



# VISION IAS

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GENERAL STUDIES (TEST CODE : 876)

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Medium Eng./Hindi	English	Registration Number	95371
Center	Online	Date	5 Oct '17

## 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).
- There are TWENTY questions printed in ENGLISH & HINDI.
- All questions are compulsory.
- The number of marks carried by a question/part is indicated against it.
- 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.
- Word limit in questions, if specified, should be adhered to.
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.

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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 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।

In order to improve its business environment and leverage its economy, India has taken a number of steps, including certain macro-economic structural changes.

1. Introduction of GST - one nation, one tax
2. Pushing digital economy -
3. e-Filing of all major forms for exports, imports
4. Bringing 4 labour codes to make compliance easier
5. Abolishing the Foreign Investment Promotion Board and liberalising FDI.
6. Sagarmala, Bharatmela & Setu Bharatam

projects to improve connectivity & logistics.

7. Establishment of National Industrial Corridor Development Investment Trust (NICDIT)

8. Make in India, MUDRA loans; Startup India

However, Despite these promising reforms the India rank in World Bank's ease of doing business report is a low 131.

Further steps need to be taken in this regard:-

1. Easing the policy rates to boost investment
2. Creation of more meaningful jobs
3. Reducing the gap between labour skill supply & demand by market oriented training.
4. Speeding up clearances for stuck projects
5. Strengthening the bond market for easier credit.

Efforts in this direction will further boost production and improve ease of doing business. These rankings such

- as
- Ease of Doing Business
  - Logistics Performance Index
  - Financial Stability Reports

play a vital role in attracting investment as they indicate a stable, conducive financial environment in comparison to other nations.

However, at times such rankings may not give a true picture due to low sample size, faulty methods. They also do not capture intra-state disparity.

→ To fix this, the NITI Aayog & RBI have been releasing their own indices for India to ensure prospective investors have a holistic picture of India.

Such an exercise further facilitates the creating of sound business environment through competitive federalism.

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।

Despite the success of the green revolution, it is said that there is a crisis that runs deep in agriculture:

- Farmers prone to price shocks with low insurance coverage and lack of real floor price for all commodities
- low production for ~~all~~ crops except rice, wheat
- lack of access to formal credit

Presently, the push to agriculture is production centric :-

- focus on subsidised inputs such as fertilisers and cheap electricity to boost production
- production to fill buffer stocks, even though at times the grain may rot & get wasted

Even in times of high production, the income realised by farmers may still be low as :-

1. Prices crash due to excess production
2. Minimum support price exists only for certain crops, and may not be paid at times.
3. Fragmentation of agricultural market. Some farmers are unable to sell their produce in mandi.
4. Low focus on processing to increase value of produce.

Therefore, the need is for income centric approach. It can be achieved by the following routes :-

1. Price Deficiency Payment to farmers if sale price falls below market price, as proposed by Economic Survey 2016-17.
2. e-NAM should be made more popular. Forwards contracts with a route to have third party verification of produce before sale.

3. More food processing parks with high quality export oriented products
4. Push to organic farming to cater the tastes of the elite who are willing to spend more on local produce.

Yet, a few challenges exist:-

1. All states have not implemented the latest Agriculture Produce Marketing Act, 2017
2. Size of farms is too small, and remains small due to prohibition of land leasing
3. Poor forward and backward linkages

Way forward:

A holistic development of farmers' lives must be done in order to double their incomes by 2022. The objectives of National Policy on Farmers, 2007, can be kept in mind to achieve the same.



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 बजट प्रबंधन अधिनियम पर एन. के. सिंह पैनल की प्रमुख अनुशंसाओं को सूचीबद्ध कीजिए।

The Constitution mandates distribution of revenue between Center and States. Earlier, the center used to have a share way larger than the States, making Center as the fiscal focal point.

Yet, post the 14<sup>th</sup> Finance Commission recommendations, the share of revenue to be devolved to the States has been greatly increased. Now, States get 42% of grants, making them the fiscal center.

Other reasons are also at play in making States the fiscal center :-

1. With the passing of the goods & services tax, the states have gained a greater role in fiscal federalism.

2. Due to rising urbanisation, the States propensity to spend on city infrastructure has increased. Municipal bonds are being mooted. This entails placing checks on State fiscal deficit.

3. States often announce massive loan waivers, which again adds to their fiscal deficit

4. States are stressed over payments under the UDAY (Ujwal Discom Assurance Yojana).

In light of these factors, States have acquired a greater role. At the same time,

- the role of Center remains paramount
- the Center's fiscal discipline sets standards for the States to emulate.

The recent NK Singh committee was formed to discuss fiscal

discipline. Its key recommendations are:-

1. The Fiscal RBM Act must be replaced with a Debt monitoring law.
2. It stresses that instead of an overall target for the nation, the fiscal target should include the States too. It  $\therefore$  should be 6%. (3% for Center & 3% for States)
3. Having a glide path towards fiscal stability with a 2% reduction every year, to reach 2.5% by 2022.

Way ahead:

The rising role of states in fiscal management is rightly emphasised by the NK Singh report. The FRBM Act must be suitably reviewed in this regard.

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 disinvestment in which the government's stake sale is more than 51%. The government no longer retains majority ownership but instead becomes a minority shareholder.

Every year, the government fixes some disinvestment targets. The exercise is favourable as :-

1. Privatisation of PSEs increases their productiveness as new management & work culture is brought about.
2. It reduces the burden on government and increases its assets, thereby being beneficial for fiscal consolidation.
3. The money earned from disinvestment goes into the National Investment.

Fund, from where they can be routed for infrastructure projects.

4. The flab cutting overall promotes good governance and increases efficiency.

At the same time, it has a few drawbacks:-

1. The privatised firms work with a profit-motive. This may affect supply of goods & services at subsidised rates.

2. Newly privatised firms may suffer from mismanagement, forcing them to go sick and wind down.

As per the NITI Aayog strategic sale must be favoured. The government should retain ownership only where it is absolutely necessary for it to do so.

In light of these suggestions, the

following measures can be taken:-

1. Identification of loss making PSEs, and assessing whether it is prudent to keep them afloat.
2. Wind down PSEs which are no longer needed.
3. Other PSEs may be privatised and only the ones in strategic sectors such as defence may be kept with government control.

Way ahead:

Disinvestment is a beneficial exercise, which must be harnessed well:-

- a) The proceeds must be used for capital-generating activities
- b) The process must be made quicker and not remain stuck.

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।

Shell companies are those which do not carry out any business or productive activity. Instead, they only exist to route money to avail tax concessions in either tax havens or domestically.

In India, there is no specific provision on shell company. It can be incorporated as a regular company. It is delisted from the register of companies only upon being found by investigation to be a shell company.

Recent developments :-

1. Shell companies were delisted after demonetisation exercise and income tax department revealed their

activities .

2. Many shell companies were named in the Panama papers.
3. Most of the foreign direct investment into India comes from Singapore, presumably through shell companies

To ensure that shell companies do not continue evading and avoiding tax by routing money elsewhere, the following steps are needed:-

1. Stringent due diligence measures by Indian Corporate law Service officers before incorporating a company.
2. Constant check on firms that appear to be engaging in routing of money
3. Bringing out a law that deals specifically with all aspects



of shell companies, like the Benami Transactions law.

4. Cooperating with Foreign Action Task Force, the Serious Fraud Investigations office to effectively investigate & identify shell companies
5. Publicly naming the promoters of shell cos.

Such measures, among others, can help reduce the present large number of shell companies present.

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।

It is said that with a rising demographic dividend and competitive labour advantage, manufacturing sector is set to power our economy for the coming decades.

Majority of manufacturing units in India are small or medium, the reason being:-

1. lower cost of operations
2. lower requirement of adhering to stringent labour norms
3. higher tax concessions.

Further, they are necessary to involve a larger population as:

1. They are geographically more spread out as opposed to clustered large industries.

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2. They can be easily set up.

A little investment spurs economic growth in a sustainable manner.

3. They usually require low skill workers, therefore absorbing even those without a higher education qualification.

Yet, some challenges remain :-

1. Poor access to credit.
2. low insurance coverage to protect from losses
3. lack of modern equipment & technology
4. Competition from cheaper imported items
5. logistics issues in sending goods to market

To fix these issues, the government has taken certain measures :-

1. Introducing MUDRA loans for easy access.

2. Skill India mission to train workers.
3. Stand up India to boost greenfield ventures by SC/ST
4. Imposing import duties on cheap imports
5. Public procurement order to procure goods upto 50 lacs from Indian manufacturers
6. Bharatmala, Sagarmala and Setu Bharatam projects to boost logistical connectivity → India has increased its position in Logistics Index of World Bank
7. New National Energy Policy's focus on cheap electricity for manufacturing sectors.

Therefore, these measures will certainly enable India to gallop to high growth on the back of its manufacturing sector.



informal sector than the formal sector.

4. loss making industries leading to labour lay offs and retrenchment

Due to this phenomenon, certain issues emerge:-

1. The informal sector workers lack access to many social security benefits such as

- provident fund
- pensions
- medical allowance
- Benefits under Maternity Benefits Act & Prevention of Sexual Harassment at Workplaces Act

2. The informal labour is more prone to price shocks caused by inflation.

3. The poor job security often leads to migration & cyclical

unemployment

4. Due to low labour force participation rate in the formal sector, the figures of economic data are not fully accurate as the data for informal sector is projected using secondary parameters.

Reforms required :-

1. The rest of formalisation should be reduced as presently many firms are stuck at 9 workers deliberately.
2. Better tax rates that ease compliance
3. Skilling labour under Skill India mission to improve participation rate in formal sector

The formalisation of our economy is necessary to ensure sustainable growth.

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।

With the advent of Sustainable Development Goals, one of which is Goal 7 access to clean energy, it is imperative to have improvements in energy supply & procurement.

Developments in the local & global sphere:-

1. Push to renewable sources of energy
2. Reduced reliance on coal power
3. Discovery of shale gas, methane hydrates as unconventional sources of energy
4. Setting up of international solar alliance.
5. Signing of the Paris Agreement on Climate Change.



Our own energy policy framework is reflecting these changes :-

1. Push to renewable energy (175 GW by 2022)
2. Incentivising ~~renewable~~ <sup>electric</sup> vehicles under the National Action Plan on Climate Change
3. Integrating the regular grid with the green grid
4. Introduction of green bonds
5. The National Electricity Plan 2016 says that no new thermal power plants needed till 2040.

At the same time, our energy policy recognises the historical bias in coal usage by developed countries. Using common but differentiated responsibility principle, our energy policy is practical :-

1. Around 2 crore households still lack access to electricity
2. Coal is the cheapest source

of power  
3. For houses using biomass based fuel, even coal & oil based power is a blessing.

Keeping these factors in mind, the Draft National Energy Policy emphasises coal power to boost Indian economy.

Therefore, our energy policy has the right elements of progressive developments, even as it realises that India is differently placed than the West and cannot blindly follow their lead.

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 comprises of a multitude of service providing firms that carry out transnational work. It is the backbone behind the rapid rise of the service sector's contribution to GDP.

Impact of IT-BPM on India:-

1. Highly remunerative jobs for skilled Indians
2. Development of Bangalore, Gurgaon as hubs of IT space
3. Increase in Foreign Direct Investment in India
4. Push to higher education and soft skills training such as English language which are in demand
5. Increased integration of India with the global economy.

For the world, the impact has been positive too :-

1. Cheaper avenue for setting up back end operations in India by MNCs
2. Movement of foreign workers in India, and Indians abroad
3. Increase in world image of India as an IT powerhouse.

However, presently the sector is facing a host of challenges:-

1. Increased automation in the West reduces the need for specific back end operations to be outsourced
2. The quality of Indians being churned out of engineering and technical institutions is falling, and often skills do not match the market demand
3. Emergence of other low cost IT hubs in the world, coupled with stringent labour laws makes India

lose its competitive streak ,

4. Restrictions on visa imposed by major service receivers such as USA.

To conclude,

• the Indian information technology sector is now even more relevant in the present digital age

• operations could be diversified to rural area solutions to ensure firms remain profitable even if foreign investment stops

• India's efforts towards having a Trade Facilitation in Services agreement are encouraging steps for the sector.

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।

As per the Economic Survey 2016-17, inter state and intra state trade within India is higher than trade with other countries. To further augment our trading capacities, it is necessary to have an effective transport & logistics sector:-

1. This will help build a seamless connectivity of backward and forward linkages.

2. The reach of products will be increased.

3. Integration of Sagarmala's export zones with dedicated freight corridors and Road linkages with Bharatmala project.

4. Signing of the TIR convention

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on customs will make cross-border road trade more easy.

5. Development of waterways inland under National Waterways Act will help harness river resources

6. The trade facilitation agreement will further boost exports.

7. The National Investment Council for Development of Infrastructure Trust [NICDIT] and its identified 5 industrial corridors will help promote integrated development.

Presently, a major complaint of manufacturers, exporters and importers alike is that reaching the hinterland of the country is difficult.

With the above mentioned steps

that have been taken, multi-model model of transportation will gain ground.

↳ Integration and cooperative working of various ministries is vital in this regard.

→ It will boost the Make in India idea.

→ It will further raise India's ranking on the logistics performance Index.

Challenges:

- Boosting production of industries itself
- High costs of land acquisition and slow regulatory clearances

By addressing these challenges, we can effectively harness the potential our geography offers to us.



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 संघारणीय 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 has various negative effects:-

1. on sustainable development
  - ↳ loss of species of biodiversity can alter patterns forever.
  - Earth's capacity to tackle the harms of development gets progressively reduced.
2. Socio-economic development
  - ↳ agriculture productivity is hit
  - ↳ health & consequently economic output is affected
3. Poverty
  - ↳ As more people become vulnerable, poverty becomes commonplace.

To ensure better adaptation and management of climate change which is already upon us, climate insurance has been proposed.

India has one of the lowest insurance coverage percentage at 3%. Climate risk insurance forms a minuscule part of it, and is focused in agriculture.

A comprehensive climate risk management system will involve making arrangements to increase resilience and increase adaptability with an integrated approach.

↳ Climate risk insurance is relevant to achieve this end as:-

1. Will help tide over un-expected losses due to heat waves, cold waves, excess rainfall
2. In setting the terms of such insurance, more research will be done which will increase our understanding of climate change
3. By paying a premium for such insurance, people will see the real cost of climate change and be pushed towards taking more

sustainable life choices in energy use

However, climate risk insurance cannot be a panacea, as it can only save from the loss caused but not prevent the loss itself.

Way forward:

- Comprehensive climate risk management should be achieved through
- Green Building Norms
  - Faster Adoption of Manufacture in Electric Vehicles (FAME scheme)
  - Shift to renewable energy
  - A bottom up approach involving the community to help realise Intended Nationally Determined Contributions under Paris Agreement.

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।

More often than not, when a disaster strikes, women & children form the majority of casualties. The reasons for vulnerability of women could be:-

1. Biological factors → If women are pregnant, it hinders quick evacuation.
2. Economic factors → Due to low labour force participation rate of women, they are more likely to be present in home during disaster. Men who are in fields working or in large sturdy factories are saved as the structure does not collapse on them.
3. Their vulnerability is also high due to factors of dependance. If they lose an earning member, it is more difficult for them to restart their lives.

In the recently released National Disaster Management Plan, 2016, the vulnerability of women to national disasters has been identified.

↳ Steps to quicken evacuation of women have been identified.

↳ It calls for surveying pockets, before the disaster strikes, to identify pockets of high women vulnerability.

↳ Meaningful relief and rehabilitation of women post disaster to help them lead more secure lives.

Role of women in effective disaster management cycle:-

1. Selecting community women leaders to disseminate information of the response plan in the event of disaster.
2. Empowering women to conduct risk assessment surveys.
3. Educating women to maintain sufficient stock of essential.

provision in a safe space for when  
disaster strikes...

4. Role of women administrators in  
securing from disasters by effective  
planning
5. Women health personnel and doctors  
for post disaster care
6. Any intervention aimed at women  
will lead to better conditions  
for the children too.

To conclude, the role of women in  
the cycle of disaster management is  
crucial. It must be managed &  
harnessed well, in line with the  
sustainable development goals.

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।

With rising climate change, temperatures across the world have been increasing. India recorded the warmest year in 2016 from 1901. Heat waves are becoming common in Odisha, Rajasthan, Gujarat and other States.

The consequences of heat waves are many: -

1. Disorientation, loss of consciousness
2. Deaths of persons & animals
3. Drying up of water bodies

However, most of the effects of heat waves are preventable by taking simple policy steps.

Recently, the National Disaster Management Authority released

## Guidelines on Prevention & Mitigation of Heat Waves, 2017.

↳ These guidelines provide a blueprint to reduce the adverse affects of heat waves :-

1. Early warning system by relaying Indian Meterological Department data to citizens
2. Identifying and surveying pockets most prone to high temperatures
3. Increased coordination between authorities
4. Having specialised medical professionals trained in treating heat related sickness
5. Immediate measures such as :-
  - a) closing down schools during high heat periods
  - b) opening parks to provide shade to the needy
  - c) ordering no construction and



outdoor activities between 12-4pm

- d) Improving access to water in public places
- e) Distribution of ORS

These simple steps go a long way in reducing heat strokes & deaths.

In Odisha, where temperatures touched  $48^{\circ}\text{C}$  this summer, one district had no deaths due to implementation of risk reduction measures.

To conclude, heat waves are going to become more commonplace. Ensuring effective implementation of these guidelines is of paramount importance.

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 tool of biotechnology whereby the chromosomes containing the genetic material of a ~~person~~ living being can be modified to further a variety of objectives.

Recent techniques such as CRISPR-Cas9 molecular scissor genome editing have increased the utility of genome editing. Its benefits include :-

1. Health: Genome editing can be used to remove any genetic hereditary defects from embryos to produce healthy babies. Improved drugs.
2. Economics: It can be used to produce climate resilient crops and livestock.
3. Research: By performing genome editing, a better understanding

of human genetics can be obtained

4. Elimination of illness, defects from many living organisms

At the same time, there are many apprehensions :-

1. Genome editing can be used to produce modelled babies, which is not only unethical but can also backfire if it goes wrong
2. The genome editing can cause health complications later in life
3. The effect of genome edited crops such as BT-crops is not fully established to be beneficial
4. If the technology falls in the hands of non-state belligerent groups, it can result in misuse and creation of unnatural organisms

Way ahead:

- The benefits of genome editing are many.
- while we must give a push to this field by harnessing the talent pool of IISc of our country adequate safeguards and guidelines must be framed by the Genetic Engineering Approval Committee to ensure its safety.
- Bioassaying should be done to analyse possible harmful effects.

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 refer to computers which have higher computational powers than ordinary computers. Supercomputers have played a major role in mankind's evolution

1. Significance in space missions
2. Big data analytics can be performed
3. Creation of foolproof security programme codes
4. Boost to research by discoveries such as Higgs Boson powered by supercomputers.

Realising the importance of super computing, the National Supercomputing

Mission was launched recently. It aims at

- creating a national super computer grid linking various supercomputer hubs
- these hubs will be located in IITs and IISc.
- connection through a high speed network, resulting in the creation of a National Knowledge Network.
- creation of a class of highly skilled persons in the field of supercomputing
- production of supercomputers & sub-components in India to boost the Make in India mission

Through this mechanism, the Mission aims to achieve the objective of:-

- 1) Further increasing India's

stronghold in the field of  
information technology

2) Creating a niche field to  
attract young Indians. This  
will further help reduce the brain  
drain from India.

To conclude, the National Supercomputer  
Mission is a great step forward  
for the scientific progress of our  
country.

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

The development of Bitcoin by the anonymous Satoshi Nakamoto in 2009 led to proliferation of various cryptocurrencies.

Cryptocurrencies are cryptography backed alternate investment options. They are being favoured as:-

1. Give the owner full control over one's money due to no central regulation
2. Saved from regulatory shocks such as demonetisation
3. Transaction of cryptocurrency using blockchain creates a very transparent and safe option.
4. High value in present market conditions coupled with easy



liquidity

This is creating a regulatory nightmare as:-

1. It creates a parallel money economy outside the control of government.
2. Can be used for black money hoarding & funding terror operations
3. Most countries except China & Japan do not have a regulatory framework in place
4. The cross border nature of transactions makes regulation difficult.

Way forward:

- Despite their high volatility, Bitcoins are here to remain.
- It would be prudent to regulate Bitcoins and other cryptocurrencies

to ensure they do not enjoy a free run.

- RBI's decision to regulate ~~bitcoin~~ cryptocurrency, and launch of lakhni as India's bitcoin currency are appreciable steps in this regard.

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।

In light of the Space Race that followed the launch of Sputnik satellite by the USSR, there were increased fears about the colonisation & nuclearisation of outer space.

↳ This led to the Outer Space Treaty of 1967, which declares space as global commons and mandates its use for peaceful purposes only.

Presently, the Outer Space Treaty seems outdated due to:-

- low number of signatories
- weak structure with no enforcement mechanism
- does not account for space pollution caused by space debris

• due to rising private investments in Space by Elon Musk's SpaceX and the Indus Team of India, it is necessary to have a framework that binds private parties too.

Therefore, a new convention on the lines of Paris Treaty is necessitated

→ Such an agreement should be visionary and must account for flexibility due to increased propensity for fast technological developments.

→ The developing countries should be given a greater voice in formulating this treaty

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 AFSPA is a special legislation that applies to conflict ridden areas. Seen as a mode of upholding law and order, it gives wide powers to armed forces stationed in such areas to:-

1. shoot a person on sight if any suspicion arises
2. enter and search any area or private home
3. protection to armed forces from prosecution for their acts.

AFSPA has been supported as:-

- It helps uphold the authority of the State
- Force is needed to curb violent and often secessionist movements

- It boosts the morale of armed forces and ensures discipline
- That enough instructions are given to the forces to use minimal force

At the same time, the use of AFSPA has been widely resisted :-

1. The Supreme Court in a recent case held the killings of young men by armed forces in Manipur to be extra judicial killings & murders
2. The local communities have constantly staged protests as some members of the forces misuse their powers to enter homes and rape women.
3. AFSPA further fuels local anger towards the government due to various injustices committed.
4. In many states, AFSPA has been applicable 'indefinitely' and

is not revoked. even if the situation normalises.

### Way ahead:

- It is the duty of the State to control violent insurgencies.

- However, the AFSPA must be reviewed to give way to an approach which

→ is conciliatory towards locals

→ gives indicators to distinguish between insurgents & local population

→ uses minimal use of force, only when no recourse to judicial route is available.

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।

Various committees formed for the defence sector, with Lt. Gen. Shekhar Committee being the latest, have focused on the need to push for indigenisation of production.

↳ It is said that India does not have even a rifle that it can call its own.

→ The challenges include :-

- Signify of multiple defence deals with other nations to boost diplomacy
- Corruption and slow approvals with high delays and cost overruns in the indigenous sector
- Lack of faith by some in DRDO's capabilities.
- Excessive bureaucratisation of



DRDO and the Defence Ministry due to which it does not enjoy the same level of freedom as ISRO.

There are many opportunities in this regard:-

1. India has the advantage of a large number of STEM subject graduates who can be used
2. The private sector is willing to participate in defence manufacturing
3. Limited technology transfer agreements with nations such as Israel have borne fruit

Recently, the government launched the Strategic Partnership Framework for the Defence Sector to boost production

↳ Contracts will be provided to private companies to work with original equipment manufacturers and

produce defence equipment at home

- Technology transfer deals being signed
- Increased domestic procurement is on the agenda of the revamped Defence Ministry

Way forward :-

- DRDO could be overhauled & made separate from the Ministry of Defence, and made to report directly to the Prime Minister's office like ISRO to improve efficiency & independence.
- A career in DRDO should be advertised for youth participation

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।

of late, multiple articles have been written by both the armed forces and civilian bureaucracy, each pointing fingers at the other for India's defence sector woes.

While the civilian bureaucracy claims that :-

1. Their administrative expertise is required for operations
2. Separation of powers entails them to be a connecting link between the forces and the Ministry;

the Armed Forces claim that :-

1. The civilian bureaucrats often lack domain expertise to make efficient choices
2. Instead of actual meetings, file notings take place leading to delay.

This conflict does not bode well for our strategic vision. The current world scenario requires effective cooperation within our country to have a strategic vision.

Steps that need to be taken:-

- The senior ministers should consult both the sides and resolve grievances at the earliest.
- The permanent chairman of the Chief of Staff Committee should be appointed to improve communication.
- The bureaucrats occupying top posts in the Ministry of Defence could be given brief training and longer tenures in the post to effectively take well-informed decisions.
- The recently released Joint Armed Forces Doctrine 2017

must be implemented in spirit

To conclude, our country has one of the best bureaucrats, and a highly integrity based military. It is necessary to work cooperatively in the interest of nation by harnessing skills of both.