



# VISION IAS

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## GENERAL STUDIES (TEST CODE : 876)

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Medium Eng./Hindi	ENG	Registration Number	41166
Center	ONLINE	Date	10/10/2017

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।

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103, 1<sup>st</sup> 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 ऑफ डूइंग बिजनेस' (व्यापार करने की सुगमता) सूचकांक में अपनी रैंकिंग में मार्थक 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 मुद्रा उद्यमिता वातावरण प्रदान करने के भारत के उद्देश्य के परिप्रेक्ष्य में ऐसी रैंकिंग की उपयोगिता का भी विश्लेषण कीजिए।

India's rank in World Bank's 'Ease of Doing Business' Index (EODB) improved only one spot, despite taking important steps as follows -

- (1) Introduction of GST
- (2) Bringing Insolvency and Bankruptcy code (IBC)
- (3) Logistics Efficiency Enhancement Programme (LEEP)
- (4) Urging states to implement the 340 point Business Reform Action Plan (BRAC)
- (5) Trade Facilitation Agreement (TFA) implementation
- (6) Bringing single-window clearance

mechanisms in many sectors.

(7) Easing FDI restrictions. eg - Abolishing FIPB.

Yet, a lot needs to be done, as per the EODB Report -

- (1) Improving Labour Rigidities.
- (2) Making it easier to close down businesses and start one
- (3) Getting access to credit, especially for small industries (SMEs)
- (4) Reducing regulations in many sectors

~~Improve~~  
Utility of EODB Ranking

Improvement in these rankings bring following advantages -

- (1) Reduce costs of doing business and raise competitiveness of Indian industry.
- (2) Signal investors about a profitable business climate in India

This can help in Make-in-India, Start-up India and other initiatives resulting in job creation, innovation and export earnings.

The EODB index is however, restricted to only Mumbai and Delhi and might not reflect the true business climate in India. Further, India scored poorly, as many other countries also undertook reforms (based on distance-to-frontier approach). India's introduction of GST was also not reflected in the index.

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।

Indian agriculture saw negative growth rates in 2014-15 and has marginally recovered.

The agrarian crisis can be seen in -

- (1) Falling or stagnant yields
- (2) Falling farmer incomes
- (3) Rising indebtedness leading to suicides.

The ~~result~~<sup>cause</sup> of this crisis is due to the production-centric approach of the ~~to~~ government's policy.

As a result, while production has improved, farmer incomes have stagnated. Moreover,

~~yes~~ This is because -

- (1) Agricultural demand is inelastic.

(2) So, a bumper crop leads to a massive fall in prices leading to fall in farmer incomes.

Thus, there is a need to move towards an income-centric approach.

Steps to be taken to double farmer's income by 2022

- (1) Go for Evergreen revolution (as suggested by Swaminathan Commission)
- (2) Need integrated water and pest management, along with drip irrigation, micro irrigation, etc
- (3) Organic farming to reduce soil degradation.
- (4) Need to diversify towards non-food crops. Mission for Integrated Development of Horticulture (MIDH) is a right step.
- (5) ~~Go~~ Risk insurance: PFA like PM Fasal Bima Yojana.

- (6) Remove restrictions on farmers to sell only in APMCs.  
e-NAM initiative needs to be taken further.  
Contract farming can be introduced
- (7) Need greater R&D on drought proofing agriculture.
- (8) Develop aqua-ponics, mixed farming and other new techniques.
- (9) Remove restrictions on stock limits under Essential Commodities Act. Allow farmers to export.
- (10) Introduction of GM crops.
- (11) Providing credit at ~~so~~ cheaper & rates.
- (12) Use AADHAAR, Jan Dhan & Mobile improve financial inclusion
- (13) Develop food processing industries for value addition.

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

While the Centre's ~~free~~ Fiscal Deficit (FD) has steadily fallen from 4.5% of GDP in 2012-13 to 3.5% in 2016-17, the states' FD have risen ~~during the same~~ in the last 2 years, because of the following -

- (1) Introduction of UDAY Bonds.
- (2) Greater rise in revenue and capital expenditure.
- (3) Fall slowdown in growth leading to stagnation in tax revenues.

Further, states have been relatively lax in exercising fiscal discipline.

The loan waivers announcement by UP, Maharashtra, etc will put further pressure on state finances.

Recommendation of NK Singh  
FRBM committee

- (1) Reduce ~~to~~ FD and Revenue Deficit to 3% and 0.8% by 2021-22.
- (2) ~~The~~ Government debt should 60% of GDP
- (3) Establish an independent Fiscal & Stability Council to ~~regul~~ oversee fiscal consolidation.
- (4) Escape clause from fiscal consolidation only for certain issues —
  - (a) National Security
  - (b) Natural Calamity
  - (c) GDP growth is below 300 basis points for 4 consecutive quarters.

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 involves ~~the~~ transfer of ownership of a Public Sector Enterprise (PSE) from the government to a private player.

Advantages of strategic sale

- (1) Brings in a new management with better which is more accountable to the firm's health.
- (2) Improves costs and efficiency.
- (3) Brings in new skills and technology transfer.
- (4) Helps the government meet its fiscal deficit targets.
- (5) Saves tax payer money from gumming loss-making entities.

Thus, strategic sale helps to counter many challenges faced by PSEs like loss-making, inefficiencies and unaccountable management

NITI Aayog has suggested further measures to overcome these

challenges, as under -

- (1) Bringing greater competition in those sectors where PSEs have monopoly, eg - SAIL.
- (2) Monetizing other assets of PSEs. eg - vacant land
- (3) Non-price revenue measures eg - Advertising and leasing out vacant land, etc
- (4) Greater managerial autonomy

The Mini Ratna and Maharatna Status were given to give greater autonomy to CPSEs

for better to borrowing from  
abroad; raising capital, etc.

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 कंपनियों का कोई कानूनी रूप से परिभाषित है और न ही उनके विषय में उचित समझ है। हाल के घटनाक्रमों, व्याम (प्रचलित) समझ और शेल कंपनियों से प्रभावी ढंग में निपटारे हेतु आवश्यक कदमों के आलोक में विश्लेषण कीजिए।

Shell companies are entities which undertake very little physical operations or manufacturing but are involved in —

- (1) Money laundering
- (2) Tax evasion
- (3) Financial frauds.

In the absence of a legal definition, these have proliferated. The government has recently undertaken steps to deal with them, as follows —

- (1) Defining the Place of Effective Management (POEM)

for taxation.

- (2) Mulling the option of notifying GAAR.
- (3) ED ~~and~~ CBI, RBI and SEBI have instigated inquiries and raids into suspected shell firms, after demonetization.
- (4) ~~Entering in~~ Modifying the DTAs with Cyprus and Singapore to prevent tax evasion by shell firms.

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, as per MSME Act, are those that have investments of less than ₹ 10 crore.

### Advantages of SMEs

- (1) They have highest job generation potential per rupee of investment
- (2) They employ women and marginalized sections (eg SC/ST) and can bring inclusive development
- (3) They ~~are~~ are export earners.

Hence, there is a need to focus on SMEs.

Challenges faced by SMEs

- (1) Stiff competition from MNCs and larger firms
- (2) Lack of a skilled workforce
- (3) Lack of access to formal credit.
- (4) Absence of marketing.
- (5) Inability to reap economies of scale.

Measures taken by government

- (1) Defence Procurement Policy has preference for 'Buy Indian'. Similarly, Defence, Production Policy.
- (2) Priority sector lending to SMEs.
- (3) Providing concessionary credit and refinancing through MUDRA, SIDBI, etc.
- (4) Developing a skilled labour force through Skill India.

(5) Using e-governance and Digital India to ease regulatory hurdles

(6) ~~Developing~~ Marketing of India Handloom Brand and Zero Effect Zero Defect (ZED) Scheme.

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 मुद्दों पर चर्चा कीजिए।

Industrial labour is getting informalized ever since 1991 reforms.

Some reasons -

- (1) Rigid labour laws makes it difficult to hire and fire permanent workers. So, firms resort to contractual labour.
- (2) Big firms are resorting to automation, ~~is~~. So, most workers pushed to the informal sector.
- (3) Most of the growth has taken place in services, where employment elasticity is low.
- (4) Lack of skills is forcing workers unemployable in Hi-skilled industries making

As a result, nearly 92% of our workforce is in the informal sector.

### Associated problems -

- (1) Lack of gainful employment to labour.
- (2) Absence of skill development.
- (3) Increasing vulnerabilities from lack of social security, etc.

### Reforms needed

- (1) Improve labour laws like IDA, 1947, Factories Act 1948, etc.  
The 4 Labour Codes introduced recently is a right step.
- (2) Invest in skill training and apprenticeship like Skill India and Apprenticeship Promotion Scheme.

- (3) Facilitate Ease of Doing Business  
and focus on manufacturing.  
Make in India is a good step.
- (4) Provide a robust innovation  
and start-up ecosystem  
under Start-up India.
- (5) Provide portability of social  
security and accident insurance  
to workers.

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।

↳ The energy space has new developments recently, ~~as~~ with both global and local developments, as below -

(1) Global space

- (a) ~~Low~~ Increased production from shale gas leading to low crude oil prices.
- (b) Greater push towards renewable energy
- (c) Increased financing of renewable and efficient energy using Green Bonds, Green Climate Fund, etc.

(2) Local space

- (a) Discovery of gas hydrates in Krishna - Godavari Basin.

- (b) ~~Go~~ Greater production of coal  
and coal bed methane.
- (c) Lowest tariff for solar power  
at ₹ 2 per kwh in Rewa solar  
plant
- (d) ~~AA~~ Development of green bonds  
in the Indian market.

Clearly, these developments have to  
be reflected in India's energy policy.  
Some things have been incorporated  
as -

- (1) Greater reliance on US for shale  
gas.
- (2) Creating strategic pet crude reserves  
in Padur, Mangalore, etc.
- (3) Push towards renewable energy  
through National Solar Mission, etc

But a lot needs to be done, as -

- (1) Bringing more private players

(2) Greater trade in renewable energy certificates and green bonds.

The recently introduced Hydrocarbon Exploration & Licensing Policy is a Right step in this regard.

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।

The Indian IT-BPM industry has made a significant contribution to India and World economy as follows -

- (1) ~~It~~ It has fuelled services led growth of 8-9% of India post 1991
- (2) It is a major employer of skilled talent.
- (3) Major foreign exchange earner
- (4) Helps world businesses grow by providing cheap ~~an~~ but reliable talent pool

## Challenges

But in recent years, the sector has faced many challenges.

Services exports actually turned negative in 2016-17. Some reasons -

- (1) Increased competition from countries like China and Mexico
- (2) Protectionist policies, especially in the US, eg - H1 B visa restrictions.
- (3) ~~It~~ Domestically, it is facing problems like -
  - (a) Lack of skilled workforce.
  - (b) Absence of digital infrastructure
  - (c) Domestic market for IT-BPM sector still small.

(4) Increased automation and use of artificial intelligence (AI).

These challenges must be overcome. Steps like Digital India, M-SIPS, ~~SE~~ Service Exports from India Scheme, easing FDI flows are right steps.

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।

Multi-modal logistics and transport sector involves use of different modes use of transport like roadways, railways and airways, and logistics like ports, bus terminals railway stations, etc.

Advantages of this system

- (1) Greater synergy between the different sectors lowers transport costs.
- (2) Helps in unification of markets and achieves economies of scale.
- (3) Different regions can specialize based on comparative advantage.
- (4) ~~Helps~~ Improves ~~to~~ connectivity to the remote locations.

(5) These help in greater labour and capital flows.

Points (1) - (5) can make any economy competitive. So, it is especially relevant for India.

Steps taken by India in this regard.

- (1) Bharat Pariyojana
- (2) Sagarmala
- (3) Dedicated Freight Corridors
- (4) Development of Inland Waterways
- (5) Logistics Efficiency ~~and~~ and Enhancement Programme.
- (6) Use of RFID in ports and National Highway Toll Plazas.

These steps have helped India improve its rankings in the

Logistics Performance Index

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 सधाराणीय 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 माध्यम के रूप में जलवायु जोखिम बीमा की उपयोगिता पर चर्चा कीजिए।

Climate change, resulting from excessive greenhouse gas emissions and deforestation, has the following effects -

- (1) Highly erratic monsoons  
— frequent droughts and floods
- (2) Sea level rising rise and melting of glaciers, leading to drying of rivers and inundation of coastal plains.
- (3) Increased extreme events like heat waves

(4) Fall

All these effects lead to -

- (1) Falling agricultural yield affecting food security.

(2) Increased desertification and soil degradation.

(3) Increased water stress

(4) Greater natural calamities and costs of reconstruction.

Hence, they affect poorer sections more and perpetuate vicious cycle of poverty.

In this context, there is a need for climate risk insurance to mitigate the risks of climate change, ~~apart~~ especially for the poor.

~~Some benefits from this~~

Other ~~of~~ components of the climate management system could include -

(1) Early warning and forecasting.

- (2) Adhering to Sendai Principles on Disaster Risk Reduction.
- (3) Climate Smart Agriculture
- (4) Greater focus on renewables.

All ~~of~~ the above components must work in tandem to ensure better management.

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 विक्षेपण कीजिए कि किस प्रकार महिलाएं आपदा जोखिम प्रबंधन चक्र में अधिक प्रभावी भूमिका निभा सकती हैं।

Women are particularly vulnerable to natural disasters due to the following reasons —

- (1) In case of droughts, women have to travel far to get water.
- (2) Primary burden of food and water falls on women in a household.
- (3) In patriarchal society, ~~if~~ men capture most of the resources. During disasters, as resources become scarce, the problem becomes more acute.
- (4) Women also need to look after children.

Women can play a more effective role ~~is~~ in disaster risk management as follows —

on what steps to

- (1) They can teach children ~~to~~ take during disasters.  
↑
- (2) They can better manage finances, which can help tide over difficulties during disasters.
- (3) Women can organize into ~~SH~~ Self Help Groups (SHGs) to pool their savings and get access to disaster insurance.
- (4) They can also undertake community disaster management programmes, like constructing embankments, granaries, etc.

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।

Heat waves have become increasingly common in the world due to climate change. The WMO defines it as a period of temperatures ~~above~~ <sup>at</sup> of  $5^{\circ}\text{C}$  above average for 5 consecutive days.

- (1) Europe experienced one in 2003, leading to loss of 10000 lives.
- (2) ~~Ind~~ Indian states of Telangana and Andhra Pradesh witnessed significant deaths.

Thus, there is a greater need to focus on this disaster.

Accordingly, the National Disaster Management Authority (NDMA)

has brought out guidelines to deal with heat waves.

Some salient features of these guidelines are—

- (1) Early ~~is~~ forecasting and warning of heat waves.
- (2) ~~is~~ Greater information dissemination to the public through SMSes, ~~is~~ media, etc
- (3) Setting up heat wave treatment wings in all public hospitals.
- (4) Setting up water distribution outlets and shade centres along roads.
- (5) ~~is~~ Acclimatization of tourists to the local conditions.
- (6) Setting up emergency helpline and ambulance services.

Many governments have adopted these guidelines, like Odisha and Telangana and brought down the number of deaths due to heat waves.

14. While genome editing offers immense potential benefits in the area of healthcare, there are a lot of apprehensions regarding its use. Discuss.  
जहाँ, जीनोम एडिटिंग स्वास्थ्य सेवा के क्षेत्र में बहुत अधिक लाभ की संभावना प्रस्तुत करता है, वहीं उसके उपयोग के संबंध में काफी आशंकाएँ भी मौजूद हैं। चर्चा कीजिए।

Genome editing has become popular due to the invention of CRISPR Cas 9 gene editing technique

It involves cutting and inserting new genes or modifying existing ones to get desired results.

Potential benefits from genome editing in healthcare -

- (1) Can be used to cure genetic disorders like Down's Syndrome.
- (2) Mitochondrial gene therapy was used recently to remove disease causing genes mitochondrial genes from the embryo.
- (3) Can be used to treat cancers by restricting cell growth.

(4) Can edit the Yamanaka genes to reprogramme and reverse cell ageing.

(5) Enzyme and protein production can be controlled and new drugs can be made or their efficacy improved.

But some people raise apprehensions about gene editing, like -

- (1) Possibility of designer babies.
- (2) Can use this to kill or conduct biological warfare.

Thus, ~~there~~ is the following two things can be done -

- (1) Have a robust regulatory regime to ensure gene editing is done ethically.

(2) Make gene editing data  
public to give greater  
transparency and ~~fast~~ repose  
faith in the public.

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।

Supercomputers are computers with a very high computing power than ordinary computers.

Benefits from supercomputers

- (1) Weather forecasting
- (2) Particle Physics Experiments like LHC, ALICE, etc in CERN.
- (3) Space launches.
- (4) Defence analytics
- (5) Medical ~~see~~ science research.
- (6) ~~to~~ Private firms are increasingly using these to analyse Big Data and improve consumer choices.

## Objectives of National Supercomputing

Mission India a

- (1) To make ~~an~~ leader in production of supercomputers.
- (2) To build one of the fastest supercomputers.
- (3) To incentivize research in the production of supercomputers and also finance its production.
- (4) To use super-computers for use in various applications like the ones listed in previous page.

It seeks to achieve this by relying on the IITs and IISCs and in collaboration with foreign faculty and universities.

~~Re~~ The PARAM-ISHAN supercomputer  
launched recently is a product  
of this Mission.

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, क्रिप्टोकॉइनेसिने हाल ही में महत्वपूर्ण पकड़ स्थापित की है। चर्चा कीजिए।

Cryptocurrencies are virtual - digital currencies that run on computer algorithms using block chain technology. They have become popular in recent times, and many countries like US, Japan, etc accept it as a legal payment.

Reasons for its popularity

- (1) Encryption ensures that the transactions are secure.
- (2) Anonymous → as neither the buyer nor seller know each other.
- (3) Global currency → that transcends country boundaries.
- (4) Secure Security to the holder as there is no possibility of

demonetization .

Countries like India are mulling the option of regulating cryptocurrencies.

An ~~inter~~-ministerial committee is looking into the matter in India.

It has become a nightmare for regulators as -

- (1) Anonymity makes it difficult to keep track of transactions.
- (2) It can be used for money laundering and tax evasion.
- (3) Terrorist organizations, like ISIS and drug traffickers rely on this.
- (4) ~~It~~ It is prone to hacking and other cyber-security threats.

In this light, a proper  
policy on cryptocurrencies  
needs to be evolved.

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।

The Outer Space Treaty 1967 ensures-

- (a) Peaceful uses of outer space
- (b) Prevents militarization of space.
- (c) Prevents any country from making territorial claims in space.

It has been successful to a large extent in achieving the above ~~to~~ objectives:

But certain traditional challenges still remain —

- (1) Space debris have increased manifold.
- (2) Countries have launched many defence satellites, which can lead to militarization

Apart from these, new challenges have emerged like -

(1) Weaponization of space by US and China, and development of Anti-Satellite systems by them.

(2) Entry of private players like SpaceX and private ~~sat~~ astronauts.

(3) Entry of newer countries like India.

(4) Problems of nuclearization of the Korean peninsula and use of space by Kim Jong-Un for launching missiles.

Thus, ~~As~~ ~~there~~ is the existing Outer Space Treaty is ~~a~~ inadequate to deal with these challenges.

There is a need for a newer  
treaty to deal with them,  
and also make the International  
Space Station (ISS) more  
representative.

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।

The Armed Forces Special Powers Act (AFSPA) —

- (a) gives powers to armed forces to shoot and arrest and seize without warrant.
- (b) Immunity to personnel for acts done under AFSPA.

This Act has been repeatedly used in conflict regions in the country like the North East (NE) and Kashmir (J&K)

The Government, especially the Centre, has defended the Act arguing these powers are needed to deal with conflicts and insurgencies. It has been successful in Punjab, Tripura

and Assam, where insurgency has been declined or wiped out.

Many state governments have opposed the Act as it enables the Centre to declare an area as 'disturbed' without the concurrence of the State.

~~This~~ Tripura recently repealed the Act. The Centre accordingly has granted Assam and Manipur the power to continue the Act.

Local communities have always opposed the Act as-

- (1) Armed Forces use this immunity to commit excesses and human rights violations.
- (2) Further alienates the local population from the mainstream.

The Supreme Court recently removed the blanket immunity

Under AFSPA and ordered  
probe into Manipur 'Fake  
Encounters'. The 2nd ARC  
has also recommended the repeal  
of AFSPA.

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।

Challenges Indigenization of defence production involves & defence production by Indian firms.

Challenges faced

- (1) Lack of coherent policy.
- (2) Absence of private players like Boeing, Lockheed Martin of US.
- (3) Dearth of large capital required for setting up.
- (4) Absence of skilled workforce.
- (5) Inefficiency of public sector firms like DRDO, HAL.

Opportunities

- (1) Will save foreign exchange and make India self-reliant.
- (2) ~~He~~ Increase jobs.

- (3) Help in R&D and innovation
- (4) Can make India an exporter  
of defence equipments.
- (5) Meet the challenge from  
hostile neighbours, - China and  
Pakistan
- (6) Help in skill development.
- (7) Can lead to forward and  
backward linkages.

Steps taken by government -

- (1) Defence Procurement Policy  
gives preference to 'Buy Indian'
- (2) Strategic Partnership Model  
for Indian firms to enter  
into partnership with foreign  
OEMs.
- (3) Allowing 49% FDI into  
defence through automatic  
route

(4) Integrated Missile Development Programme of DRDO.

(5) Development of TEJAS,  
and other indigenous fighters,  
tanks, etc.

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 between the armed forces and civilian bureaucracy in recent years has been impeded by the following -

- (1) Non-Functional Upgrade
- (2) ~~More~~ Defence Ministry is staffed with civilian bureaucracy which is involved in defence purchases instead of defence personnel
- (3) Issues of pay parity as per the 7th CPC
- (4) One Rank One Pension (OROP)

These ~~can~~ lead to absence of cooperation and coordination in dealing with security issues especially internal security.

It ~~was~~ is seen that civilian authority has to frequently take help of armed forces for disasters, law and order problems, and insurgency.

In the absence of clear cut policy, ~~or~~ there is a lot of blame-game, bickering and time loss in responding to the situation.