push for indigenisation of defence production in India. Also, identify the measures through which indigenous manufacturing of defence equipments is being encouraged by the Government.

भारत में रक्षा उत्पादन के स्वदेशीकरण की दिशा में निहित चुनौतियों और अवसरों का विश्लेषण कीजिए। साथ ही, उन उपायों की भी पहचान कीजिए जिनके माध्यम से रक्षा उपकरणों का स्वदेशी निर्माण सरकार द्वारा प्रोत्साहित किया जा रहा है।

India is the largest arms importer in the world. This calls for a push for indigenisation of defence production in India.

Challenges : a) Huge capital requirement

b) Technology and skills lacking

c) Low participation of private sector

d) Standards and quality of production

e) Time and cost over runs of projects

f) Delays due to land acquisition, environment clearances

- opportunities :
- a) Boost for Make In India Program
 - b) Saving foreign currency ,
by reducing imports
 - c) Boost economy , GDP.
 - d) Employment generation
 - e) Technology capability will
increase , benefits for other
sectors as well.
 - f) Essential for national
security by reducing
dependence ~~of~~ on other
countries for defence equipment
- Measures taken by government
- a) International Cooperation :
US : Major Defence Partner,
Russia etc for joint production
and technology transfer

- b) Defence Procurement Policy:
clauses like Indigenously
design, developed, manufacture
(IDDM) preferred, promoting
indigenous production
- c) Strategic Partnership Model
finalized. : Private players
will collaborate with OEM's
for particular sectors/equipment
- d) Encouraging Startups, MSME's
in the private sector.

20. India's ability to pursue a clear-cut strategic vision depends on its ability to improve institutional cooperation and coordination between the armed forces and civilian bureaucracy. Discuss.

भारत द्वारा एक सुस्पष्ट रणनीतिक दृष्टि का अनुसरण करने की क्षमता वस्तुतः सशस्त्र बलों और सिविल नौकरशाही के बीच संस्थागत सहयोग और समन्वय में सुधार करने की क्षमता पर निर्भर करती है। चर्चा कीजिए।

Institutional Cooperation

- a) Mechanisms to resolve differences and disputes at institutional level
- b) Coordination among different agencies

Coordination b/w armed
forces and civilian bureaucracy

