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(M) mains appearing

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Name of Candidate : ANUSHKA KARNWAL

NEXT IAS Roll No.: GSPM23B13087 Date of Examination : 20/8/2023

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

Test Code : 052 Program : SLT ☐ SLT+ ☑

MAIN TEST SERIES 2023
(SECTIONAL TEST-6)

GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet.

Candidates must read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

.....

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

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(For filling by Examiners only)

Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

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MACRO COMMENTS

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1. बैटरी ऊर्जा भंडारण प्रणाली (बीईएसएस) से आप क्या समझते हैं? इसके अनुप्रयोगों पर चर्चा कीजिए और यह भारत के ऊर्जा कार्यक्रम में किस प्रकार क्रांतिकारी बदलाव ला सकता है। (150 शब्दों में उत्तर दीजिए) 10 अंक

What do you understand by Battery Energy Storage Systems (BESS)? Discuss its applications and how it can revolutionize the energy program of India. (Answer in 150 words) 10 Marks

Battery energy storage system refers to technology which stores electri energy into chemical energy and allows for conversion into electri energy as and when needed.

⇒ Advanced chemistry cell storage.

Applications of BESS are 'diverse'

(1) consumer applications which work on modern day concept of 'charging' ⇒ laptops, mobile phones.

(2) Mobile technologies i.e. in transport and thus reduce emission.

(3) Industrial and 'static' applications

Revolutionise India's energy program

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① would address the 'supply-demand' mismatch ∵ high energy demand during heatwaves.

② Achieving the 'EV 30@30' goal and thus push to automobile market.

③ Achieve the Net zero goal, (panchamrit)

④ Achieve 'self reliance' in energy needs.

⑤ Bring down the 'import bill' and thus provide for reduced price of petroleum.
∵ India import 80% petroleum needs.

However, there are challenges that need to be addressed → still a 'nascent' technology
↓ ↓ conventional unchanged
high initial cost attitudes ∵ 55% energy from coal.
low skill of workforce.

Addressing these challenges would pave the way for 'Net zero' (Panchamrit)

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2. इसरो के गगनयान मिशन में हुए विकास और उपस्थित चुनौतियों पर संक्षिप्त चर्चा कीजिए। समाज के लिए मिशन के संभावित लाभ क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

Discuss in brief developments and challenges in the Gaganyaan mission of ISRO. What are the possible benefits of the mission for the society? (Answer in 150 words) 10 Marks

Gaganyaan is India's human spaceflight mission carrying 3 IAF officers to a (400 × 100) km orbit for 3 days / 1 week.

Developments

(1) ~~ISRO~~ tested the 'HS-200' boosters
(2) Test of RLV TD technology
(3) Recent test of RLV LEX for research
(4) Training of officers completed
(5) first hand experience into space with NASA (under ARTEMIS)
(6) ECLSS (Environmentally Controlled life sensing system) for making the module human life sustainable.

Challenges

(1) The mission has been delayed so far.
~~of~~ further delay with signing of ARTEMIS.

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(2) Full proof protection of human life cannot be guaranteed.

(3) Huge costs involved.

Possible benefits

(1) India will enter the 'elite club' of US and USSR (Russia)

(2) will increase India's 'bargaining' power in international community

(3) Push to 'sample return mission' ≠ from Moon like China's Chang'e

(4) will aid in building India's 'space station'

(5) provide for sustainable presence of man in space.

(6) Provide for 'Re-entry' technology and thus push to further space probes

(7) Bringing down costs of space launches

Gaganyaan holds great benefits for setting India's foot right in Amritkaal.

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3. ब्रह्मोस सुपरसोनिक क्रूज मिसाइल की अद्वितीय विशेषताएँ और क्षमताएँ क्या हैं, और इसने भारत की रक्षा क्षमताओं और सामरिक स्थिति के क्षेत्र में किस प्रकार योगदान दिया है? (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the unique features and capabilities of the BrahMos supersonic cruise missile, and how has it contributed to India's defense capabilities and strategic position in the region?
(Answer in 150 words) 10 Marks

BrahMos supersonic cruise missile has been sourced from Russia and being jointly manufactured in India.

Features and capabilities

- Work on 'Jet technology' & thus fly low in the atmosphere unlike parabolic path
- ~~Inter continental range~~ High range of over 600 km..
- Capability of Multiple attacks
- Leverage the on ground defence system.

Contribution: to India's defence capability

- Modernisation of the defence fleet.

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- Increase the reach of the armed forces
- contain threats from china
- Building 2nd strike capability

→ to strategic position

- As a net security provider in the region
- As a hard policy tool'
  - ⇒ recent decision to give BrahMos to Vietnam
- Contain rising China in the Indo pacific region
- Enhance neighbourhood security
- deterrent to Pakistan threat of ~~terrorism~~
- Maintaining strategic autonomy in geopolitics.

India as' vishwaguru and ' strong power' needs BrahMos, S400 like missile options.

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4. समुद्र की गहराई का पता लगाने और उसमें मौजूद संसाधनों का दोहन करने के देश के प्रयासों के अनुरूप, भारत सरकार ने गहरे समुद्र में अन्वेषण मिशन 'समुद्रयान' का प्रस्ताव रखा है। यह मिशन देश में समुद्र विज्ञान और प्रौद्योगिकी की प्रगति में किस प्रकार योगदान दे सकता है? (150 शब्दों में उत्तर दीजिए) 10 अंक

In line with the country's efforts to explore the depths of the ocean and harness the resources it holds, the Indian government has proposed a deep-sea exploration mission Samudrayaan. How can this mission contribute to the advancement of ocean science and technology in the country? (Answer in 150 words) 10 Marks

Samudrayaan is India's first manned mission in 'deep sea', with an outlay of ₹6000 core.

Exploring depths and harnessing resources

(1) Explore the presence of 'polymetallic nodules' and thus aid in energy needs

(2) explore the deep sea 'bio resources' (flora and fauna) for 'blue economy'

(3) understand the linkage of deep ocean and climate change.

Contribution to ocean science and technology

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(1) Further give a push to deep sea explorations

(2) understand the possibility of harnessing ocean thermal energy

(3) boost employment in this sector

(4) success of the mission would bring in international funds, technology and collaboration

(5) developing technology for maintaining sustainability of oceans.

≠ understanding response of deep sea phytoplanctons

challenges → Threat to biodiversity
→ may fuel conflicts
→ disturbs deep ocean stability.

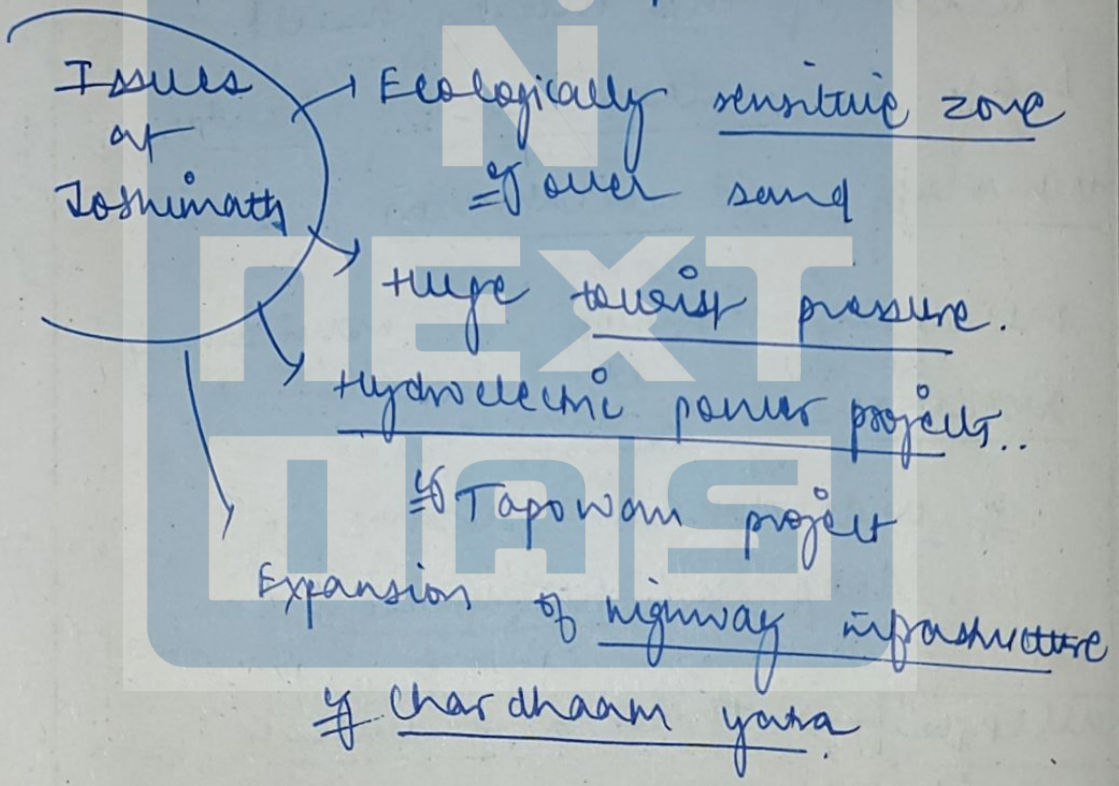
The mission, holds immense significance. Taking it sustainably forward is the key to fulfil energy needs of 'India' (Jai Hind)

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5. हाल ही में जोशीमठ, उत्तराखंड में आई आपदा के आलोक में, हिमालय क्षेत्र में आपदा प्रबंधन और पर्यावरण संरक्षण के लिए मुख्य सबक क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the key lessons for disaster management and environmental conservation in the Himalayan region, in light of the recent disaster in Joshimath, Uttarakhand? (Answer in 150 words) 10 Marks

Joshimath land sinking highlighted the urgent need to realign the disaster management, environmental conservation and development policies.



Key lessons

I disaster management

① Building disaster resilient infrastructure by using technology like 'sand Box', 'light' building material.

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(2) Mindful planning after proper EIAs.

(3) committee creation and expert opinion
⇒ MR Mishra committee warned against Joshimath development plan.

II Environmental conservation

(1) Focus on 'community tourism' rather than 'mass tourism'
⇒ Heritage homes

(2) Reduce 'vehicle pressure' which causes tremors

(3) Switch to small hydroelectric projects or alternative sources
⇒ geothermal energy.

Places like Joshimath hold strategic, cultural and environmental value with 'humans' and 'biodiversity' as an important stakeholder. There has to be multi stakeholder planning.

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6. कोविड–19 महामारी ने सार्वजनिक स्वास्थ्य में आपदा प्रबंधन के महत्त्व पर प्रकाश डाला है। महामारी और अन्य संक्रामक रोग के प्रकोप के प्रबंधन के लिए प्रमुख रणनीतियों और चुनौतियों पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The COVID-19 pandemic has highlighted the importance of disaster management in public health. Discuss the key strategies and challenges for managing pandemics and other infectious disease outbreaks. (Answer in 150 words) 10 Marks

Covid 19 exposed the inadequate public health infrastructure that is inclusive of disasters like pandemics.

Importance of disaster management in public health

- emergency response.
- handling huge population movement of migrants
- Contain spread
- Insurance mechanism for poor and vulnerable.
- Reduce 'loss of human life'
- Efficient movement of 'resources' among federal units.

Strategies to manage pandemic

(1) Build primary health care

- 60% hospitals in urban areas.

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(2) Increase 'health personnel' in comparability to population
⇒ India has 1:1000 doctor-population ratio (WHO: 1:1000).

(3) Effective insurance coverage
⇒ Insurance for all by 2047.

(4) Synergy in interoperable health systems ⇒ one nation one ration card to manage food security.

challenges → rise population pressure in unorganised sector

hygiene ⇒ in slums.

Managing flow of food supply

Lockdowns and loss of incomes

Inequality in access to healthcare

Health management has to be inclusive of pandemic planning for a healthy and resilient 'India @100'.

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7. "पंजाब में हालिया कट्टरपंथी रुझानों से पता चलता है कि खालिस्तान का मुद्दा अभी भी उबल रहा है।" हालिया घटनाक्रम के संबंध में कथन पर चर्चा कीजिए और इससे निपटने के उपाय सुझाएँ। (150 शब्दों में उत्तर दीजिए) 10 अंक

"The recent radical trends in Punjab show that the Khalistan issue is still simmering." Discuss the statement with respect to recent developments and suggest measures to handle it.
(Answer in 150 words) 10 Marks

The issue of 'secessionist' tendencies is prevalent in the punjab region which was recently highlighted in → Amrit Pal case : support by locals
→ Indian consulates and embassy attacks in US and Canada.
→ The Tableau celebrating assasination of former PM Mrs. Indira Gandhi.

Issue as still simmering
- Continued support by foreign agencies and supporters
- Frequent processions demanding Khalistan
- Increased support by locals highlight 'radicalisation'

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- provision of 'funds' from overseas.

Measures to handle it.

- International collaboration with countries like Canada and US to curb 'Anti- India' campaigns.
- Track and arrest leaders like Amrit Pal who radicalise youth and people.
- Stop malicious cross border flows of track at FIU-IND and at crypto exchanges
- close the 'border gaps' to check infiltration for 'arms' and 'radical elements'

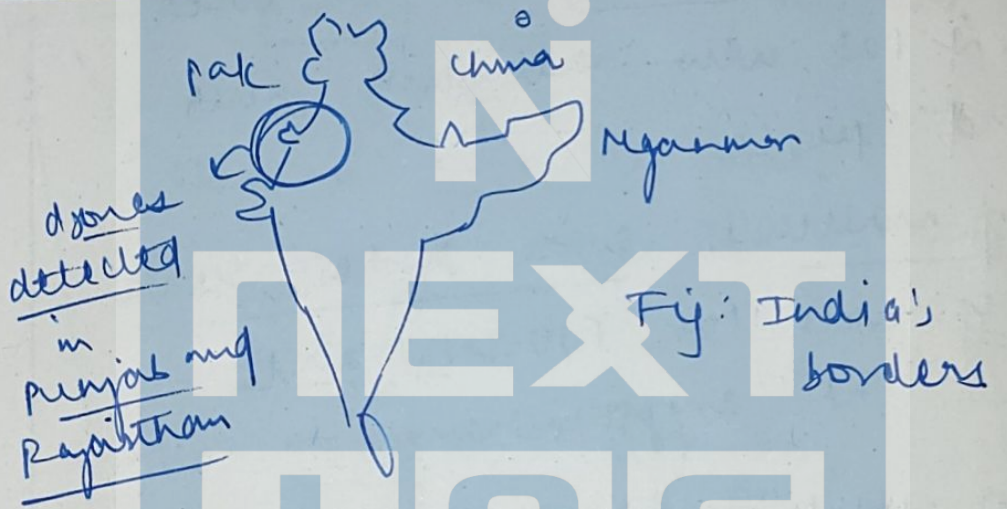
India's unity and internal security demands peace and stability in all regions. Thus an effective multi pronged approach is the way forward for 'Akhand Bharat'.

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8. ड्रोन संचालन में आसानी और साथ ही इसके संचालक की अनामिता, भारत की सीमा सुरक्षा की चुनौतियों में वृद्धि करती है। विस्तारपूर्वक वर्णन कीजिए और सीमावर्ती क्षेत्रों में ड्रोन समस्या से निपटने के लिए सुझाव दीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

The anonymity and ease of drone operation contribute to the challenges of India's border security. Elaborate and give suggestions to tackle the drone problem in border areas.
(Answer in 150 words) 10 Marks

Emerging technologies like 'drone' make Indian borders vulnerable due to their easy movement.



Anonymity and Ease of operation

① Anonymity allows movement of drones without getting detected → thus save from responsibility.

② Ease at hands of terrorists for collecting critical information.

③ supplying arms, drugs and ammunitions.

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(7) Bypass the comprehensive and technology driven border security infrastructure by radars.

(8) source of origin cannot be tracked

Suggestions to tackle the problem

(1) Leverage India's NAVIC for tracking drone movement.

(2) Enhance 'Air Radars' for surveillance.

(3) Educate and train the civilians to track and inform the security forces.

(4) Build domestic capability in decoding the information and hardware systems.

Vulnerable borders are threat to both external and internal security. The leakages have to be plucked for India to be the net security provider and be resilient.

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9. "पूर्वी और मध्य भारत का संसाधन अभिशाप वामपंथी उग्रवाद का एक महत्वपूर्ण चालक रहा है"। इन क्षेत्रों के सतत और समावेशी विकास के लिए उपायों को विस्तार से बताइए और सुझाव दीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

"The resource curse of Eastern and Central India has been a crucial driver of LWE". Elaborate and suggest measures for sustainable and inclusive development of the region.
(Answer in 150 words) 10 Marks

LWE (Naxalism) is a developmental problem centered around the issue of 'Jal, Jangal and Zameen'

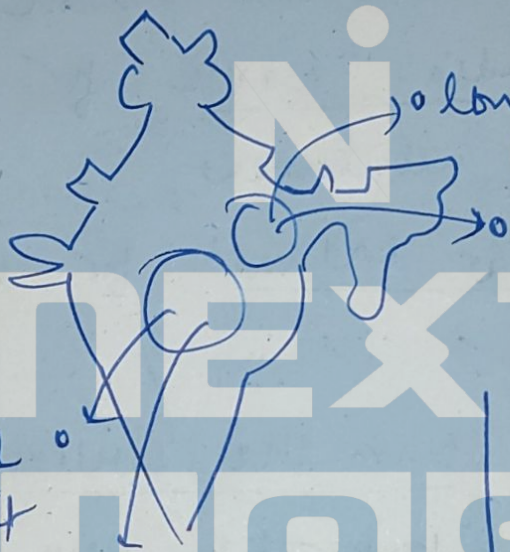


Fig: resource curse of Eastern and Central India.

Measures for sustainable and inclusive development.

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The measures have to be guided by government's multi pronged National policy and action plan

(1) security infrastructure
- Helicopters for naxal operations
- special forces → jungle warfare

(2) developmental schemes
- winning hearts and minds scheme
- Road and hospital infrastructure
- Internet and mobile connectivity

(3) Economic opportunities under PM VIKAS

(4) encouraging resource potential
- recent FRA amendment

(5) Political empowerment by enacting PESA act.

LWE has to be tackled on the development front so that regions become units in Ek Bharat Shreshtha Bharat.

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10. उत्तर पूर्व और जम्मू–कश्मीर क्षेत्र में हिंसा की घटती प्रवृत्ति के आलोक में क्या आपको लगता है कि एएफएसपीए (अफ्स्पा) अपनी उपयोगिता बरकरार रख पाया है? टिप्पणी कीजिए (150 शब्दों में उत्तर दीजिए) 10 अंक

In light of the declining trend of violence in the North East and J&K region do you think that AFSPA has lived its utility? Comment. (Answer in 150 words) 10 Marks

NHA highlighting that there has been 80% reduction in related violence and 70% reduction in deaths in the North East and J&K region.

AFSPA as still utility

① greater political integration of there regions

② Economic growth push

J&K → # Himi Udaan 2.0

North East → # Film policy # GI tag to saffron

③ greater infrastructure and connectivity in there regions

air lines of

HIRA Model

H → highways
I → internet ways
R → railways
A → airways

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④ Peace agreements ⇒ Bodo peace accord

⑤ Plugging of border leakages and thus reduced infiltration
⇒ { double fencing (India-Pak)
  { CIBMS - BOLD QIT (India-Bangladesh)

still AFSPA's needs and utility can be highlighted as :-

① Prevalence of terrorist attacks
⇒ Poonch attack and rise in 'lone wolf' terrorism'

② Neighbourhood instability gives rise to illegal movements of people, arms and drugs
⇒ Myanmar junta takeover

③ Ethnic challenges ⇒ Manipur.

AFSPA rather can be realigned in line with supreme court judgement by making timely review and provide for civil sensitive training to armed personnel.

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11. परमाणु ऊर्जा और अंतरिक्ष प्रौद्योगिकी के क्षेत्र में क्रमशः डॉ. होमी जहाँगीर भाभा और डॉ. विक्रम अंबालाल साराभाई के योगदान से भारत को रणनीतिक रूप से किस प्रकार लाभ हुआ? (250 शब्दों में उत्तर दीजिए) 15 अंक

How India benefitted strategically from the contributions of Dr. Homi Jehangir Bhabha and Dr. Vikram Ambalal Sarabhai in the fields of atomic energy and space technology respectively? (Answer in 250 words) 15 Marks

Dr Homi Jahangir Bhabha and Dr Vikram Ambalal Sarabhai have been pioneers of India's atomic and space programs respectively.

Homi Bhabha and atomic energy

- formulation of India's '3 stage' atomic energy program
  - 1st stage → U^{235}
  - 2nd stage → Pu^{239}
  - 3rd stage → Th^{232}.
- Provide roadmap for building reactors
  - → PHWR, AHWR, BWR
  - → Fast Breeder reactors
- Diplomatic assistance for procuring much needed technology
  - BWR (Boiling water reactor) from USA.

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- Establishing indigenous nuclear reactor capability as test bed facility ⇒ APSARA
- Provide a roadmap for using Thorium and Plutonium for defence purpose and build strong strike capability and Nuclear deterrence ⇒ DHRUVA research reactor

Dr Vikram Sarabhai and space technology

- Pioneer of India's space launch program started in 1963.
- Architect of early launch vehicles ⇒ sounding rockets
- Provide for early cryogenic technology and initiation of India's cryogenic engine program -

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- Building roadmap of launch vehicles
  - GSLV, SLV, ASLV, PSLV.
- Provide for 'space vision' to mine resources at Moon and Mars
- He provided for the 'fruit' of ~~this~~ space mission to be for the benefit of the mankind.

Both of the great personalities today guide India's success in

- Chandrayaan mission
- MOM mission
- nuclear energy capability
- nuclear attack capability

India today stands at an important pedestal in the world stage, respected and consulted, heard by all.

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12. जेनरेटिव एआई निकट भविष्य में नवाचार की सीमाओं को आगे बढ़ाने का सामर्थ्य रखता है, फिर भी इसका सामाजिक प्रभाव पर्याप्त चुनौतियाँ खड़ी करता है। सविस्तार उत्तर दीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Generative AI holds the potential to push the boundaries of innovation in the near future, yet its societal impact raises substantial challenges. Elaborate. (Answer in 250 words) 15 Marks

Generative AI uses the neural networks and large language models to enable human-machine interaction.

eg OpenAI, Chat-GPT.

Potential for pushing boundaries of innovation.

---

① It provides for the possibility to maintaining large data sets and this can enable help in Supercomputing.

② Can provide innovations in agriculture

eg AI based carbon stock sensors.

③ Aid in future disaster resilient planning

eg AI enabled radars.

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③ can make education inclusive and analytical
- eg partial models.

④ can aid in efficient delivery of justice
- eg SUPACE and SUVACE.

⑤ can help in effective governance by tracking flow of funds to beneficiaries.

⑥ AI can be leveraged for border management and thus strengthen internal security
- eg AI based sensors

⑦ can have huge application in health sector
- eg provision for digital management of health data and thus aid in universal health coverage

Societal impact and challenges

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① can further increase the digital divide and hamper access to education ∵ 31% own mobile phones in rural areas.

② can be pre-trained against certain groups ∵ ethnicity and religion.

③ can be used by radicalist groups to radicalise youth.

④ can hamper intellectual development among students ∵ only 6% youth skilled.

⑤ AI in critical infrastructure can be targeted for critical personal data.

⑥ can be used to make weapons.

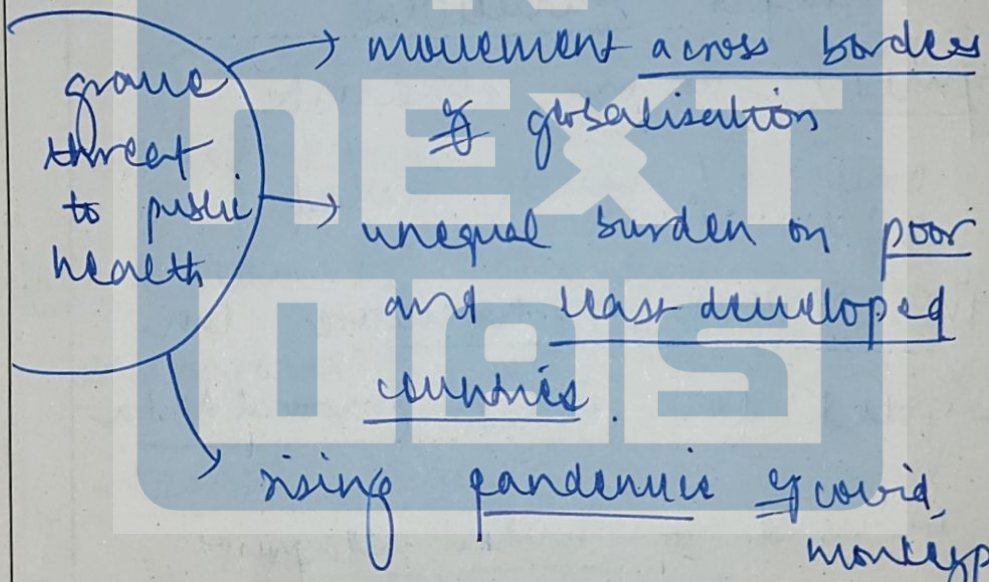
Thus, AI must be used to leverage societal growth with inclusion and caution to harness its potential in Amrit Kal and achieve 'Saptarishi' goals.

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13. रोगाणुरोधी प्रतिरोध (एएमआर) एक तेजी से बढ़ता संकट है जो दुनिया भर में सार्वजनिक स्वास्थ्य के लिए एक गंभीर खतरा है। रोगाणुरोधी प्रतिरोध की बढ़ती समस्या में योगदान देने वाले प्रमुख कारक क्या हैं, और इस वैश्विक स्वास्थ्य खतरे से निपटने के लिए कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Antimicrobial resistance (AMR) is a rapidly escalating crisis that poses a grave threat to public health worldwide. What are the major contributing factors to the growing problem of antimicrobial resistance, and what steps can be taken to address this global health threat? (Answer in 250 words) 15 Marks

World Bank highlighted Antimicrobial Resistance (AMR) as the biggest threat to the health of individuals with 'India as the centre' of AMR.



Factors giving rise to AMR

(1) 'overuse' of certain antibacterial medicines
& 'DOLO' and 'paracetamol'.

(2) 'over the counter' sale of medicines without prescriptions.

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& Drugs are prohibit sale without prescription.

(3) Misuse of human antibiotics in animals & cattles for protecting them against diseases and save on cost.

(4) 'Poor hygiene' and 'polluted' environments creates favourable conditions for the growth of certain microbes.

(5) 'Community practices' like 'bathing' in ponds, rivers leads to flow of resistant microbes.

Steps that can be taken

(1) Replacing the AWaRe strategy by WHO regulating drugs use

- Access
- Watch
- Reserve → higher resistant drugs.

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(2) Effective implementation of the regulations.
- Drugs act → 2 years photo copy prision.

(3) Increasing awareness among people about the AMR
- Red line campaign

(4) Pushing for more R&D for new anti microbial drugs
- R&D at meagre 0.7%.

(5) Regulating the movement of drugs to the animal sector through testing.

A coordinated and cooperative approach is needed to tackle the challenges of AMR. by → 'preventive' over 'curative' care.
- community driven approach
  - eg pond cleaning
- health and sanitation
  - Jal Jeevan mission

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14. विघटनकारी नवाचारों से आप क्या समझते हैं? हाल के दिनों में विघटनकारी नवाचार के कुछ उदाहरण बताइए और यह भी बताइए कि इन नवाचारों ने उद्योगों के संचालन के तरीके को किस प्रकार परिवर्तित किया है?

(250 शब्दों में उत्तर दीजिए) 15 अंक

What do you understand by Disruptive innovations? What are some examples of disruptive innovation in recent times, and how have they changed the way industries operate?

(Answer in 250 words) 15 Marks

Disruptive innovations refers to technology innovations in machines, hardware and software systems that pose ethical challenges to both the society and government in general.

Examples of disruptive innovations in recent times

① Emerging technologies like AI, web 3.0 etc which reduce the demand of 'human hands'

② '3-D printing technology'

③ Rise in 'internet of things'.

④ Metaverse and extended realities

⑤ Robotics technology

⑥ Genetic technology

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(7) Rise of Blockchain technology

There innovations have realigned the industrial processes and changed the way of operations as follows:—

(1) Outsourced the 'repetitive tasks' of attendance, order management to AI and robots.

(2) Changed the 'high skilled' workforce with AI for better accuracy and efficiency
∴ Bangalore CEO fired 90% of the employees

(3) Reduced the demand of 'unskilled labor force' in traditional sectors like 'construction' due to 3D printing technology
∴ Bangalore 3D printed post office

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④ allowed industries to process big data sets for better customer targetting ⇒ super computers.

In light of huge unemployment and poverty, there is a need to

① reskill, upskill and skill the labor force in line with newer technologies

⇒ National skill India mission

② formulate and implement Labor law reforms.

③ MoU with industries to train existing labor → Apprenticeship scheme.

Innovations have to be 'constructive' rather than destructive or disruptive. Thus need ↑ effective regulation to leverage the new technologies.

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15. आपदा प्रतिरोधी बुनियादी ढाँचे के लिए गठबंधन का गठन भारत में आपदा प्रबंधन दृष्टिकोण को और अधिक मजबूती प्रदान करता है। टिप्पणी कीजिए। भारत में आपदाओं से निपटने के लिए एक नई रणनीति की आवश्यकता के औचित्य सिद्ध कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

The Formation of the Coalition for Disaster Resilient Infrastructure brings more robustness to the Disaster Management approach in India. Comment and justify the need for a new strategy to tackle Disasters in India. (Answer in 250 words) 15 Marks

=

Coalition for Disaster Resilient Infrastructure (CDRI) is a joint initiative of governments, private sector, international organisations to build disaster resilience to disasters and usher sustainable living

- The initiative was launched by 'India' at Climate Action Summit.

More robustness to disaster management.

1. It is the second major initiative outside UN launched and housed in India.
2. will bring in 'new' and 'best' technologies from developed nations.

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(3) will allow countries to come together and find solutions for developing (India) and least developed countries.

(4) give a platform for expert opinions and thus more systematic planning.

(5) will allow the organisation to mobilise funds for developing and least developed nations

(6) will also allow India to cooperate with neighbouring countries for better disaster management (a net security provider)
- ~~of~~ Pakistan floods
- ~~of~~ China floods.

The need for new strategy arises out of :—

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(1) climate change and rising intensity of disasters
↳ himalayan landslides.

(2) Push to urbanisation and thus more vulnerable population
↳ delhi, Bangalore floods.

(3) Reversing the 'reactive' to 'proactive approach'
↳ doppler radars

(4) saving critical infrastructure in critical cities
↳ pots in Mumbai

(5) huge population pressure and thus need of food security

(6) for India to follow the path of sustainable development.

Disaster Management must focus on human to be meaningfully inclusive and resilient.

animal environment

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16. आपदा प्रबंधन सिर्फ आपात स्थिति से निपटने के बारे में नहीं है, बल्कि लचीले समुदायों के निर्माण के बारे में भी है। उन प्रमुख रणनीतियों पर चर्चा कीजिए जिनका उपयोग सामुदायिक लचीलापन बनाने और आपदाओं के प्रभाव को कम करने के लिए किया जा सकता है।

(250 शब्दों में उत्तर दीजिए) 15 अंक

Disaster management is not just about responding to emergencies but also about building resilient communities. Discuss the key strategies that can be used to build community resilience and reduce the impact of disasters.

(Answer in 250 words) 15 Marks

sendai framework highlights the need of disaster management to be both 'reactive' (emergency response) and 'proactive' (resilient communities'

Disaster Management as,

I Responding to emergencies

- To reduce 'human life' loss
  - if more than 50 people die in major floods.
- To reduce 'economic' loss
  - if loss of assets during disasters
- To provision for timely 'relief'
  - if shelter homes and food.
- To provide for timely healthcare needs
  - if especially for pregnant women and children.

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II Building resilient communities

- To make 'excellent' inhabitants ⇒ know what to do during disaster → going to first floor during floods.
- To ensure that poverty does not make someone vulnerable ⇒ economic vulnerability and low lying settlements
- To make community asset in times of need.

Key strategies to build community resilience and reducing impact of disasters [Proactive + Reactive]

1. Deploying Early warning systems ⇒ Doppler radars.
2. Building disaster resilient infrastructure ⇒ Sendai technology

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(5) Mindful planning of areas
↳ Blue-green infrastructure.

(4) Effective training of people to respond to disasters

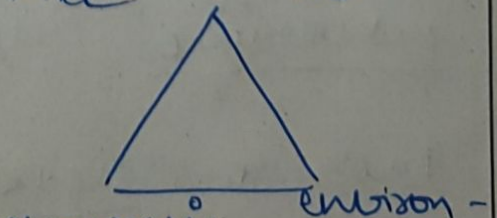
(5) Timely audits and checking for leakages
↳ Agastala and Sevanagar.

(6) Building effective timely response mechanisms close to disaster prone areas
↳ Pre fabricated shelter homes

(7) Sustainable farming practices
↳ ZBNF

(8) completing the disaster response cycle by 'Build Back Better approach'

Disaster resilience must take social approach to build resilient communities
↳ India @ 100



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17. महत्त्वपूर्ण बुनियादी ढाँचे (क्रिटिकल इंफ्रास्ट्रक्चर) और प्रमुख निगमों को लक्षित करने वाले रैंसमवेयर हमलों में हुई हालिया वृद्धि ने मजबूत साइबर सुरक्षा उपायों और नीतियों की तत्काल आवश्यकता पर प्रकाश डाला है। इस प्रवृत्ति में योगदान देने वाले प्रमुख कारकों पर चर्चा करते हुए, विभिन्न क्षेत्रों पर इन हमलों के प्रभाव का विश्लेषण कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

The recent rise in ransomware attacks targeting critical infrastructure and major corporations has highlighted the urgent need for stronger cybersecurity measures and policies. Discussing the key factors contributing to this trend, analyze the impact of these attacks on various sectors.

(Answer in 250 words) 15 Marks

CERT-IN highlighted that there was 55% rise in ransomware attacks in 2021-22.

Recent attacks
- AIIMS cyber security attack
- Hacking of twitter handle of Jal Shakti Ministry
- Data leak of Covin App at Telegram

Need for stronger measures
- Protecting 'critical personal' data of citizens.
- Curbing the threat by 'subversive' elements.
- Push to 'digital India'
- for effective 'governance'.

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Key factors to this trend.

- More sophisticated platforms which can breach higher security standards & transmit spyware.
- Expansion & use of internet technology in India: 2nd largest subscriber base.
- cross border ease of information flow.
- 'decentralised software' which make detection difficult & cryptocurrency
- vulnerability of population due to illiteracy in Karnataka 'pump and dump' scheme.

Impact on various sectors

- Health: impair the realisation of 'universal health coverage' and 'pan India digital' health data.
- Economy: hurt the economic fundamentals due to ransom payments.

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- politics : demand ransom to save personal information and thus lead to 'criminalisation of politics'
- society : highly vulnerable easy to target ⇒ women for pornography.
- 'science' : leak critical innovations to other countries.
- 'youth' : may radicalise them in lure of attractive payments

Thus, we need to

build strong cyber security legislations

control cross border data flow

⇒ PDPB

Train and educated people

⇒ cyber suraksit kendras.

Track malicious information exchange

⇒ at FIU-IND.

Ransomware needs to be tackled by involving all the stakeholders for inclusive growth.

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18. सीमा सुरक्षा के संदर्भ में, तटीय और स्थलीय सीमाओं के प्रभावी और कुशल प्रबंधन को सुनिश्चित करने के लिए विभिन्न सुरक्षा एजेंसियों के बीच सहयोग और समन्वय को कैसे बेहतर बनाया जा सकता है? (250 शब्दों में उत्तर दीजिए) 15 अंक

In the context of border security, how can cooperation and coordination between different security agencies be improved to ensure effective and efficient management of coastal and terrestrial borders?
(Answer in 250 words) 15 Marks

India have 15,600 km land and 7517 km maritime border which poses several risks and thus require effective and efficient management.

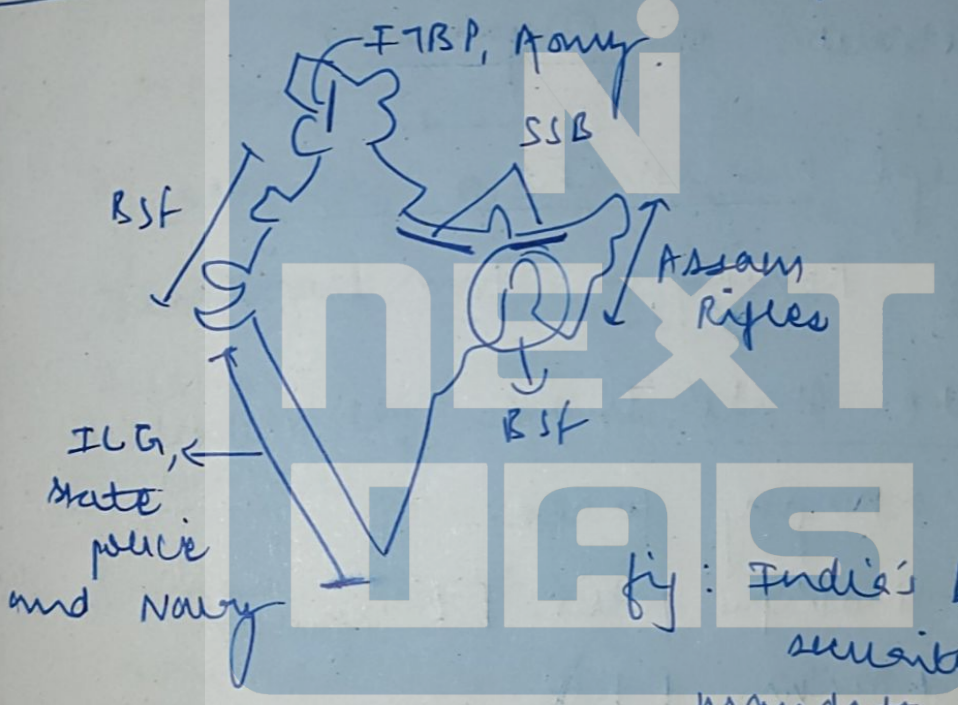


fig: India's border security mandate.

Issues that necessitate cooperation and coordination.

① Operational inefficiency due to
- multiple forces
- multiple order of command structure.

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(2) Border issues with neighbours
- Sir Creek (Pak), Kalapani (Nepal)

(3) Border crimes → drug trafficking
↳ human trafficking
cattle trading.

(4) 'Cross border terrorism' and infiltration of Miyandris.

(8) Illegal movement of refugees
- Rohingyas from Myanmar.

(6) Centre-State rivalry gets reflected in managing forces
- Manipur police FIR against Assam Rifles.

Effective cooperation and coordination

I for Territorial borders

(1) Managing effective movement of legitimate people and goods

(2) check illegal trafficking
- drugs from golden triangle.

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(3) Reduce redundancy in operations
(4) Reduce wastage of resources
(5) Provide for (3T) approach to border management (Bipin Rawat)
- Task
- Terrain
- Threat.

II for Maritime borders
(1) Solving operational inefficiency by signing MoUs between Central and State forces
(2) Allowing for movement of fishermen.
(3) Bringing synergy in tools and resources of Agencies deployed.
(4) Building Theatre Commands.

Protection and Management of Borders is a must for India to emerge as Vishwa Guru and Net security Provider for all in the region.

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19. मेटावर्स और वर्चुअल एसेट्स जैसी नई और उभरती प्रौद्योगिकियों के उपयोग के माध्यम से आतंकवाद का परिवर्तन चिंता का विषय है। हम आतंकवादी उद्देश्यों के लिए नई और उभरती प्रौद्योगिकियों के उपयोग का मुकाबला किस प्रकार कर सकते हैं? इस संबंध में "दिल्ली घोषणा पत्र" के महत्व को स्पष्ट कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

The transformation of terrorism through the use of new and emerging technologies like metaverse and virtual assets is a matter of concern. How can we counter the Use of New and Emerging Technologies for Terrorist Purposes and Elucidate the importance of the "Delhi declaration" in this regard?
(Answer in 250 words) 15 Marks

Recently NSA Ajit Doval highlighted that Terrorism has leveraged the use of new and emerging technologies to take the form of 'Enabled' and 'Remote controlled' Terrorism.

Matter of concern

① New technologies are difficult to 'track and detect' ∵ Darknets.

② Reports of ISIS owning their own safe communication lines.

③ Increased 'radicalisation' of youths through 'chat rooms' ∵ Pulwama and Kulgam.

④ 'virtual assets' like 'cryptos'

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are providing for easy funds.

(3) use of technology for spreading 'fake news' of Information warfare.

countering the use by:—

(1) Legislating and Regulating the use of these technologies of VDAs bought under PMLA.

(2) Mandatory rejistrations and KYCs of cryptos at exchanges

(3) Attract people away from use of virtual assets of through CBDC.

(4) Education at schools, colleges and community level

(5) Protecting 'critical information' of National cyber security strategy.

(6) Tracking Malicious exchange of funds and information of at FIU-IND and CERT-IN.

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At the UNSC counter Terrorism Meet India released the 'Delhi declaration' which holds importance for:

- Call of unified, united and 'zero tolerance' approach.
- Tracking of 'cross border flows'
- Attention of International community to hotbeds of terrorism.
- Blocking 'flow of funds' by FATF
- Sharing 'best practices' for ~~FAT~~ tackling terrorism.

India unveiled the 6 pillar strategy which called for

- strengthening monitoring
- strengthen regulation
- international cooperation
- attach assets
- protect digital data
- block flow of funds

This is the way forward to guide countries.

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20. "अग्निपथ योजना हमारे सशस्त्र बलों के लचीलेपन और प्रभावकारिता के लिए आवश्यक एक कड़वी गोली है।" प्रासंगिक तर्कों के साथ कथन का आलोचनात्मक विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

"The Agnipath scheme is a bitter pill needed for the resilience and efficacy of our armed forces." Critically Analyze the statement with relevant arguments. (Answer in 250 words) 15 Marks

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government of India enacted and enforced the Agnipath scheme for overhauling the induction criteria into the armed forces.

Provisions
- Induction for '4 years'
- 25% to be retained
- Provide for 'fund' of around ₹ 12 lakhs for future business prospects
- Preferences in appointments at central armed agencies
- Induct discipline in future of India.

Agnipath as a bitter pill

(1) It would drive 'serious' candidates who look for long term job prospects away from Army.

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(2) Many 'poor households' sent their children for the 'life long pension' and 'job security'

(3) Disturb the 'structure' that was hitherto based on 'cadre' policy.

(4) International implication
- Nepal's objection due to Gorkha regiment.

(5) May 'full' civil unrest in society.

(6) If not provisioned gainful employment then a military trained youth could wage unrest and turn 'subversive'.

Need for resilience and efficacy

(1) Present and future wars are not 'tank warfare'.

(2) Modernisation of 'armed forces'
- Navy req submarines.

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(3) provide for 'interoperable' armed forces.

(4) Future possibility of restructuring the armed forces into 'theatre commands'.

(5) Provide for 'Multi domain' operations in armed forces

(6) Reduce the mounting burden of pension and free up resources for capacity creation.

The need is to be watchful and complement the scheme by

- future 'job' opportunities
- High 'economic growth'
- Addressing Nepal's concerns
- use released resources effectively of MQ 9B UAVs.

Armed forces are 'strength' of the India and thus need to be modernised for future warfares.