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GENERAL STUDIES (TEST CODE : 876)

Name of Candidate	XXXX NAVNEET MANN		
Medium Eng./Hindi	ENG.	Registration Number	36473
Center	ORN	Date	1/10/17

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	- 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।
1	12.5		
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19	12.5		
20	12.5		
Total Marks Obtained:			
Remarks:			

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.

जहाँ, 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 is ranked at 130th position in the latest World Bank's 'Ease of Doing Business' Index Ranking.

India since the past few years has taken multiple steps to improve the ranking by providing easier clearances, promoting public private partnerships, inter-ministerial coordinations, efforts to cut red tape.

→ However, further action is needed to drastically bring a change as -

- since the last year when India was ranked at 131st position, we have shown only a single-position ascend
- the goal of entering in the Top50 by 2018 remains all the more elusive
- In this respect, further action can be introduced in the form of 3
 - getting advice and opinion from external consultants and expert houses
 - learning from Georgia which in a couple of years jumped from rank 100 to 16
 - improving 'ease of doing business' in states (which the government is through the NITI Aayog state wise ranking)

→ These ranking hold much utility in facilitating a sound entrepreneurship environment in India :

- serves as a parameters of ease availability of getting electricity, enforcement of contracts, registration of ~~proper~~ property, etc.
- a good rank will promote FDI

→ However, many do question the utility of focussing on the rank as:

- it takes into account the reforms only in Delhi and Mumbai, not the states
- the latest ranking didn't take into account the Bankruptcy code, GST
- it isn't apt to judge the developed and developing nations on the same parameters..
- India still is one of the top FDI destination despite poor ranking.

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।

* India presently follows a production-centric approach for agricultural policy rather than an income-centric approach. This means the minimum support price (MSP) is production-centric.

A need for shifting to an income-centric approach is advocated because:

- the production-centric approach has led to crop-distortion patterns foreg- wheat, rice are excessively sown due to a favourable MSP policy
- production centric cultivation has led to land, soil degradation as crops

are sown where they are geographically unsuited for

- high leakages exist, many marginal farmers aren't even aware about the MSP policy
- high fiscal burden of government
- production-centric approach may lead to food inflation
- food-wastage is possible for crops with favourable MSP policy.

* In order to double farmer incomes by 2022, following steps may be taken:

- a more effective procurement policy and pricing policy
- ~~also~~ encouraging animal husbandry, aquaculture as additional sources of income
- creation of fund for providing compensation in case of disasters, natural calamities (M.S. Subramanian Comm-
ission)

- effective marketing policy
- promotion of cultivation based on agro-climatic zones

* However following challenges exist in doubling farmer incomes by 2022:

- low productivity of land, ^{even} lower than world average
- fragmented land holdings
- lack of adequate land reforms
- lack of adequate forward and backward linkages
- minimal focus on agricultural research ($< 1\%$ of agri-GDP)
- climate change
- cereal-centric production

Therefore, these challenges need to be overcome in order to substantially improve the condition of farmers

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।

Since 1947, India's fiscal centre of gravity has gravitated from the centre towards the states.

→ Until 1991 : under the 'mixed economy' regime with planning at forefront, states had ~~little~~ ^{little} say in fiscal matters, fiscal prudence was not a consideration.

→ 1991 - 2003 : As the Centre 'rolled back' after the LPG Reforms, states got more prominence in fiscal matters.

→ 2003 - present :

- The FRBM Act was enacted in 2003.
- Similar state-wise laws were

also enacted

- within a few years states were able to control their fiscal deficit and even wipe out the revenue deficit and exercised fiscal prudence
- states undertook various reforms like rationalisation of salaries and wages, pragmatism in Budget, reducing off-Budget expenditure.

Thus over the years, the fiscal centre of gravity has shifted towards the states which have also ensured fiscal prudence.

In this respect the recommendations of the N.K. Singh Panel seem to be insightful. It recommends —

- flexibility in reaching 3% to GDP Fiscal Deficit target
- replacing the FRBM Act with a newer act for the 21st century India
- relaxation of norms in matters of national security, calamities, emergency, disasters
- form an Independent fiscal Council to monitor Centre's budgetary targets
- instead of fiscal deficit, debt as % of GDP should be considered.
- debt as % of GDP should $\leq 60\%$ by 2023.

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 of state-run firms

involves selling off a portion of the stakes of the government in the private sector ~~without~~ relinquishing government's ownership.

Strategic sale is a prudent step to tackle the various challenges faced by the PSUs in the form of

- stagnation
- lack of innovation
- dwindling profit share and market-share

- increased competition from ~~market~~ ~~other~~ private leaders
- lack of effective autonomy to take decisions
- many PSUs turning into "white elephants".

Thus, strategic sale will ensure that PSUs can:

- function more independently
- work with greater competitiveness
- enhance innovation
- also be seen as a medium to raise capital by the government which could be ~~invested~~ ^{invested} by the government for raising potential of PSUs.

(PTO →)

In this respect, the NITI Aayog has made a number of recommendations in favour of strategic sale of PSUs which are not performing up to the mark.

NITI Aayog had recommended strategic sale of around 90 Public firms and shutdown of around 20 public firms.

Other measures include :

- adequate use of National Innovation Fund to promote innovation in PSUs
- linking PSUs with MSMEs so that latter can use expertise, resources of former
- PSUs may lend excess, unused land to private firms especially startups, small industry

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 appear prima facie as genuine companies
but in reality only serve as a cloak to hide an illegal business or hide laundered money or to evade taxes.

Shell companies are neither legally defined or properly understood. The Companies Act 2013 itself falls short of effectively dealing with the issue of shell companies.

In this context, recent developments

have once again brought to light the issue of shell companies. These include :

- Recent exercise of Centre to "name and shame" owners of shell companies by publically disclosing their names
- demonetisation exercise exposed the prevalent web of shell companies
- the recent Rodavally scandal.

Thus, there is a need to bring a paradigm shift in our understanding

of shell companies. They pose great danger as they promote:

- money laundering
- black money
- corruption
- tax evasion, avoidance

- even terror financing
- narrows down tax base
- lowers down tax revenue.

In this context, following steps can be taken :

- use of data mining techniques to identify outliers (Project Insight)
- simplify tax laws and tax filing
- make tax administration more robust and efficient
- GST goes a step ahead in tackling the issue
- amend Companies Act 2013 to deal with shell companies.

Thus, shell companies need to be exposed. Only when this issue is resolved, India will ~~emerge~~ emerge as 'clean'; free from black money.

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।

The Indian economy in reality is predominated by the SMEs.

SMEs are smaller than larger industrial firms with respect to the investment made and the operations ~~into~~ involved.

SMEs offers a way for a larger population to be involved in the economy in a big way as -

- SMEs are major contributors to our economy's manufacturing output
- instead of mechanized processes, SMEs rely on manual labour force, thus can provide higher employment

opportunities

- the nature and reach of SME is vast and extensive ranging from agri-based cottage industries to mini steel plants. Thus, SME can incorporate all from rural to urban areas.

However, the SME face certain challenges in India :

- competition from larger, professional firms
- lack of tax concession, rebates from government
- inadequate innovation, R&D
- poor access to funding
- lack of adequate infrastructure

In this context, the government has taken following measures :

- MUDRA Bank for access to adequate financing
- tax concessions, ^(upto 15%) rebates for SME functioning as limited liability companies in Budget 2017-18
- Zero Effect Zero Defect scheme to create world class, high quality products
- New Public Procurement Policy 2017 which encourages procurement from local sources, and provides for reciprocity principle for other countries

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।

Informalisation of industrial labour refers to increasingly higher proportion of the population being employed in the informal sector rather than the formal sector. At present, more than 92% of the workers in India are employed in the informal sector.

→ Reasons for growing informal labour:

→ prevalence of capital-intensive rather than labour intensive industries

→ weak manufacturing, industrial infrastructure

- lack of adequate skills with changing times
- lack of labour laws reforms due to which employers themselves favour informal labour
- spatial mismatch between jobs and workers
- rolling back of state
- lack of effective public investment in creating adequate number of formal jobs
- The issues associated are:
 - * workers :
 - get poor wages, salaries
 - no social security benefits
 - lack of a formal job, creates problems in access to credit

* employers : even though enjoy short term benefit, but are not able to develop industry-specific human capital in the long run

* nation : • contributed of informal workers to national income goes ~~unassessed~~

• becomes difficult in assessing minimum wages

→ following reforms are required :

- Skill development of workers
(eg - PM Kaushal Vikas Yojana, Skill India Campaign)

- enhance public investment in labour intensive industries

(eg - Rs 6000 cr package for Textile Industry)

- government should provide incentives to employers to hire more employees
(eg - by paying EPF's contribution of employers)

- reforming ~~the~~ labour laws

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।

Presently, India's energy contribution matrix can be seen as follows:

Energy Source	%age contribution
→ coal	60%
→ Renewable Energy	16%
→ hydropower	14%
→ Gas	~8%
→ nuclear	1.8% 1.8%
→ others	< 0.2%

Far reaching developments have taken place in the recent times both in global space and local space, both of which should be reflected in our energy mix.

GLOBAL DEVELOPMENTS :

- increased aversion to use of coal since Paris Agreement
- use of shale gas in USA
- stagnancy in the use of nuclear energy
- increased use of sources of renewable energy

LOCAL DEVELOPMENTS :

- fall in prices of solar and wind energy

- discovery of methane hydrates
- use of unconventional sources of energy like coal bed methane, biofuels .

In this respect, India's energy mix should :

- emphasise on increasing contribution of Renewable energy
- reducing coal dependence
- a prudent approach towards use of nuclear energy should be adopted
- also include diversified energy imports (eg- shale gas from USA)

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।

India's IT-BPM industry has emerged as a world leader in the IT industry.

Its impact on the world and India has been profound.

→ IMPACT ON INDIA :

- major contributor to GDP growth, Service sector's contribution to GDP is 65%.
- attracts FDI
- increased foreign exchange, remittances
- jobs to the Indian youth

→ IMPACT ON THE WORLD:

- provides jobs to people from USA to Latin America to Africa
- has emerged as an indispensible partner for firms abroad for the services they ~~at~~ provide
- promote human resource development in developing countries of South America and Africa

However, the industry faces several challenges at present &

- stricter visa norms in USA, Britain, Australia, etc.
- stagnation in domestic sector
- increased competition faced from China, Singapore, etc.

- lack of WTO's free service pact
- fall in global demand

Thus, the IT-BPM sector of India needs to revive in order to contribute to India's growth story.

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।

The logistics and the transport sector served as the principle and core driver of India's economy with a multiplier effect of 5 times the investment made.

An effective multi-modal and transport sector provides for various benefits which will make the Indian economy more competitive.

These ~~benefits~~ include:

- access to greater funds for development of sector. India

presently need 1 billion USD to
ramp up its infrastructural sector

- greater synergies between different
modes of transport which will
prevent wastage of resources

- will help streamline the
transport sector so that the
respective mode deals with the
traffic it is best ~~suit~~ suited for.

eg → Roads → Passengers
 Rails → Freights

→ opens up various channels
of transportation within states,
among states and beyond the
borders.

Therefore, this helps makes the
economy more competitive. In

addition to this, a separate
infrastructural/transport
Budget can also be proposed.

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 is happening here and happening now", according to former US President Barack Obama.

Climate change is at present is the single biggest reality at present which haunts the mankind everyday.

Climate change threatens sustainable development as puts in peril the future of ^{the} next generations.

Climate change impairs socio-economic development as leads to food insecurity,

erratic weather behaviour,
crop failures.

Climate change also reinforces
the cycle of poverty as the
worst affected by climate change
are the poor. Climate Refugees
also increasingly fall into the
cycle of poverty.

In this context, a comprehensive
climate risk management system
is of utmost necessity as it has
the potential to minimise risks
associated with climate change.

In this respect, climate risk
insurance has much utility
to offer: →

- acts as a mitigation measure against climate change
- protects farmers from the vapours of monsoon, crop failures
- can tackle the phenomenon of climate refugees
- can serve as a hedge to deal with climate change calamities like floods, droughts, etc.

Thus, the idea of a climate risk insurance can be mooted.

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।

→ Vulnerability to natural disasters is an indicator of different groups/individuals being differently exposed to disasters and thus facing different risks in case of disasters.

women are typically considered as vulnerable to impact of natural disasters as they face various forms of vulnerabilities :

→ Physical vulnerability :

Lack of adequate amount of physical might and strength

→ Social and prejudicial vulnerability :

Patriarchy is evident only in times of disasters when women have no decision making power and are forced to sacrifice

→ Post-disaster vulnerability :

^{some} women may face suffer from post-disaster trauma and shock which requires adequate counselling.

→ * Women have a pivotal role ~~to~~ in the disaster risk management cycle. The disaster risk management cycle involves the steps of mitigation, prevention, preparedness.

PTO →

women can play a more effective role in the following ways:

- spread awareness about disaster risk within family, children and community
- develop community participation to use traditional knowledge to reduce disaster risks
(egs): Building check dams in flood prone areas or rain water harvesting (khadirs, johads) in drought prone areas
- coordination with voluntary groups in developing early warning systems upto the last mile

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 is a phenomena of summer season wherein the temperatures remain abnormally high for a considerable period of time. For eg → a variation of more than $5-6^{\circ}\text{C}$ for areas with average maximum temperatures of 40°C .

Heat waves are seen as 'slow, creeping disaster' and need to be dealt with as natural disaster because of its consequences which include %

P.T.O. →

- harmful of human health
(Heat stroke, dehydration)
- similar adverse effects on animal health
- can cause the local vegetation to dry up
- can even lead to drought-like conditions in absence of adequate rainfall.

In the recent times, the risk of heat waves have increased even more due to the dangers of global warming and climate change.

In this context, following steps have been taken by various government bodies:

- The NDRF has recently issued fresh guidelines to deal with heat waves
- Telangana has recently come up with a heat wave management plan
- the Central government is also encouraging states to come up with their respective heat wave management plans.

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 इसके उपयोग के संबंध में काफी आशंकाएं भी मौजूद हैं। चर्चा कीजिए।

Genome Editing involves the modification, alteration, addition, deletion of genetic material or genomes.

Eg → use of CRISPR-Cas9 technique

⇒ Potential Benefits of Genome Editing in healthcare include &

- will help detect and adequately deal with killer diseases like cancer
- will resolve genetic defects in unborn fetus

- will help us understand and analyse human genome in a much more comprehensive manner
- will help in enhancing immunity against diseases like dengue, etc. with genetic mutation.

however, there exist lots of apprehensions regarding its use :

- it may be used in cloning which is unethical
- instead of treating genetic defects, it may be used for treating cosmetic defects of unborn foetus
- its ~~pro~~ propagation will create

a divide between developed world which possess the technology and the developing world which doesn't possess it.

- it poses a great risk
to human race

Thus, genome editing should be encouraged only after taking into considerations all its pros and cons.

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 different from conventional desktop computers, laptops. These are highly sophisticated computers ~~are~~ which are used to perform complicated, complex tasks which ordinary computers cannot perform.

Supercomputers have benefitted the mankind in multiple ways :

- it has help us propagate our research works due to the complex, fast calculations performed by it

- has contributed to the field of quantum physics
- contributed to space research and technology
- calculations which are complex and non-terminating like calculation of value of π (Pi)
- weather forecasting models

Thus, supercomputers have aided the humanity in multiple manners.

In this respect, India's National Supercomputing Mission seeks to enhance the contribution

of our supercomputers to the country at large. The mission is aimed at achieving the objectives of :

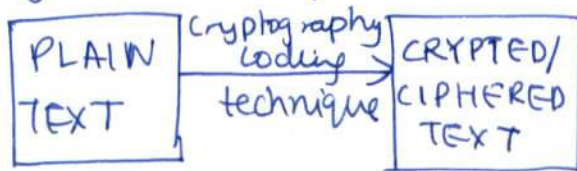
- enhancing the capability of our computers (~~the~~ even higher speed of calculations)
- emerge as a world leader in the field of supercomputing
- encourage use of supercomputers to aid India's economic and financial sector, weather forecasting models, disaster risk warning systems, etc.

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

CryptoCurrency is a form of
medium of exchange based
on the principle of cryptography.
It is a type of digital
transaction.

Cryptography can be explained as:



Cryptocurrencies like Bitcoin
are increasingly gaining
traction because : →

- it offers secured, private channel for transactions
- serves as an easy alternative to the formal financial and banking system
- has lower cost of transactions (like no MDR - Merchant Discount Rate)
- low entry barriers
- allows purchase, sale anywhere across the globe

However, cryptocurrencies are seen as a 'regulatory nightmare' because:

- it may promote price volatility and cause economic instability

- it does not offer liquidity
- can be used as channels for tax evasion, money laundering, terror financing, ransomware
- no assurance of security and protection of assets

The RBI too has recommended the citizens to be mindful before investing in cryptocurrencies. Seeing the increasing popularity of such currencies, a regulatory environment ~~to~~, however, is of utmost need.

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।

Space is slowly and steadily emerging as a strategic zone.

The Outer space treaty (1967)

serves as the only internationally recognised treaty to regulate the presence and use of space by member nations.

Traditional challenges posed in the area of outer space include:

— issue of risks associated with venturing into space, loss of lives, equipment in case of space accident

- high cost, high risk activity

Emerging Challenges :

- issue of space debris (remnants of old space missions, collision of which can lead to accidents)
- increasing militarisation of space
- use of space technology as deterrence
- use of space technology in intelligence gathering

Thus, there is a need to strengthen the Outer Space Treaty (1967) by →

- banning all forms of militarisation of space, which earlier was only existing as a limited ban
- ~~boost~~ and encourage cooperation among member nations to use space for productive effects like disaster management, navigation, etc.

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 or the Armed ^{Forces} Special Powers Act was enacted in 1958.

It was initially ~~to~~ promulgated as a temporary provision to deal with the Naga militancy.

But over the years it has been extended to Jammu & Kashmir and various states of North East.

AFSPA has been the centre of debates for the longest time.

Supporters advocate continuance of the law on the grounds that:

- it is necessary ^{in order} to deal with militancy, insurgency, terrorism which cannot be effectively dealt with under normal circumstances.
- it ~~boosts~~ the morale of the army personnel
- it is necessary for ensuring national security and stability

However, critics demand its repeal because:

- it gives impunity to armed forces ^{even a civilian} to even kill a person and face ~~no~~ repercussions.
- armed forces have acquired of human right violations, sexual violence (eg- in Manipur)

- Moreover, the Act has done
nothing ^{to} solve the crisis for the
past 50 years. Its continuation
has ~~not~~ potential benefit

Even the Supreme Court, recently
declared that the army
personnel do not enjoy any
"absolute immunity" under ABPA.

Various committees - J.S. Verma Committee,
Jeewan Reddy Committee, 2nd ARC -
^{have}
all recommended ~~to~~ either
repealing the law and replacing
it with a more humane law
~~or~~ or water down the present
law.

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।

Indigenisation of defence production
is the most important step
through which India's can
reduce its import dependency
for defence equipment.

opportunities associated with •
indigenisation of defence production
include :

- reduce ~~to~~ import dependence
- contribute to global defence export chains
- develop suitable defence capability and deterrence

However, it faces various challenges :

- dominant role of state-led enterprises
- lack of adequate infrastructure
- lack of adequate funds
- private sector is low on experience, expertise
- lack of access to high-end technology

The Government in this respect has taken the following steps :

- The Defence Procurement Policy provides for a new category

of IDDM (Indigenously Designed,
Developed, Manufactured)
which is given the highest
preference in procurement

- The Strategic Partnership Model
which promotes collaboration
between domestic private
players and foreign defence equipment
manufacturing companies
- agreements on defence
technology transfer with
Russia
(eg → T-90 tanks, 5th Generation
advanced fighter jets)
- DTTI (Defence Trade and Transfer
Initiative) with the USA
- 'major defence partner' status ~~with~~ ^{by}
USA - India joins the MTCR

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।

A clear-cut strategic vision is a precondition to maintain national security and deal with security challenges.

India today increasingly faces internal challenges of Naxalism, disturbances in North East and Kashmir and also faces external challenges like cross-border terrorism.

All these risks ~~also~~ create the need of a clear cut strategic vision.

However, the key to promote strategic thinking and decision making is possible only when cooperation and coordination between the armed forces and the civilian bureaucracy can be ensured.

This is coordination is possible through various channels like :

- The National security council
- collaboration with think tanks
- developing a National security doctrine which provides role clarity, which in turn promotes coordination
- appointment of Chief of Defence Staff (CCDS) to provide

a single source of contact
and advice.

- ~~also~~ active role of both at
the defence training levels,
freq: in National Army Institutes.

Thus, strategic decision making
is possible only when synergies
are established between the
armed forces and the
bureaucracy.