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NEXT IAS

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(To be filled by candidate)

Name of Candidate : NISHCHAL JAIN

NEXT IAS Roll No.: MT23SLTON009 **Date of Examination :** 24.08.2023

Exam Centre : Old Rajinder Nagar ☑ Bhopal ☐ Online ☐

Test Code : TC052 **Program :** SLT ☑ SLT+ ☐

MAIN TEST SERIES 2023
(SECTIONAL TEST-6)

GENERAL INSTRUCTIONS

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SUBJECT/PAPER
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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				

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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 (BESS) is storing electrical energy in batteries which can be harnessed for future usage.

Examples of few batteries
- Lithium-ion batteries
- Microbial fuel cell
- Hydrogen fuel cell

Applications of BESS.

1). Can help storing large amount of ~~as~~ energy which have no current utilization

2) Running smaller appliances like ~~gas~~ cooler, heater etc.

3) Bigger machines like automobile engine eg Hydrogen car.

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4). It may help in using microbes into our use. e.g. microbial fuel cell.

Revolutionize energy program of India

1) India having target of 500 GW of renewable energy by 2030.
↳ need to store that energy

2) Easier for transportation of energy without complex wirings.

3) May catalyse Industrial revolution (IR) 4.0. within India.

4) Potential skilled labourforce in India to ~~make~~ built a favourable ecosystem

New technology like Green Hydrogen could be complemented using BESS.

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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 Mission of ISRO aims to send Indian personnels into space i.e. achieving human spaceflight.

Developments in Gaganyaan Mission

1) Preparation of rocket launcher and spacecraft → Indigenous technology

2) Zero gravity training to astronauts in Russian training centres.

3) Preparing space based accessories.
↳ space food, space water and sanitation.

4) Preparing robots to ~~launch~~ launch in ~~pashe~~ phase I of Gaganyaan.

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Challenges.

1) Fuel for long spaceflight
   ↳ still a challenge.

2) Ensuring safe return of personnels

3). Lack of coordination with other space agencies.

4). Spacecraft technicalities audit

5) Delay in launching phase-I of Gaganyaan.

Benefits

1. Space-based research of earth.
2. Democratization of space activities
3. Help in exploring more communication avenues through space.
4. Strengthening India's global positioning.

Success of Chandrayaan-3 will instill immense confidence among scientists of ISRO,

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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 is a supersonic cruise missile developed in joint collaboration of India and Russia and named after Brahmaputra and Moscow rivers.

Features and capabilities

1) Supersonic implies it can exceed the speed of 3 Mach i.e. speed of sound.

2) 'Fire and forget' principle used.
   ↳ need not track its trajectory after launching.

3). Need continuous fuel supply to ensure smooth functioning.

4) ~~adding to~~

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4) Can use Ramjet engine — cryogenic engine.

Contributed to India's defense positioning and capabilities.

1) Targets within India's range include — hostile neighbours like Pakistan.

2) India as net security provider in the region.

3) Complementing to other missiles such as Prithvi, Agni etc.

4) Cooperation with Russian defence department → enhancing ties.

Thus Brahmos has served India's interest and now India's aspirations are rising as:

- Export to South-East Asian countries
- Indegenisation of BrahMos.

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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 Mission aims to send 3 persons to 6000 m depth in the ocean for scientific exploration of ocean and its resources.

Resources in deep ocean
- Rare Earth Elements
- Petroleum products
- Valuable minerals (metallic, non-metallic)

Features of Samudrayaan:

(launched To be launched by Ministry of Earth Sciences (MoES).

1) Endurance in general is 12 hrs and in emergency situation – 96 hrs

2) 'MATSYA-6000' vehicle for personnels

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3) Pre-mission training to selected individuals.

4) Contributing to advancement of ocean science and technology in country

1) Access to valuable resources like Petroleum products etc.

2) Oceanic floor mapping.

3) Deep ocean biodiversity knowledge enrichment.

4) Helps in guarding our interests in Indian ocean.

5) Enhancing capabilities for deep-sea warfare.

Thus Samudrayaan mission opens plethora of opportunities for Indian ~~mission~~ aspiration in oceans.

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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

Recently Joshimath faced issue of land subsidence which led to large scale cracks and fissures in land there.

LESSONS-

(I) DISASTER MANAGEMENT

1) Pre-disaster policy & planing for Himalayan region.

↳ Early warning for subsidence and landslides in Himalayas.

2). Rescue and rehabilitation of citizens of Himalayas needed to be quick and sustainable.

3) Skilled manpower for disaster management in Himalayas.

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4) Hazard mapping of Himalayas for potential disaster.

5). Community participation → NGOs, locals, etc. tourists

(II) Environmental conservation

1) Deburdening Hills. (avoid over-urbanization)

2). Development projects should be optimum

eg Taparan Vishnugad project

3) Infrastructure projects, EIA (environmental impact assessment).

eg Chardham project

4) Promoting sustainable tourism and avoid settlements on fragile rocks and land.

M.C. Mishra Committee called for taking care of carrying capacity of mountains

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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

Pandemics like COVID-19 taught us about strategies to reduce losses (physical / lives) during pass by investing in public health disaster management.

Importance of disaster management in public health

1). To effect coordinated response to public health emergency

2) Avoid chaos for resources during crunch moments

eg- Oxygen crisis during 2nd wave.

3). To prevent rumours ensure effective information dissemination during pandemic.

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4) Bridging gap between patient and hospital.
   eg> air ambulances.

Strategies needed

1) Multi-agency coordination.
   ↳ eg> ICMR, NDRF, MoH, PMO etc.
2). To ensure quarantining of infected people.
3). Creating bio-bubble around infected population.
4). Contain outbreak in particular region only. eg> Bhilwara Model.
5) Supply of vaccines to each remote area eg> drones were used.

Challenges

- Large scale internal and external migration
- Convincing public for lockdown
- effect rumours spreading hindering work of agencies

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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

Khalistan issues came into limelight during late 1970s when few radical elements in Punjab demanded separate homeland for Sikhs.

Recent developments -

1) Red Fort under seige during republic day in 2021. on the call of extremists.

2) Attack of Indian embassies in UK, Canada, US, Australia.

3) Clashes within Indian diaspora in foreign land.

4) Attacks on Indians in Australia by Khalistan sympathisers.

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5) 'Referendum' on Khalistan conducted in Canada, UK.

6) Khalistan sympathisers becoming ministers in Canada.

7) Ajnala Police station attack by Amritpal Singh and supporters.

Measures -

Security
- Crackdown on financial support.
- Crackdown on militants in Punjab and elsewhere.
- Prevent ISI agenda & propaganda.
- Prevent drug and weapon trafficking

Trust-building
- Preserving federal spirit vis-a-vis relations with Punjab.
- Outreach by PM to Sikh
  - visiting Gurudwaras.
- Pacifying the feeling of relative deprivation in Punjabis.
- Protection to Indian diaspora abroad.

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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

Drone operation ~~exploitation~~ by external ~~adv~~ actors are used to smuggle various things and resources to pose security threat to India.

eg Drug smuggling in Punjab.

Challenge to Border security

1) Disruptions like nano-drones and small drones are difficult to intercept.

2) Low investment weapon used by hostile neighbours.

3). Trafficking of drugs, weapons and FICN (Fake Indian Currency notes).

4). Lack of technical expertise in border security agencies.

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Suggestions to tackle drone problem in India's border areas.

1). Counter-drones into space: Leasing out drones to intercept any intrusion.

2) Promoting youth of border areas to innovate in this field

3) Strengthening intelligence networks in border villages.

4). Shotting down unidentified UAV in case it poses security threat.

5). Weaponise our drones and radar imaging objects.

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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

Eastern and Central India is blessed with immense natural resources which today considered as curse due to rise of LWE.

~~Crucial drive~~

Crucial drivers for LWE



1). Over-exploitation of resources.
↳ perceived as deprivation

2) Displacement of tribals (Jal-Jungle-Zameen)
↳ dissatisfaction among tribals.

3) Inability of state to transfer benefits of development.

4) Deforestation → loss of livelihood of tribals.

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Measures needed

1) Implementation of land reforms and forest Rights Act, 2006 in letter and spirit.

2) Provision for local employment in mines and industries.

3). Green Industrial corridors in Vidarbha region without need to displacing tribals
   ↳ Pro-forest industries.

4) Tribal development fund in states with 5th schedule.

5). District Mineral Foundation fund should be used more effectively.

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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 (अफस्पा) अपनी उपयोगिता बरकरार रख पाया है? टिप्पणी कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

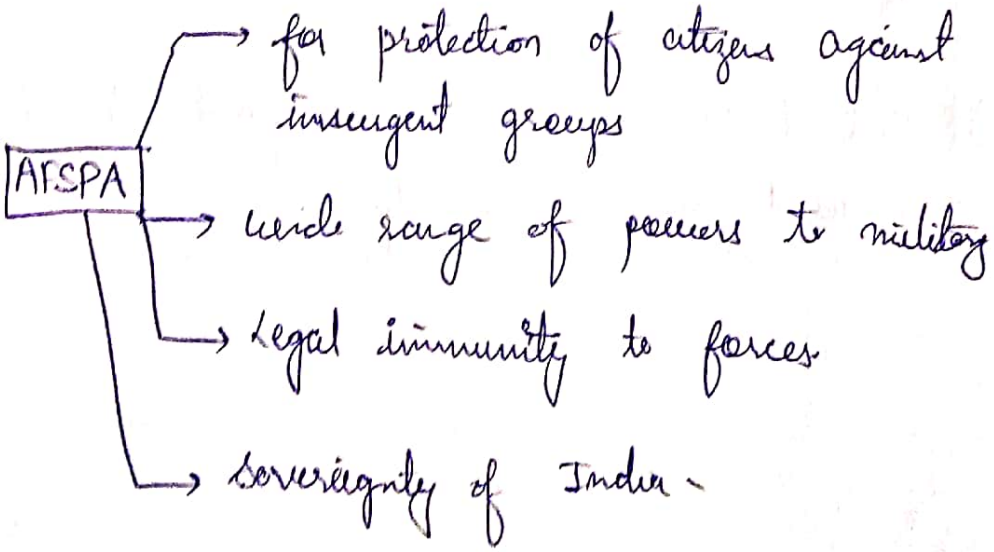
In light of the declining trend of violence in the North East and J&K region do you think that AFSPA has lived its utility? Comment. (Answer in 150 words) 10 Marks

North-East region and J&K region were once termed as 'zones of stable anarchy' by 2nd ARC are showing declining trends violence.

eg 77% incidences reduction in stone-pelting instances from 2013 to 2022.

eg surrender of various militant groups in North East eg Tripura Nationalist Front.

Utility of Armed Forces Special Powers Act (AFSPA)



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Yes, it should be done away with	No, it has utility even today
1) Perceived human rights violations	1) Few insurgents groups active Eg NSCN-K, ULFA, LeT.
2) Curtails citizens liberty	2) Adequate safeguards under AFSPA Eg Section 5.
3) Shows failure of state to instill peace.	3) Gradually removing from states like Tripura, Meghalaya, to dist. of Assam.
4) 2nd ARC and Jeevan Reddy committee asked to repeal it	

A 'more humane and relevant' AFSPA is the need of the hour as propounded by S.K. Sharma Committee.

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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

Homi Jehangir Bhabha and Vikram Sarabhai were pioners of Indian ~~scien~~ aspirations in scientific fields just after independence.

H.J. Bhabha : India's atomic energy mission.

V.A. Sarabhai : First Chairman of ISRO (Indian Space Research Organisation)

India benefitted strategically from contributions of Bhabha as.

1) Started India's nuclear pregramme.
   - 1974: Operation smiling Buddha.
   - 1998: Operation Shakti at Pokran.

Thus it helped in building Indians

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aggresive nuclear weaponery.

2) India – can part of nuclear powers. and can't be annihilated by global powers.

3) Nuclear energy developments
e.g Tapa Tarapur plant, Kalpakkam power plant etc.

4). India currently in second stage of nuclear reactors (Total 3 stages).
↳ water coolent, etc.

Contributions of Sarabhai and its benefit

1) Developed basic architecture of ISRO. (Indian Space Research Organisation)
↳ Chandrayaan, ↳ Today we have successfully completed Chandrayaan – 3 mission

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2) Launched Aryabhatta satellite.
   ↳ India launched 350 foreign satellites at economical cost in 2022.

(2) ↳ satellite based communication.

3). Launch Vehicle innovation
   ↳ PSLV, GSLV etc.

4). India - today having strategic positioning in global space architecture

5) India signed Artemis accord with USA which strengthened our bilateral ties.

6) India can dictate its own terms in space
   ↳ working for missions like Gaganyaan.

7) Indigenization of space missions

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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 artificial intelligence is act of creating new audio, video, document, images, text format etc. by mimicing human cognitive abilities [eg] Chat GPT.

Potential to push boundaries of innovation

1) Help in solving complex mathematical problems by generating formulas.

2). Creating poems and stories to be inducted in our education curriculum.

3) Making videos and animation without needing much of hardware.

4) This can help in generating maps and hazard analysis for disaster

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management;

5) Agriculture: giving guidelines for suitable cropping patterns for certain region.

6) Designing contracts and assessing any vulnerabilities / loopholes that could be misused.

7) Additive manufacturing: 3-D printing could be potential future application of Gen-AI.

eg Bangalore post office by 3D printing

Challenges

1) Intellectual Property Rights: copyrights, trademarks etc. could be replicated under threat.

2) Editing existing audio-videos

eg deepfakes.

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3) Manipulating the legal system as there is no proper legislation governing it.

4). Used for wrong ends may lead to cybersecurity threats.

eg:- generating malwares etc.

5). May kill innovation and animal instinct of society.

Way Forward:

- Used in designing new products.
- Promoting competition among key players eg:- OpenAI, Google Bard
- Comprehensive legislation for its regulation
- To complement human innovation rather than replacing it.

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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 रफ्तार 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

Anti-Microbial resistence is ability of microorganism (pathogens) to counter the immunity response of the body which is developed over time due to various factors.

It is rapidly escalating crisis as WHO estimated death 1 Million death worldwide by AMR by 2025.

Grave threat to public health-

1) Widespread mortality and permanent disability.

2). Existing medications won't be effective to counter it.

3) Need for more disruption to counter AMR

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4) Rising cases of TB (Tuberculosis).

Major contributing factors to AMR.

1) Overdose of antibiotics : helps in developing immunity in pathogens which come with more fine-tuned response

2) Lack of proper hygiene &

3) Poor water and sanitation
   ↳ water can also contribute to exacerbating AMR if not properly processed.

4). Haphazard medication and treatment
   ↳ couldn't kill pathogens entirely and chance to fightback.

Steps

1) Awareness among doctors as well as patients

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regarding severity of issue
eg: AWare campaign by WHO.

2) Marking antibiotics with its limitations
eg: Red Line campaign.

3) No antibiotics without prescription of doctor.

4) Maintaining hygiene around us.
eg: WASH programme of WHO.

5). Assessing whether treament is completed or not

6) Banning ineffective antibiotics
eg: India banned 2 antibiotics last year.

7) Taking care of TB patients without exposing them with the risk of AMR.

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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 are emerging technologies which have ability to transform the way of our life as well as the industries.

Examples of Disruptive innovation and changing industrial working

Innovation	Industry application
1) Artificial intelligence	– Use of Robotics in industries – Impact analysis beforehand of new technology
• Generative AI.	– generating designs of new products and testing them
2) Internet of Things.	– command to machines to perform tasks

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3) Additive manufacturing eg 3D printing and 4D printing	3D models and actual products manufacturing ↳ Reducing costs ↳ Can customise as per our needs.
4) Quantum computing	Still in early stages but has potential to operate using principles of quantum mechanics (qubits etc.).
5) Semiconductors	Chips manufacturing, helped in basic making micro and nano chips used in smartphones gadgets etc.
6) Micro LEDs and OLEDs	Self emissive LEDs having better colour reproduction and limitless scalability
7) Meta Verse using	Bridging gap between virtual and real world.

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VR, AR and XR	applications in gaming and entertainment industry.
8) mRNA vaccines	making it easier and faster to make vaccines for all.
9) 5G Tech.	faster internet services with minimum latency - helping AI, IoT, quantum etc.
10) Block-chain	decentralised digital ledger which is distributed across network.
11) Web 3.0	Future of internet which is user-centric, user-driven and user-controlled

All such innovations may take us on the path of industrial revolution 5.0 (IR5.0)

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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 is a global initiative ~~to~~ with India as its founding member. ~~It~~ It was conceptualized at Conference of Parties (CoP) of UNFCCC.

CDRI - brings more robustness to Disaster Management approach.

1) Cooperation among member countries during disaster.

2) Financing disaster resilient infrastructure to prevent any disaster
e.g. retrofitting existing structure to avoid damage by earthquake.

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3). Bringing in global best practices
eg> Japan's 80% structures are disaster resilient.

4). Building capabilities of existing institutions eg> National Disaster Response force (NDRF).

Need for new strategy in India

Issues with old strategy

1) More focus on post-disaster rescue operations and recovery rather than mitigation.

2) Reconstruction of building after damages costs $ ₹10 Mn in 2021.

3). Lessons only after disaster occured. rather than taking lessons from foreign instances
eg> Land subsidence

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New strategy

1) More focus on mitigation by making critical infrastructure disaster resilient

eg: Delhi Metro Pillars can bear 9 Richter earthquake.

2). Calls for community participation.

3). Global collaboration during crisis times

eg: 2004 Tsunami.

4). Information exchange among member countries:

eg: Cyclone warnings

5) Capacity building for new age disaster

eg: nuclear leaks, Coal Collapse of mines etc.

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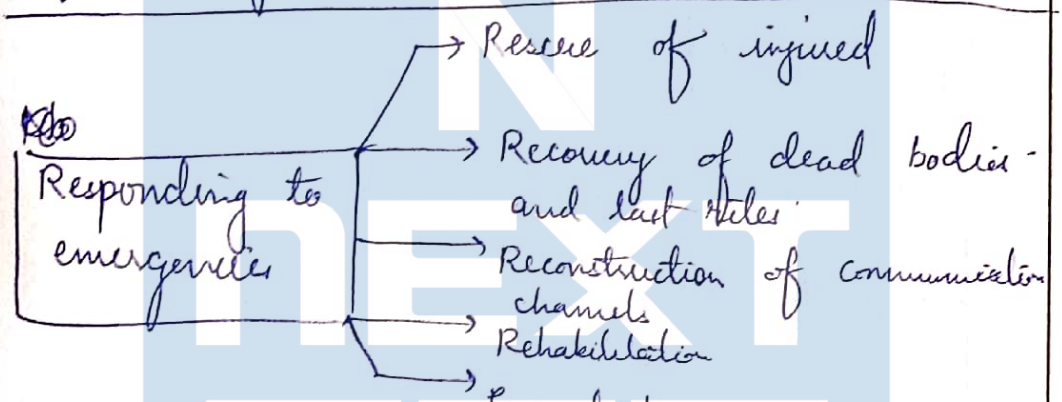
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16. आपदा प्रबंधन सिर्फ आपात स्थिति से निपटने के बारे में नहीं है, बल्कि लचीले समुदायों के निर्माण के बारे में भी है। उन प्रमुख रणनीतियों पर चर्चा कीजिए जिनका उपयोग सामुदायिक लचीलापन बनाने और आपदाओं के प्रभाव को कम करने के लिए किया जा सकता है। (250 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

Disaster management is acting on the catastrophe in order to reduce its damage on lives and property of society.



Building resilient communities

Need.

1) Can complement state machinery to manage disaster.

2) First line of response against disaster.

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3) They are affected the most and hence should be empowered to take tough decisions.

4). Can be ~~trapped~~ channelised into a united force against disasters

Key strategies

1) Multi stakeholder approach.

→ youth: active volunteerism through mock drills.

→ elders: their past experience could help in better policy formulation

→ children: used for information dissemination through Prabhat Pheris.

→ artists: awareness through artforms
eg Sudarshan Pattnaik sand art.

→ media: Real time interface between state and community

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→ Indigenous people: Traditional knowledge ~~agaru~~ about practices e.g. Mangroves good shield against cyclones

→ Women: Preparing for essential items required during disasters.

2) More financial devolution for disaster management to gram sabha

3) Promote afforestation drives.

4) Disaster resilient infrastructure.

5). Trust building and impact analysis at local level.

Local communities have immense potential to resist damages during disaster but need resources and training ~~to fulfill~~ it.

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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

Recently AIIMS server was hacked and locked by anonymous hackers and asked for ransome. It was done using ransomware.

Need for stronger cybersecurity measures and policies

---

1) Increasing disruptive technology
   ↳ opening more avenues for hackers

2). Critical infrastructure protection.
   Eg> data sets of Aadhar, Passport etc

3). Rising cases of cyberattacks worldwide

4) Malwares such as DDoS, virus, Trojan Horse etc.

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Factors contributing to this trend

1) Hostile neighbours
   ↳ state sponsored cyberattacks by China and Pakistan.

2) Blockchain and Web 3.0 : Although decentralised but also poses threat as it is hard to intercept hackers and malicious users.

3) Funds through cryptocurrency providing them with resources to invest in it.

4) Ineffective and lack of coordination among cybersecurity agencies in India.

Impact of these attacks

1) Challenging digital sovereignty of India.

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2) Turning a nation / institution into digital hostage.

3). Financial losses
Eg> CoWIN data for sale on Telegram

4). Hampers morale of Indian institutions

5) Threat to privacy of users.

6) Profiling of citizens
Eg> Cambridge analytica

Way Forward
- Comprehensive cybersecurity legislation
- dedicated cadre of personnel for cybersecurity
- Investing in Research and Development
- Data localisation

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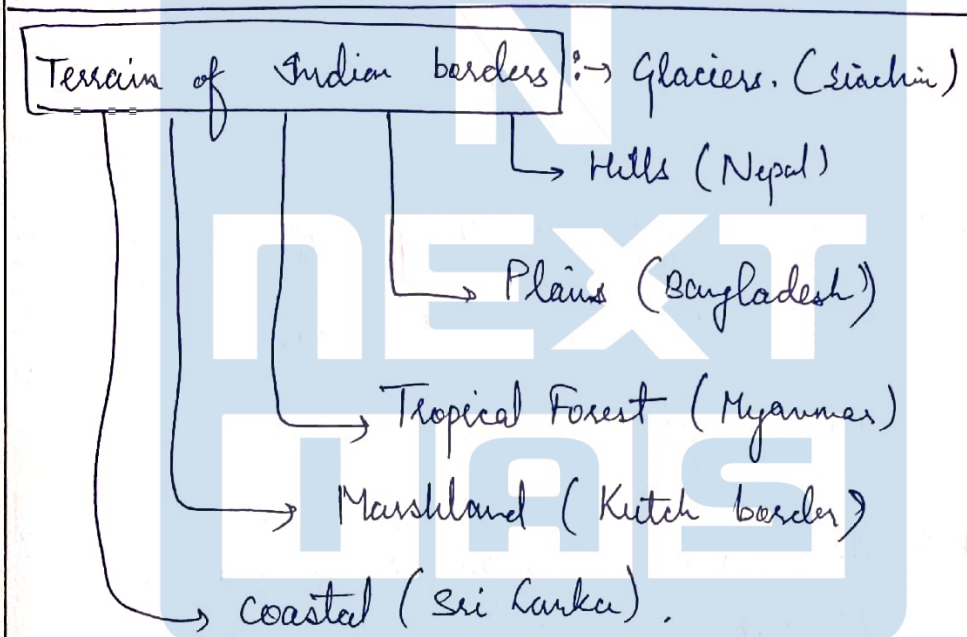
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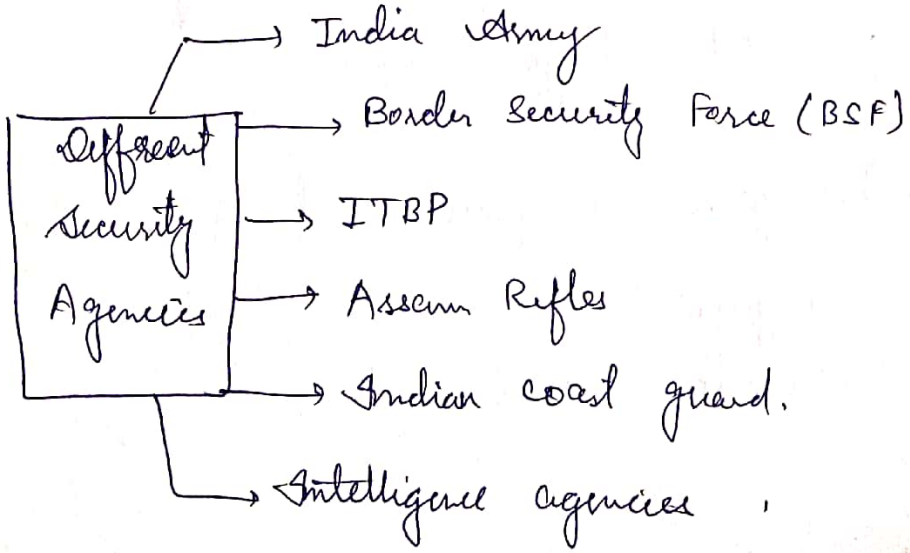
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18. सीमा सुरक्षा के संदर्भ में, तटीय और स्थलीय सीमाओं के प्रभावी और कुशल प्रबंधन को सुनिश्चित करने के लिए विभिन्न सुरक्षा एजेंसियों के बीच सहयोग और समन्वय को कैसे बेहतर बनाया जा सकता है? (250 शब्दों में उत्तर दीजिए) 15 अंक

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 has almost 15000 km of bounday boarders of which 7517 km is coastline which is crucial aspect to protect our national security architecture





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Coordination ⟶ Efficient border management

(I) Terrestrial

1) Information exchange.
   Eg ▷ Myanmar surgical strike.

2) Tackling infiltration of militants in Kashmir.
   Eg ▷ BSF and R&AW.

3) Prevent illegal smuggling of drugs and weapons from Pakistan
   ↳ in Punjab and J&K.

4) Border Area Development programme and Hill area development programme.
   ↳ Vibrant village programme.

5) Convergence in police and para-military intelligence
   ↳ crackdown on terrorist.

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6) Tackling North-East insurgencies
↳ They use porous borders of Myanmar to hide.

(II) Coastal

1) Defining and adhering to jurisdiction during peacetime.
e.g. Police → Coast Guard → Navy.

2). Checking ships and ensuring no smuggling.
↳ 26/11 terrorist used ship to enter India.

3) Providing security to fishermen:
↳ Sri Lanka shot 2 India fishermen.

4). Preventing threat to coastal biodiversity-

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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

Terrorism is act of creating fear in minds of people and society using various means to achieve a political goal. (UNGA (1994) - resolution).

Terrorists using new and emerging tech.

---

1) Proceeds of crime transferred through cryptocurrency. (virtual digital assets).

2) Using metaverse for simulating actual condition and performing practices -

3) Radicalisation through social media and animated videos.
eg → Christchurch Mosque attack

4) Funding through money laundering.

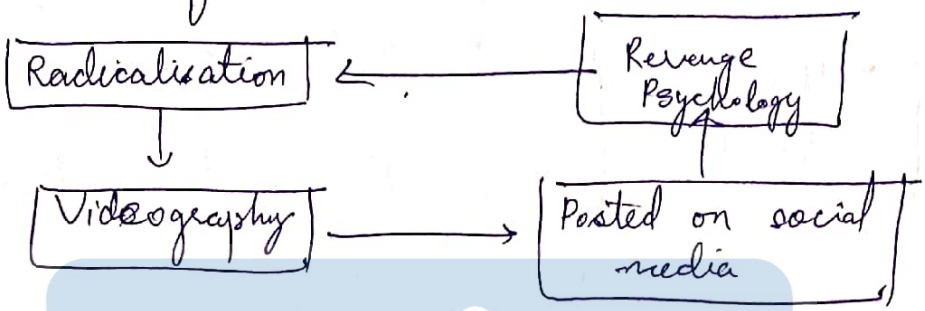
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5) Indoctrination through viral videos using deepfakes

6) Rumours on social media



Countering their use for terrorist purpose

1) Tracing money trails of money laundering used to fund terrorist activities →

2) Regulation of virtual digital assets used through comprehensive legislation.

3) Building a <u>counter-cyber terrorism community</u> and personnels to respond to emergencies

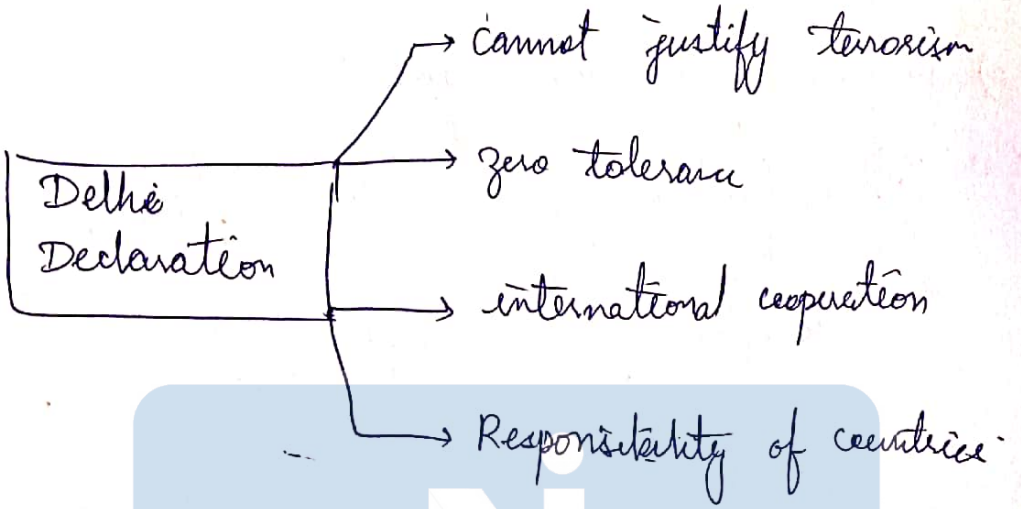
4) De-radicalisation centres Eg → Maharashtra

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Importance of Delhi Declaration, 2022



Significance

- Multinational crackdown on funding of terrorists
- Extension of Christchurch call to tackle cyberterrorism
- Call for global framework for peaceful use of new and emerging technologies.

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20. "अग्निपथ योजना हमारे राशस्त्र 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

Agnipath scheme brought by central govt in 2022 in order to carry out military reforms in the era of new age warfare.

- Agnipath scheme
  - → 4 years duty in military
  - → 25% promoted candidates
  - → Recruitment lower age limit is 18
  - → selection through existing system

Need of Agnipath – Pros.

1) Need to induct more youth in armed forces. To reduce average age.
   - Average age is 30, need to bring it down to 24.

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2) Youth more aware about emerging challenges.

3). More energy and lesser laxity.

4) Reducing pension burden on government scheme expenditure

5). More fit and disciplined youth to country after their service is over.

Cons of Agnipath scheme

1) Lesser training may lead to lesser effectiveness of armed forces as only 1-year training.

2) Lack of experience at lower levels of forces.

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3) Corruption scope during times of promotion (only 25% to be retained)

4) Some skill youth could be rendered jobless after 4 years.

5) May lead to chaos and increase in violence in society.

↳ Military trained youth without jobs.

6) Lack of post-service benefits may not attract more deserving personnels

On the lines of D.B Shekatkar committee a vibrant and young armed forces should be made but should also take care of the quality of manpower.

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