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NEXT IAS

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Name of Candidate : RAHUL HIJAM

NEXT IAS Roll No.: GSPM23B13025 Date of Examination : 15/08/23

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

Test Code : TC052 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.

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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 is a technology that store electric charges through specially developed batteries.

Applications

- It is designed to use the store charge at a later time.
- It is helpful to complement the intermittent source of energy like solar, wind etc.
- It will help in transmission system and grid stability.
- The Ministry of New and Renewable Energy along with Ministry of Power plans to use this to achieve the target of 450 GW of Renewable Energy by 2030.

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Limitations.

- It uses Li-ion battery which has fire risk
- Battery fire is intense and hard to control.
- If Battery Management System fails, then it will not be able to ~~operate~~ monitor operating environment.
- Domino effect : Damage in one battery can affect all the surrounding environment.

Therefore, BESS has a potential to revolutionise the energy program and support in schemes like Rooftop Solar etc; however proper investment in R&D is needed to ensure safety and to be able to mitigate risks.

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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

Gaganyan Mission of ISRO is a programme to undergo human spaceflight. It aims to take 3 pilots of Airforce into orbit of 400 x 150 for a week, named as Vyomnauts.

Developments:

→ The Mission aims to have a total of 3 launch
- → 2 unmanned launch with the help of humanoid robots called VYOMMITRA
- → final launch will be manned

→ **Requirements**

- Rocket with HS200, HLIO and HCES.
- Reentry technology
- Pad Abort test / Crew Escape systems
- Environment control life support system
- Astronaut training.

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Challenges:

- Technology for reentry: 4 test have been done since 2007, however there is risk in manned flight.
- Creating sustainable environment in a ~~small~~ small area in space for a week.
- Problem of weight which is different and heavier than communication satellites.

Possible Benefits.

- It will be a stepping stone for space station
- It will promote international collaboration
- It will promote R & D
- It will catalyse private sector
- It will enhanced stature of the country.

Thus, Success of Gaganyan will change the perception of space sector and induce new opportunities. However, proper tests and experiments along with timely completion is necessary for the success.

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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 missile is an Indo-Russian Joint Venture with a range of 300 km. It is the fastest cruise missile with speed of 2.8 Mach.

Features

- 2 stage missile (1st stage solid, 2nd stage Liquid)
- It is a multiplatform missile which can be launched from land or sea.
- It has pinpoint accuracy
- It works on fire and forget principle.
- It is a stealth missile and uses RAMJET Technology.

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Contribution to India's defence capabilities and Strategic position.

- It will help whenever India is going for the emptive strike
- It increases India's credibility and security.
- It helps in increasing coordination with other countries.

  Eg:- Recent export to Vietnam will help not only in trade but also use of IRNSS.

- It strengthened the indigenisation process of India.

Therefore, with joining of MTCR and increasing range of Brahmos from 290km to 600km, it will help in security of India and building and maintaining credible minimum deterrent.

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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

India has a long coastline of around ~~7500 km~~, 7600 km. To ensure self reliance and growth, Samudrayan is part of India's 6000 crore Deep Ocean Mission.

Samudrayan Mission

- to take 3 personnel to 6000 m depth using vehicle called MATSYA 6000.
- aim is to explore deep sea minerals
- manned submersible mission to allow personnel observation and understand unexplored deep sea areas.
- It will be able to endure 12 hours under normal operation and 96 hours in case of emergency.

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Contribution:

- It will help in the mission of New India and lead a step ahead in the initiative of Blue Economy.
- With the long coastline, it will help folks in the region with employment opportunities and better standard of life.
- It will boost R&D and can help in underwater engineering.
- It will boost fishery sector, aquaculture and tourism.
- It can help in discovery of mineral resources to reduce import and become Atma Nirbhar Bharat.

Thus, Samudrayaan Mission is a step towards self reliant and efficient India, enhancing growth and opening route for investments.

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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

The recent disaster of land subsidence in Joshimath, Uttarakhand is a huge indicator of the vulnerabilities that can occur if there is no change in our daily activities.

Key Lessons for Disaster Management

- Need for proper mapping and zoning of areas prone to various disasters
- Proper remedial measures to be ready if disaster occurs
- Mock drills for possible disasters and awareness about the risks.
- Resilient infrastructure and proper regulation of projects in the area.
- Proper rehabilitation capacity of displaced people is required.
- Proper EIA of projects in the area.

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For Environmental Conservation

- Need to stop deforestation, mining and hydro projects in vulnerable zones
- As Himalayas is made of sediments, it increases chances of landslides, earthquake and subsidence of land.
- Proper redistribution of tourism and spreading it with a certain limit in particular areas.
- Unplanned construction of resorts and shops, various infrastructure project must be stopped.

Therefore, everybody need to be aware of the potential risk and ensure mitigation through afforestation, proper planning and scientifically evaluating the risks of activities in the region.

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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

The recent COVID-19 pandemic bring a sudden shock everywhere in the world with disruption of daily activities and loss of many lives.

Challenges in managing Pandemics and other infectious disease outbreaks.

(1) Infrastructure : Different healthcare facilities gives unequal treatment.

(2) Misinformation → Spreading of fake news leads to rise in panic

(3) Unknown source of origin and unavailability of vaccine

(4) To change people's behaviour encouraging social distance and wearing mask.

(5) With the various evolution and variants of viruses, it becomes difficult to tackle it.

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Key strategies for managing it

1. Rise in hospital infrastructure to help the patients.
2. Ensure adequate requirement of necessary equipments are met
3. International Collaboration with schemes like One Health Approach to prevent such threats.
4. Awarness among citizens to ensure their active participation in mitigation
5. Investment in R&D for vaccines and creating database.
6. International funding to support each other in times of need.

Thus, for such disaster, there is need of coordination and proper planning by involving all stakeholders.

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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

Khalistani issue refers to the Sikh secessionist movement with demand of seperate Sikh nation from India and Pakistan.

Recent development in the issue.

→ Local radicalisation of youth by person like Amritpal Singh.

→ Huge involvement of above ground non state actors in supporting the movement.

→ Attack in embassies in US and UK.

→ Rise in the movement with coordinate attacks from UK, US and Canada.

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Measures to handle the issue

→ Banning Khalistani Organisation and taking strict action against them.

→ Cooperation with other nations to handle the issue with proper information sharing.

→ Coordination of centre and state in administration and handling cases.

→ Economic and social development to stop the radicalisation.

→ Encourage Sikh religion and inducing inclusive programmes.

Secessionist tendencies rises due to lack of attention and reach of developmental programme. It is due to the pain and suffering from which certain agents takes advantage. Thus movement towards inclusive growth is required with structural reforms.

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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

With long border and porous border, India's border security has various challenges. However, the anonymity and ease of drone operation creates major challenge.

Challenges from Drone Operation

→ Rise in frequent rogue drone activities in western border with Pakistan mainly smuggling weapons, drugs and ammunitions.

→ Attacking ammunition in drones and attacking army bases.

→ The main surveillance are for large objects while drones are small.

→ Rise in international attacks.
Eg:- 3 killed in Abu Dhabi including 2 Indians from drone attack by Yemen Houthis.

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Measures to tackle the problem:

→ Investment in drone detection technology

→ Cooperation with International allies like USA and Israel which are leading in drone technology.
Eg:- Iron Dome of Israel.

→ Initially focus on immediate area.

→ Increase in investment in counter drone technology.

→ Using techniques like soft kill i.e. jamming the sensor and GPS or hard kill i.e direct shooting down.

→ Use of laser based Directed Energy weapon

Therefore improvement of infrastructure and investment in critical technology is required with improving bilateral ties.

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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 refers to the ideology based on far left radical thought. It idolises communism and emphasise advancement of people, social and economic life by establishing classless society through arm rebellion.

Reasons for prevalence of LWE.

→ Resource curse : Various companies wanted to appropriate the resources and make the region underdeveloped for further exploitation

→ Inefficient land reforms which leads to less distribution of land.

→ Skewed Economic Development model of trickle down effect led to development only of heavy industries.

→ Imbalance regional development with lack in tribal areas.

→ Absence of grievance redressal mechanism.

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Measures:-

- Security Measure → National Policy and Action Plans: a) Modernisation of Police force
  b) Special infrastructure like fortified police station
  c) Special forces like Greyhound and COBRA

- Developmental Measure
  → Integrated Action Plan to bring problem at surface
  → Road requirement plan for connectivity
  → ROSHNI Scheme for skill development
  → SAMADHAN Doctrine
  → Winning hearts and Mind Scheme

Thus, for reducing extremist activities, there is need for adoption of early harvest programme, good governance and PPP model of development.

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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

Armed Forces Special Power Act gives unfettered power to armed forces and central armed to police forces deployed in disturbed areas to kill anyone acting in contravention of law and arrest and search premises without warrant.

Utility of AFSPA and its importance

→ There has been decrease in trends of violence in North East region by more than 70% while in J&K by more than 60%.

→ There is decline in areas under AFSPA and various peace agreement are taking place.

→ The illegal activities are asymmetrical and armed forces need special power to handle such cases and not become hindered in legal cases.

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→ The Supreme Court held that AFSPA is constitutional in Naga People's Movement of Human Rights v/s Union of India.

However, there are certain challenges.

→ Human Rights violation becomes major issue with poor accountability.

→ Various committee like ~~Jeevan~~ Jeevan Reddy Committee and Santosh ~~Hedge~~ Hegde Committee recommended repealing the act and adding provisions in UAPA.

Thus there needs to be imposition of AFSPA on case by case basis and ensuring armed forces does not violate its privilege is utmost important.

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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 Jehangir Bhabha and Dr. Vikram Ambalal Sarabhai were pioneers in the fields of atomic energy and space technology which helped ~~pioneers~~ India progress and move ahead in the world.

Contribution of Dr. Homi Bhabha.

- Bhabha Scattering: explaining relativistic scattering.
- Homi Neither Theory: theory of production of electron and positron.
- moving India ahead in applied research in Physics and foundation of Tata Institute of Fundamental Research.
- envisaged the use of nuclear weapon ~~as~~ for defence
- Pioneer in Nuclear Program with formation of Atomic Energy Comission which formed AEET.

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ISRO was founded by Dr Vikram Sarabhai with the help of PIFR.

Contribution of Dr. Vikram Sarabhai.

- great role in development of India in field of astronomy and space research facility.
- founded INCOSPAR in 1962 which turned into ISRO in 1969.
- ~~dev~~ set up first rocket launch site in Thumba
- Mastermind in building first satellite i.e. ARYABHATTA.
- collaboration with NASA to bring cable television to India through SITE.

Thus, India become a nuclear State with policy of No First Use and minimum credible deterrance to ~~see~~ enhance its security. Also,

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India became one of the leader in Space Sector with successful launch of Mars Orbital Mission and Chandrayan 1 & and Chandrayan II.

These as achievements were due to their contribution which help India to be recognised as a global power and raise its stature in the world.

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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

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The rise in Chat GPT, ~~Lamda~~ Lambda etc has brought generative AI in the mainstream with various potentials of innovations.

Generative AI is the use of machine learning, deep learning etc to generate image, text, videos, creative ideas by using large language model and neural transmission.

Potential of Innovation

- Provision of real time information
- Predicting 3D shape of proteins
- identification of neglected diseases.
- helps in e-Governance
- increase in efficiency of industries & thus enhancing growth.

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Recent Benefits

- AlfaFold → helps in determining shape of proteins to reduce diseases like Mad Cow Disease and neglected diseases that are inflicting poorer of poor by creating database of 3D structure of protein.
- Chat GPT → MeITY envisioned to used it in BHASINI and integrate with ~~a~~ whatsapp for e-governance.

Societal Impact

- ~~Potential and~~
- Deepfakes : The rise in deepfakes can harm anyone with blackmailing and other illegal practices.
- Plagiarism : It can be a tool for plagiarism which disrupts ~~Pat~~ IPR regulations and discourages innovation.

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• Security Privacy: It can lead to compromising privacy both personal and at national level.

• Biological weapon: System like Alphafold can be misused to bring biological weapon.

• Also there is widening gap in technology regulation.

Therefore more regulatory mechanism with enhanced upskilling of workforce is needed to ensure the risks are prevented and benefits can be utilised.

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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

Anti Microbial Resistance is the ability of microorganisms to adapt and resist the drugs used against them.

Example: MDR in MDR TB, XDR TB, PDR TB.

Reasons for the growing problem of AMR

→ Over the counter availability of antimicrobial drugs which is responsible for non human use.

→ Poor Hygiene and Sanitation.

→ Greed of Pharmaceutical Companies to invest in drugs which are long duration and ignore ~~investigations~~ investing in R&D of antimicrobial drugs

→ Release of Sewer into water bodies untreated.

→ Industrial Waste mixing with water bodies.

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Steps taken globally to address the threat.

→ WHO, FAO and organisation for animal ~~welfare~~ health have adopted global action plan based on ONE HEALTH APPROACH

→ Red line campaign to create awareness

→ Drugs and Cosmetic Act 1949 amended to bring antibiotic formulation in Schedule H.

→ AWaRe Programme by WHO

→ Banning colistine for poultry industry

→ Delhi Declaration Plan and Chennai Declaration to ban non human use of human antibiotics.

→ Synchronising National List of Essential Medicine with AWaRe Strategy.

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In order to prevent AMR, there must be funding of new drugs and all stakeholders like WHO, Government and companies must be involved. Proper restriction of over the counter sale and improving hygiene and sanitation must be taken strictly. Also, exploitation of IPR rights by huge companies like Bedaquiline by Thomson & Thomson must be properly regulated.

Therefore, involvement of all stakeholders is required to reduce AMR by spreading awareness, making cleanliness as social movement and focusing on R&D.

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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

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Disruptive innovations are technology that alters the way that consumers, industries and busines operates. They displaces well established product or technology by creating new industry or market.

Some examples of Disruptive innovations

1. Block chain Technology.
2. Artificial intelligence
3. Internet of Things (IoT)
4. Drone technology
5. Genome editing
6. 3D printing.

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They have changed the way industries operate in following ways:

- It increases ease of doing busines and increases efficiency.
- AI helps in performing jobs quickly and have the ability to do multiple works at a time
- IOT helps in building smart homes, smart cities and changes way of living.
- Block chain Technology brings in new scope of innovation and storage facilities with easy targetting of people and effective job delivery.
- 5G services enhances the connectivity and connects all things around for smooth functioning.
- Drone technology helps in various sector of health, security, defence etc reaching unreachable areas.

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- Genome Editing helps in building new crops with specified features, treating diseases like cancer and in further research.

However such changes lead to some challenges

- It leads to fear of jobless and less employment opportunities
- It conflicts with traditional rigid mindset.
- There is digital divide with lack in accessibility and lack of digital literacy.

Thus, there is a need to ~~stop~~ upskill and train the workforce, and educate the people in order for them to evolve with the time and take advantage of evolving 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 global partnership for resilient infrastructure system to face climate change and disaster risk and move towards sustainable development.

CDRI helps in following ways:-

→ Expert consultation
- → sending experts in various needed areas
- → technical expertise shared
- → assistance to countries in developing appropriate risk governance.

→ Enhancing funding and cooperation
- → assistance to member countries to fulfill SDG goals, Paris Climate Agreement and Sendai framework resolution.

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Need for New Strategy to tackle Disaster in India.

→ India is a diverse country

- → North : Prone to Earthquake, Landslide, avalanche etc.
- → South : Large coastline which have vulnerabilities to cyclone, Tsunamis etc
- → Climate change : Urban Flood, Flash flood etc.

→ India, with becoming most populous country is vulnerable to Pandemic like COVID-19, epidemic like Ebola and various unknown diseases.

→ The disaster may be in form of security threat with various neighbours and porous borders.

Thus, a new strategy is required.

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Some of the strategies are:

① Prevention: Afforestation, Proper Mapping and zoning of areas, Proper EIA before any projects.

② Mitigation: Reducing tourism at one spot, ~~when~~ programes like Mangrove Alliance and building earthquake proof infrastructure.

③ Preparedness: Mock Drills for possible disasters and early warning system.

④ Response and Recovery: Proper task force to help the victim and rehabilitation requirement to assure safety.

Thus, in order to fulfill SDG goals and Sendai Frameworks, there is need for proper regulation and approval of projects by professionals and making the approach human-centric.

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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

Candidates must not write on this margin

Disaster Management consist not only to responding of emergencies but also includes:

- Prevention
- Mitigation
- Preparedness
- Recovery

Thus, Building Resilient communities is a way towards achieving goals of Sendai framework.

Need to Building Resilient Community

- Disaster affects community as a whole
- Panick causes more casualties
- Lack of preparedness includes more harm and damages which can be prevented.
- Coordination can lead to efficient control.

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Key Strategies to build community resilience and reduce impact of disaster

1. Awareness about disaster in communities and mandatory disaster management classes in school.
2. Mock drills to prepare the community at the time of disaster.
3. Early warning system to predict disasters.
4. Training the people about first aid and how to handle injured victims.
5. Building infrastructure which are disaster resilient from modern technologies and traditional ones.

   Eg:- Sand box technique.
6. Ensuring community participation in mitigation

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activities like planting trees, and not building infrastructures in vulnerable zone.

② Proper coordination between various organisation at different level for ease in transfer of fund for such programmes.

Thus only government alone @ cannot build resilient structure but active participation by all stakeholders can help in creating reliance to disaster and reduce its impact.

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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

Critical infrastructure are body of system, networks and asset which are essential to continue their operation for national security. Major corporations are pillars of economy which when disrupted can create disastrous impact.

Recent Rise in ransomware attacks

→ Ransomware attack in AIIMS Delhi

→ Wannacry ransomware attack in five cities of India in May 2017.

→ February 2022, cyberattack of Air India.

→ Red Echo attacking power sector of India.

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Reason for these cyber attacks.

- for payments to restore the data.
- as a proxy war using computer and Internet
- to radicalise people to become extremist.
- cyber terrorism

Challenges

- With the rise in digital economy, it created vulnerability of data theft
- Dependence on imports can lead to vulnerability in digital infrastructure
- Lack of proper upgradation of technology.
- Digital illiteracy and the divide it creates.

Impact of these attacks.

- holds the functioning of certain sector which leads to loss of revenue
- Healthcare sector is vulnerable with various patient on life line and their records being compromised.

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- National security is compromised with rise in smuggling, attacks and terrorist funding.

Steps taken by Government

- establishment of CERT-IN
- Cyber Surakshit Bharat Initiative
- Cyber Swatchta Kendra
- I4C and Cyber Warrior Police Force.
- Implementation of National Cyber Security Policy 2013.

However, there is a need for mass awareness, educating the masses, cooperative federalism and proper engagement internationally to avoid such threats.

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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 share terrestrial border with Pakistan, Nepal, Bhutan, China, Myanmar and Bangladesh. Also it has a large coastline of about 7500 km long.

Vulnerabilities in Border Areas

Terrestrial

- Cross border migration
- illegal arms smuggling
- drug circuit
- lack of infrastructure
- border dispute.

Marine borders

- piracy
- smuggling
- terror attacks
- porous border.

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Benefit of Cooperation and coordination

→ Proper building of infrastructure like roads and railways can ensure swift connectivity.

→ Sharing of information can help in coordinating and tackling threats.

→ Joint training and military exercises can help in cooperation among different agencies.

→ A coordinate operation among different regional levels helps in prompt handling of issue.

Thus with the threat from various State and non state actor and in order to secure the borders, different agencies need to coordinate and cooperate among themselves.

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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

New and emerging technologies are beneficial to people with increase in connection and ease in doing busines. However with ease of acces of such technologies and low cost, it becomes a tool for terrorism.

Terrorism now evokes using cyber attacks, financial data theft and damage and various measures like ransomware attack and cryptojacking.

Steps to counter the use of New and Emerging technologies for Terrorist Purposes

- Increase in cyber security with various initiatives like I4C, CERT-IN etc.
- Awareness among citizens and educating them to use digital services.

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- Proper regulation of laws regarding data privacy and cyber security.
- Schemes like Cyber Surakshit Bharat Initiative
- Counter Terrorist funding
- Proper collaboration with international agencies and information sharing.

Importance of Delhi Declaration

→ It focuses on responsible state behaviour in cyber space

→ It emphasise not to damage critical information infrastructure.

→ It commits to cooperate, mitigate and investigate cyber incidents.

→ Respect international law and rule of law.

→ Protect software supply chain.

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Therefore a collective action is required with shared information, expertise and technologies to handle the threat. Organisations like FATF and UNOCT must enhance their surveillance to prevent such crime.

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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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Agnipath scheme is a way of recruiting soldiers across three services. The Patriotic and motivate youth will join armed forces for 4 years and will be called Agniveers.

Contributions

- It will allow recruitment of 45000 to 50000 soldiers annually.
- Average age profile will reduce as recruitment will be of age between 17.5 - 23 years.
- It will create more employment.
- It can make future ready soldier
- It will produce higher skilled workforce.

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However there are few criticisms.

→ Only 25% of recruited will be retained.
→ This make it difficult to find another job.
→ There is no pension benefit.
→ The training will be underutilised.

But the government provided some benefits.

→ Seva Nidhi Package upon completion of 4 years.
→ 48 lakh rupees life insurance.
→ If death during service, compensation of ₹ 1 crore and pay of remaining terms.
→ Rehabilitation of soldiers who leave.

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Thus, the scheme will lower the expenditure of the sector and reduce age profile however the latent impact of Agniveers are questionable. Proper guidance and directing to another job can help the issue.

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