



TEST CODE 7 1 3 2 3 8

MGP 2024

Time Allowed : Three Hours
समय : तीन घंटे

Forum IAS

Maximum Marks : 250
अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	Keshaw Gang	Roll No./अनुक्रमांक	1910135783	Medium/माध्यम	English ☒ हिंदी ☐
Center Code/परीक्षा केंद्र	1901	Date/दिनांक	14/9/24		

*Center Code : For Online - 1900 / Delhi : Karol bagh - 1901, ORN - 1902, Mukharji Nagar - 1903 / Patna : Boring Rd. - 2001 / Hyderabad : Jawahar Nagar - 2101

INDEX TABLE / अनुक्रमिका

Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक
1		
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Total/कुल अंक	250	

INSTRUCTION / अनुदेश

- Please do furnish Name, Email, Roll No and Mobile in the answer sheet.
कृपया उत्तर-पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर भरें।
- There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory.
उत्तर पुस्तिका में अंग्रेजी/हिंदी में बीस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।
- Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided.
उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न-सह-उत्तर (व्यूरीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।
- Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off.
प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।

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Examiner's Discretion/मूल्यांकन कर्ता का विवेक :	Start Time/प्रारंभ करने का समय : 4:00	End Time/समाप्त करने का समय : 7:00
Total Marks/कुल अंक :	Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन ☐ Offline/ऑफलाइन ☒

*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy.

मूल्यांकन कर्ता का विवेक अंक आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आयी के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।

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ECN CODE/ ईसीएन कोड :	EG/ईजी : ① ② ③ ④ ⑤	Evaluation Date/ मूल्यांकन तिथि :
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Note: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussion classes for the tests are also available online in your portal to aid in your preparation. Further, students are requested to see the good copies of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways and means to improve your answers, or if you have any issues with this test / copy. Ask specific questions, to get specific answers.

EXAMINER'S REMARKS

CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

1. **AWIS = Answered What is Asked.** This means whether you have addressed the core demand of the question or not. Addressing the core demand of the question gets you an objectively fair score. It is examiner's perception if you have understood the question and if you know the answer in the first place. Creative answer writing, sometimes missing the core demand, may fetch very high or very low scores, and exposes your answer to the subjectivity of the examiner.
2. **CD & VA = Content Density & Value Addition.** Examiner will evaluate the quality and quantity of your content in the answer. In the same word limit and space limit have you (a) written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (but not all!) suggestions, ideas, quotes, flowcharts, diagrams, facts and figures, data etc. This affects objective components of assessment.
3. **S & F = Structure & Flow** = Whether you have structured your answer properly or not. Whether the answer has been broken into parts and sub-parts and each part has been addressed appropriately or not. Whether the flow of the answer is maintained. Affects both subjective and objective components of assessment.
4. **P & R** = How your answer performs on the criteria of **presentation, ease of read, clarity and apparent effort** in writing the answer. This affects the subjective components of assessment.

Q.1) Aditya L1 mission is an important milestone as India's first space based solar observatory. Enlist the major scientific objectives and the challenges of the mission. (10 marks, 150 words)

आदित्य L1 मिशन भारत की पहली अंतरिक्ष आधारित सौर वेधशाला के रूप में एक महत्वपूर्ण मील का पत्थर है। मिशन के प्रमुख वैज्ञानिक उद्देश्यों और चुनौतियों को सूचीबद्ध कीजिए। (10 अंक, 150 शब्द)

Aditya-L1 is the first solar mission of ISRO to study sun and its outerspace.

major scientific objectives includes

- ① Solar coronal study: like formation of solar flares in coronal surface.
- ② Effect of coronal mass ejection: on atmosphere of earth and outer atmosphere.
- ③ Reaction inside the sun: causing huge amount to energy to dissipate.
- ④ study of solar eclipse.

challenges of Mission

- ① To reach L1 Band : required complex manuevarability and scientific advancement.
- ② Huge cost : to make spaceflight and space craft, solar resistant.
- ③ Scientific issues : formation of spacecraft and parts required.
- ④ Issue of skilled Manpower : ISRO depend on its organization for complete mission.

Aditya- L1 mission will play huge role in discovering the unknown facts about sun, to add new knowledge to humankind.

Feedback

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#	G	A	P
AWIS			
CD & VA			
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P & R			
Please put tick marks in the above table.			
Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.2) Describe briefly what gene therapy is and what advantages it has over other treatments?

(10 marks, 150 words)

संक्षेप में जीन थेरेपी का वर्णन कीजिए और अन्य उपचारों की तुलना में इसके फायदों को सूचीबद्ध कीजिए?

(10 अंक, 150 शब्द)

Gene therapy involves application of biotechnology, where genes of an individual are either corrected, mutated or changed.

Advantage of Gene therapy over other

- ① low risk of side effects: As no outside gene is introduced.
- ② More chances of recovery: as compare to other traditional therapy like transplant.
- ③ low risk of organ rejection: as gene from same body is used.

- ④ Does not require multiple therapies: as gene once corrected can again correct itself.
- ⑤ Can be used in multiple diseases!
- ⑥ Blood cancer, arthritis etc.

Issues with gene therapy:

- ① More effective in early age and childhood.
- ② High cost of treatment: not affordable for all.
- ③ Lack of availability of gene therapy: rural and remote areas.

Gene therapy could revolutionise the health sector but next step is to make it economically viable and available to all.

Feedback

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TOTAL MARKS			

Q.3) With recent advances in technology, robots are now equipped to perform more than just conventional and routine tasks, which brings new opportunities as well as risks. In this context, evaluate the future potential of the robotics sector. (10 marks, 150 words)

प्रौद्योगिकी में हाल की प्रगति के साथ, रोबोट अब पारंपरिक और नियमित कार्यों से कहीं अधिक करने में सक्षम हैं, जो नए अवसरों के साथ-साथ जोखिम भी लाता है। इस संदर्भ में रोबोटिक्स क्षेत्र की भविष्य की क्षमता का मूल्यांकन कीजिए। (10 अंक, 150 शब्द)

The robotic market in India valued at around 4 billion dollar and expected to grow 8.26 billion dollar by 2030.

new opportunities with robots

- ① Industrial sector: use in hazardous sector like mining and fire-crackers.
- ② Social sector: use in cleaning of sewage ④ Bandicoot robot.
- ③ Education sector: used as agent to deliver lectures in schools and colleges.

- ④ Health sector: to perform high end surgery and diagnostics.
- ⑤ Space sector: to stimulate the space environment- (Eg) Vyommitra of India.
- ⑥ Hospitality sector: use in hotels, Airports and other areas.

Risk of the robotics:

- ① Misuse of technology: use in cross border terrorism and wars.
- ② Eliminate the human labour: need of physical labour.
- ③ Act as spying agent: (Eg) Robotic animals used during cold war.

Robotic sector provide opportunity as well as risk, effective and holistic guidelines required to regulate it.

Feedback

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TOTAL MARKS			

Q.4) Private participation in propelling India's space journey is widely acknowledged but is yet to be fully tapped. In light of the statement, analyse the hurdles faced by the private sector and also recommend measures to unlock greater private participation in the space economy. (10 marks, 150 words)

भारत की अंतरिक्ष यात्रा को आगे बढ़ाने में निजी भागीदारी को व्यापक रूप से स्वीकार किया गया है लेकिन अभी तक इसका पूरी तरह से दोहन नहीं किया गया है। कथन के आलोक में, निजी क्षेत्र के सामने आने वाली बाधाओं का विश्लेषण कीजिए और अंतरिक्ष अर्थव्यवस्था में अधिक निजी भागीदारी को प्राप्त करने के उपायों की भी अनुशंसा कीजिए। (10 अंक, 150 शब्द)

Department of space desired the participation of private sector in space activities to unlock the scientific potential of India.

Hurdles faced by private sector

- ① lack of infrastructure facilities: like launchpad, space flight etc.
- ② lack of funding mechanisms: to continue research.
- ③ Monopoly of space sector: ISRO dominate in space technology.
- ④ lack of market support: low incentives for research & development.

measures to improve the participation

- ① Availability of infrastructural facility: In-space program of ISRO. (eg) skyroot was launched of ISRO.
- ② Outsourcing of technology: ISRO helping private startups to grow.
- ③ Policy support: New-space India program to promote space related startups.
- ④ Tax Benefits and Incentives: to support research and development.
- ⑤ Production linked incentive for space sector.

space sector can be new sunrise sector for harnessing the demographic dividend of India.

Feedback

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TOTAL MARKS			

Q.5) Write an explanatory note on the causes and impacts of avalanches. Also, highlight the various strategies to mitigate its impact, with a special emphasis on NDMA guidelines. (10 marks, 150 words)

हिमस्खलन के कारणों और प्रभावों पर एक विवेचनात्मक टिप्पणी कीजिए। साथ ही, NDMA दिशानिर्देशों पर विशेष बल देते हुए इसके प्रभाव को कम करने के लिए विभिन्न रणनीतियों पर प्रकाश डालिए। (10 अंक, 150 शब्द)

Avalanche referred to large and rapid flow of snow down a slope, such as hill or mountain.

Causes of Avalanche

- Natural factor: landslide or tectonic movements of plates.
- Anthropogenic factor: melting of cryosphere and climate change induced avalanche.

Impact of Avalanche

- causes huge destruction (e.g.) 7 army officers killed in Ladakh Avalanche 2023.
- loss of property and livelihood.

⑥ Avalanche in Kashmir region disrupted tourism.

strategy to reduce impact by National disaster management plan

- ① Understanding the risk : zoning and mapping of vulnerable regions
- ② Inter-agency coordination : NDMA, SDMA and local authority.
- ③ Disaster risk reduction through structural measures : creation of stranded into safe zone.
- ④ Capacity building of local population training them with mitigation strategies

Avalanche like event require holistic support of all stakeholder to save life and livelihood.

Feedback

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TOTAL MARKS			

Q.6) Technology plays a multidimensional role in augmenting the disaster management apparatus of the country. Discuss. Also, bring out the measures needed to enhance the usage of such technologies in managing disasters. (10 marks, 150 words)

देश के आपदा प्रबंधन तंत्र को बेहतर बनाने में प्रौद्योगिकी एक बहुआयामी भूमिका निभाती है। चर्चा कीजिए। साथ ही, आपदाओं के प्रबंधन में ऐसी प्रौद्योगिकियों के उपयोग को बढ़ाने के लिए आवश्यक उपाय सुझाए। (10 अंक, 150 शब्द)

Climate change and its negative impact caused intensity of disaster and recurrence of disaster, which require modern solutions to deal.

Role of technology in augmenting disaster management

① Role in Pre-Disaster period :

→ Use of satellite for early warning and detection of natural disaster

(Eg) cyclone, heatwave.

→ zoning and mapping of hazard prone areas.

(Eg) Idetern ghats for landslides.

② Role during the disaster:

- satellite communication to provide navigational facility.
- modern transport facility like earthquake resistant road.
- medicine and food items, ready to eat pasteurised food.

③ After the disaster:

- Role in mitigation and disaster resilient infrastructure.
- Coalition for disaster resilient infrastructure one such example.
- Disaster resilient buildings, will ensure safety of life & livelihood.

Sendai framework also works in the same direction to ensure disaster risk reduction.

Feedback

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TOTAL MARKS			

Q.7) Discuss the natural and anthropogenic factors behind incidents of land subsidence. Suggest counter-measures to contain such incidents. (10 marks, 150 words)

भूमि अवतलन/भू धँसाव की घटनाओं के पीछे प्राकृतिक और मानवजनित कारकों पर चर्चा कीजिए। ऐसी घटनाओं को रोकने के लिए निरोधात्मक उपाय सुझाएँ। (10 अंक, 150 शब्द)

Recently around 250 individuals lost their life in Wayanad, Kerala due to land subsidence, suggesting prevalence of it.

Factors for land subsidence

① Natural factors :

→ Heavy rainfall and cloudburst phenomena (Eg) Uttarakhand

2013.

→ movement of tectonic plates

→ flash floods in river stream.

② Anthropogenic factors:

→ Mining and illegal construction

→ deforestation of natural forest.

→ over-utilization and degradation of land pattern. (E) western ghats. lost 40% of its forest in wayanad region.

Measures to contain

- ① Revival of forest ecosystem:
Afforestation activities.
- ② Ban on illegal mining activities:
- ④ Kasturirangan report on western ghats.
- ③ Climate smart agricultural practices:
(E) Natural farming.
- ④ Capacity building and Training: of local population.

Development should be balance with environment, thus sustainable practices is need of the hour.

Feedback

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TOTAL MARKS			

Q.8) Explain Glacial Lake Outburst Flood (GLOF). Also, discuss GLOF mitigation strategy with special reference to National Disaster Management Authority (NDMA) guidelines. (10 marks, 150 words)

ग्लेशियल लेक आउटबर्स्ट फ्लड (GLOF) का वर्णन कीजिए। साथ ही, राष्ट्रीय आपदा प्रबंधन प्राधिकरण (NDMA) के दिशा-निर्देशों के विशेष संदर्भ में GLOF शमन रणनीति पर चर्चा कीजिए। (10 अंक, 150 शब्द)

Glacial lake outburst phenomena when melting of glacier and water from glacier exceeds the carrying capacity of lake, causing Flash floods.

Causes of Glacial lake outburst phenomena

- ① Climate change and Global warming: increase in rate of melting of glaciers.
- ② Deforestation and destruction of mountain ecosystem.
- ③ Building hydroelectric projects and Dams. ④ Lhonak lake burst in sikkim 2023.

strategies to mitigate the GLOF

- ① Vulnerability of the area: early mapping and hazard zonation.
- ② To coordinate with local authority: state disaster management and district disaster management.
- ③ Creation of safe zones: to move and rehabilitate stranded people.
- ④ Provision of medical facilities: in rehab centres.
- ⑤ Reconstruction of affected area: keeping ecological fragility in mind.

Not only development and economic growth is required but sustainable ecosystem is also required to support present and future population.

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TOTAL MARKS			

Q.9) National security challenges require sufficiently addressing the concerns of human security. Explain and suggest reforms for the same. (10 marks, 150 words)

राष्ट्रीय सुरक्षा की चुनौतियों का प्रभावी समाधान मानव सुरक्षा की चिंताओं को पर्याप्त रूप से संबोधित किए बिना संभव नहीं है। इस विषय पर विस्तारपूर्वक चर्चा करें और इसके लिए सुधारात्मक उपायों का सुझाव दीजिए। (10 अंक, 150 शब्द)

National security requires safeguarding not only physical borders but human security and security of all citizens.

concerns of human security

- ① Rising number of attacks: ⑥
Jammu and Kashmir, poonch region
killed 10 army soldiers.
- ② Mob lynching and communalism:
also part of national security
- ③ Cyber threat and attack on individual system: also part of national security.

④ Safety of fisherman in marine also part of national security.

⑤ Tamil Nadu fisherman in Palk Strait.

measures to tackle the human security

1. Nareish Chandra Task Force suggested a comprehensive national security doctrine.
2. Collaboration and Coordination: with state agencies: like Indian coast guard with coastal police force.
3. People to people ties: Army with operation Sadhbhavana and vibrant village concept.

Thus, national security means security of all 1.4 billion citizens of the country and their dreams.

Feedback

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TOTAL MARKS			

Q.10) Outlining the various cyber threats faced by India, assess the state of the country's preparedness to deal with the same. (10 marks, 150 words)

भारत को प्रभावित करने वाले विभिन्न साइबर खतरों का विस्तृत विश्लेषण करते हुए, देश की इन खतरों से निपटने की क्षमता का आकलन कीजिए। (10 अंक, 150 शब्द)

Cyber threats refer to the risk and vulnerability of critical cyber installations like communication, nuclear installation from external attack.

Cyber threats faced by India

- ① Cross border cyber attack: ISI of Pakistan and Chinese spy agencies.
- ② Attack on critical infrastructure:
 - ④ AIIMS attack on computer data.
- ③ Threats by non state actors:
 - ④ Mumbai Blackout of 2020.

④ Threat by hostile groups: Terrorist organizations and organised crime.

⑤ Union bank server attack

Country's preparedness to deal with cyber threats:

- ① National cyber security policy: to effectively respond any threat.
- ② National technical research organization: to research new threats.
- ③ CERT-IN: computer emergency response team.
- ④ National cyber security cell: in all police stations.
- ⑤ Collaboration with other countries.

Cyber threat require modern solution and continue upgradation with changing nature of attack.

Feedback

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TOTAL MARKS	
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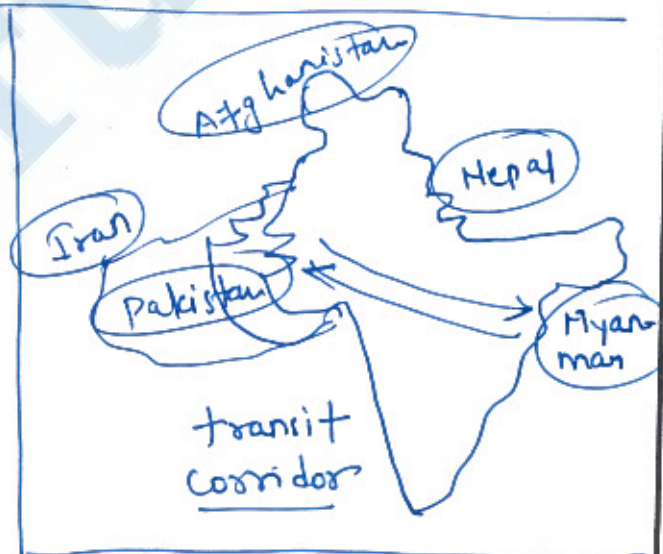
Q.11) Explain how the geographical location of India makes it extremely vulnerable to the menace of drug trafficking. What are the various internal security threats posed by drug trafficking? (15 marks, 250 words)

भारत की भौगोलिक स्थिति इसे किस प्रकार ड्रग तस्करी के लिए एक अत्यंत संवेदनशील क्षेत्र बनाती है? ड्रग तस्करी के कारण उत्पन्न होने वाले आंतरिक सुरक्षा के विभिन्न खतरों का विस्तारपूर्वक विश्लेषण कीजिए। (15 अंक, 250 शब्द)

Narcotics Control Bureau seized drugs of worth Rs. 20,000 crore in north-east region (2023) and 98% of which comes from cross-border trade.

India's geographical location and its vulnerability to drug trafficking

1) Transit Corridor: between Golden triangle and Golden crescent.



2) Porous and Hilly border: Act as advantage to drug traffickers.

- 3) free movement regime with Myanmar:
acted as corridor for drug trafficking.
- 4) India's market: border state of
Punjab and North-eastern states. huge
consumption of drugs.

various threats posed by drug
trafficking

- ① Illegal cross border migration: from
both eastern and western border.
- ② fake currency racket: from
Bangladesh and Pakistan.
- ③ Instability in Indian border
states: (E) Manipur violence.
- ④ Demographic changes: (E) Assam
due to Rohingyas and illegal
Bangladeshis.

- ⑤ Social Impact: impact on youth and students, addiction to drugs.
- ⑥ Rise is Crime Rate: violence against women, society at large.

Measures to tackle the issue

- 1) Comprehensive and Integrated border management system: use of sensors, radars.
- 2) Outpost checkpoints: to check drug traffickers.
- 3) Scrapping of Free movement Regime with Myanmar in Feb. 2024.
- 4) Awareness Campaign: to stop the use of drugs.

Drugs not only illegal to consume but it also create social, economical problems in the country.

Feedback

(For OFFICE use only)

#	G	A	P
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P & R			
Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.12) Discuss the socio-economic impact of new developments in science and technology in India since independence. (15 marks, 250 words)

स्वतंत्रता के पश्चात् भारत में विज्ञान एवं प्रौद्योगिकी के नवीन विकासों के सामाजिक और आर्थिक प्रभावों का वर्णन कीजिए। (15 अंक, 250 शब्द)

India since independence continue to contribute new developments in science and technology. like space, health, communication.

Socio-economic impact of new developments

1. Reduced inequalities and caste rigidity : (Eg) modern industries in 1960's where all work at same place.
2. Women empowerment and Gender equality : (Eg) development of appliances like cooking stove, washing machine.
3. Rural development : (Eg) High yielding seeds during Green revolution

4.7 Reduction in poverty rate: (6) Vaccines in early age reduced disease burden.

5.7 Social cohesion: development of telephone and mobile phone allowed connection with worldwide.

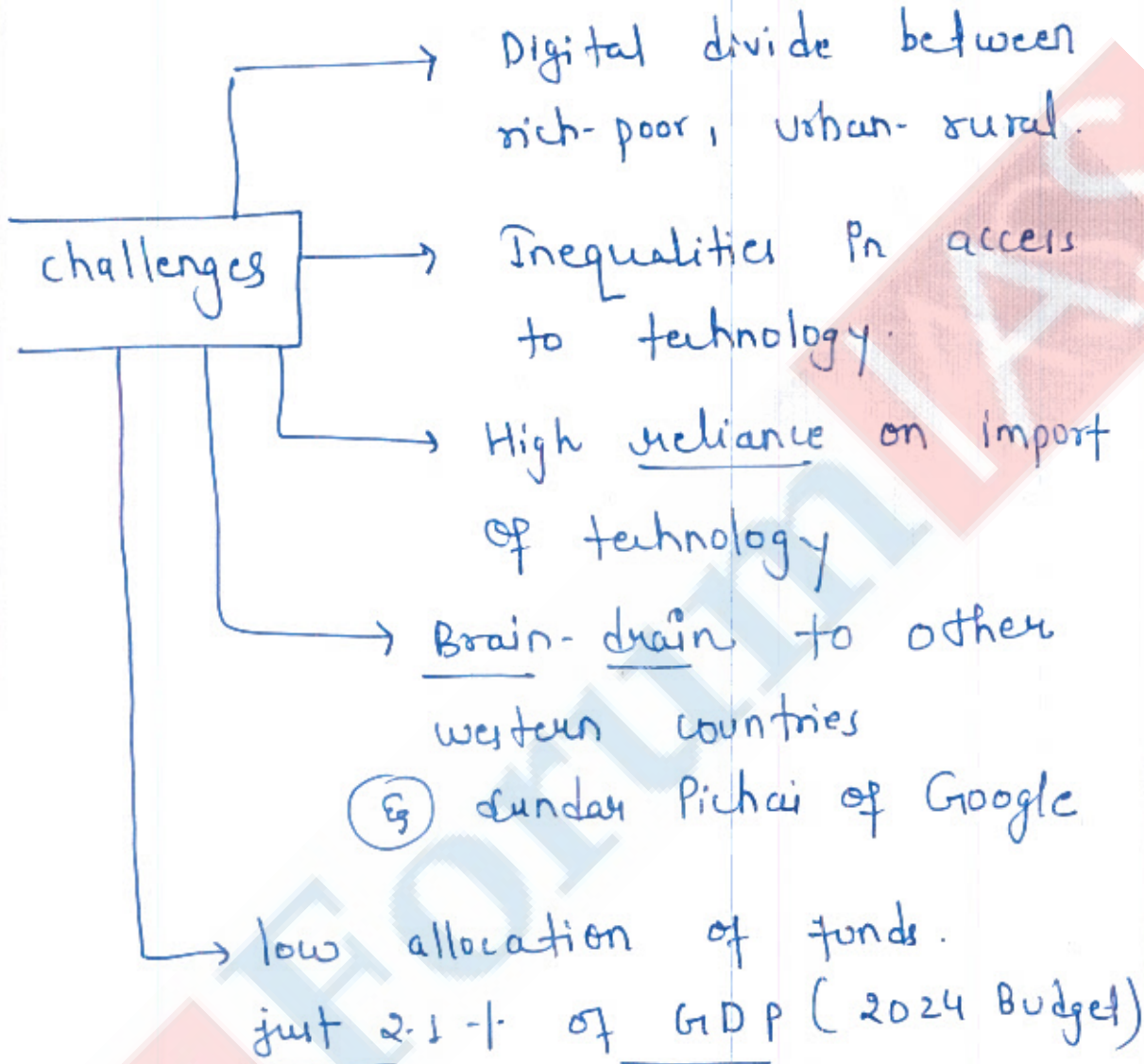
6.7 Equality of opportunity: development of modern road transport, rural to urban connectivity helped in migration.

7.7 Balanced economic growth: development of MSMEs in 2nd and 3rd tier cities.

8.7 Security and safety: (6) Missile development like Agni and Prithvi.

9.7 Development in space: (6) satellite for disaster management and

Early warning system.



India being the aim of next superpower, it's important that the scientific development should be able to cope with modern day challenges.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.13) 5G technology is a breakthrough that finds applications across diverse sectors. Elaborate. How is 5G technology different from its predecessor? Also, list the various challenges associated with its effective rollout. (15 marks, 250 words)

5G प्रौद्योगिकी एक अभिनव तकनीक है जिसके अनुप्रयोग विभिन्न क्षेत्रों में पाए जाते हैं। विस्तारपूर्वक बताएँ। 5G प्रौद्योगिकी अपने पूर्ववर्ती से किस प्रकार भिन्न है? साथ ही, इसके प्रभावी कार्यान्वयन से जुड़ी विभिन्न चुनौतियों को सूचीबद्ध कीजिए। (15 अंक, 250 शब्द)

Recently, India rolled out its 5G technology, which is indigenously developed in India.

5G technology as breakthrough

1) High speed of Data transfer:
as compare to 3G & 4G.

2) lower latency rate : as compare to 4G and 3G.

3) Network slicing : slicing means multiple applications can be done in single network.

Application of 5G in diverse sectors.

1. Communication systems: High quality video calls, video conferencing.
2. Trade and Business: automation of machines.
3. Machine learning: use in machine learning and training on large data set.
4. Use in Artificial Intelligence and Internet of things: that require high speed internet.
5. Health sector: use in high end surgical purpose.
6. Education sector: use in tele-education and digital literacy.
7. space sector: use in satellite communication system.

challenges with 5G technology:

1. spectrum related challenge: High cost and viability issues.
2. Infrastructural Issues: existing infrastructure cannot fulfill the demand.
3. Reliance on imports: equipments used are imported from Japan and China.
4. Skilled Manpower: to rollout the technology on Pan-India.
5. High cost of internet: 5G will cost almost double as its predecessor.

5G technology can fulfill the India's aim of Atma Nirbhar Bharat to build scientific community and knowledge economy.

Feedback

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TOTAL MARKS			

Q.14) Discuss the repercussions on marine ecosystem and economy resulting from the combined effects of ocean acidification, ocean warming, and oxygen loss. (15 marks, 250 words)

महासागरीय अम्लीकरण, तापन तथा ऑक्सीजन हास के संयुक्त प्रभावों से समुद्री पारितंत्र एवं अर्थव्यवस्था पर पड़ने वाले परिणामों की विवेचना कीजिए। (15 अंक, 250 शब्द)

Climate change events and its negative impact on marine ecosystem is visible all around the world.

Ocean acidification and its impact

1. loss of marine life : fishes, corals and other organisms.
2. creation of hypoxic zones : where mass killing of marine life.
3. Carbon sink turning into carbon source.
4. Negative impact on Calcareous organisms : Corals, Cnidarians.

ocean warming and its impact

1. Marine heat waves : negatively impact coastal population.
2. Rise in cyclonic event : intensity of cyclones increasing. (Eg) Freddy longest ever cyclone.
3. Coral Bleaching : sensitivity of corals in high temperature very low. (Eg) Great Barrier Reef.

oxygen loss and its impact

1. Marine deoxygenation : fisheries and other organism impacted.
2. livelihood loss of fisherman : who depend on fishery.
3. Negative impact on economy :

Huge potential of marine export lost.

Measures to tackle the above issue

- ① Reducing Green house Emissions:
adoption of clean and green fuels.
- ② Biodiesel, Bioethanol.
- ③ Reducing pollution: specially marine pollution like oil spills.
- ④ Sustainable fishing: overexploitation negatively impact the ecosystem.
- ⑤ Global cooperation: since marine resources require cooperation of all stakeholders.

Thus, above measure can surely help to achieve sustainable development Goal No 14 of saving life below water.

Feedback

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TOTAL MARKS			

2.15) The invisible nature of groundwater is a major obstacle in the path towards achieving the twin objectives of building climate resilience and meeting the Sustainable Development Goals (SDGs). Elucidate. (15 marks, 250 words)

भूमिगत जल की अदृश्यता जलवायु अनुकूलन एवं सतत विकास लक्ष्यों (SDG) को पूरा करने के दोहरे उद्देश्यों को प्राप्त करने की दिशा में एक प्रमुख चुनौती है। विस्तारपूर्वक वर्णन कीजिए। (15 अंक, 250 शब्द)

According to Kateracid survey, India ranked 120 out of 122 in terms of water quality, along with Niti Aayog report that 67% of Groundwater is polluted.

Twin objective of (i) Building Climate Resilience

→ Groundwater aquifers are properly recharged.

→ Reduce the overutilization of ground water.

④ 80% in irrigation purpose.

→ Ensuring quality and quantity of water to all in sufficient manner.

Sustainable development Goals:

- Reducing Hunger and poverty:
require availability of fresh
drinking water.
- Sustainable development Goal No.
6: require water and sanitation
for all.
- Sustainable development Goal No.
10: reducing inequalities thus
providing equal water resources
to all.
- Sustainable development Goal No.
11: requires sustainable consumption
thus ensuring effective use of
water.

Measures taken to improve the
groundwater:

1. Pradhan Mantri Kisan Shree development to recharge the aquifers.
2. Kisan harvesting system: (5) Matas, Bandhs, Dhongs as traditional system.
3. Ban on illegal borewell: which negatively impact ground water.
4. Afforestation and Agro forestry: to recharge ground water table.
5. Mission lifestyle: to reduce the wastage of water and reuse the water.

India despite having 18% of population, only 2-4% of fresh water resources, thus efficient utilization of ground water is must.

Feedback

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TOTAL MARKS			

Q.16) Describe the concept of loss and damage and evaluate its relevance in ensuring climate equity. (15 marks, 250 words)

हानि और क्षति (Loss and Damage) की अवधारणा का वर्णन कीजिए तथा जलवायु समानता सुनिश्चित करने में इसकी प्रासंगिकता का मूल्यांकन कीजिए। (15 अंक, 250 शब्द)

Loss and Damage refers to the already caused impact of climate change on disadvantaged countries like Global South.

Issue of loss and Damage

1) Developed Country view: they do not consider loss and damage as separate from mitigation and adaptation.

↳ it will legitimise their historical mistake.

↳ They will be under pressure to fund developing countries.

2) Developing Country view: they seek

loss and Damage as separate from adaptation and mitigation.

→ concept of Common but differentiated responsibility (CBDR) in kyoto summit

→ Developed country responsible for historical emissions (Eg) Britain and USA during industrial revolution.

→ Developing country still have large population of poor and marginal.

Relevance in ensuring climate equity :

① Correction of Historical mistake : polluter pays principle should be applied to them.

② Social equality : African countries

and Asian countries still lack in human development reports.

③ Transfer of technology and funds:
like nuclear energy, wind energy for clean transition.

④ Climate justice to all : since earth equally belongs to all and those responsible should pay for its recovery.

Recent developments :

① loss and damage fund : operationalised in COP28 of UNFCCC in Dubai.

→ developed country agree to mobilize fund for loss and damage.

India being developing country always supported the loss and damage as separate from adaptation & mitigation.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.17) What role does wetland play in expanding the framework of sustainable development? What are the challenges faced by wetland ecosystem? Discuss the corrective steps required for their effective conservation. (15 marks, 250 words)

आर्द्रभूमि धारणीय विकास के ढांचे को विस्तारित करने में किस प्रकार योगदान देती है? आर्द्रभूमि पारितंत्र किन चुनौतियों का सामना कर रहा है? इनके प्रभावी संरक्षण हेतु आवश्यक उपायों का वर्णन कीजिए। (15 अंक, 250 शब्द)

Wetlands are waterbodies
that remain submerged under water
for permanently or seasonally, defined
under wetland rules of 2017.

Wetland role in expanding the sustainable development

- 1) Reducing poverty: Wetland provide livelihood opportunities. (e) Fisheries and paddy cultivation.
- 2) Nutritional security and hunger: source of nutritional food.
- 3) environmental protection: act as buffer during floods and urban flooding.

Challenges to wetland ecosystem

- ① Encroachment in urban areas: due to increase in population.
- ② Polluted wetlands: urban waste and industrial effluents.
- ③ Overuse and exploitation: 70% of wetlands under paddy cultivation.
- ④ Climate change and its impact: urban heat islands and wetland dried up.
- ⑤ lack of legislative support: to revive the wetland ecosystem.
- ⑥ Eutrophication: due to excessive use of fertilizers.

effective measures to conserve the wetlands

① Wetlands of International Importance: under Ramsar convention of 1972

② Chilika of Odisha, Ranganathittu of Karnataka.

③ Avoid encroachment: zoning and mapping of existing wetlands.

④ Recovery of polluted wetlands: policy of No liquid Discharge.

⑤ National wetland Rules 2017: guidelines for management of wetlands to local bodies.

⑥ Civil society groups and NGOs:

⑦ Tarun Bharat Sangh in Rajasthan

wetland act as barrier to ~~purify~~ the polluted water and provide clean source of purified drinking water.

Feedback

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TOTAL MARKS			

Q.18) Despite various efforts, a lasting solution to the insurgency in the north-eastern region of India remains elusive. Analyse the reasons behind the continuation of insurgency in the region. Also, suggest effective measures to tackle it. (15 marks, 250 words)

विभिन्न प्रयासों के बावजूद, भारत के उत्तर-पूर्वी क्षेत्र में विद्रोह का स्थायी समाधान अभी तक नहीं मिल पाया है। इस क्षेत्र में विद्रोह जारी रहने के कारणों का विश्लेषण कीजिए। साथ ही, इसे निपटने के लिए प्रभावी उपायों को सुझाएँ। (15 अंक, 250 शब्द)

Recently, Manipur and nearby region experienced violence resulting in the death of 350 individuals and displacing around 20,000 (Home Ministry data).

Reasons for continuation of insurgency in the region

- ① Demand for Autonomy and secessionist movements : (eg) NSCN-Imphal in Nagaland.
- ② Ethnic conflict : between different groups (eg) Kuki-Meitei in Manipur.
- ③ Development vacuum : neglect of north-eastern region.

- ④ Administrative apathy: top down approach of bureaucracy.
- ⑤ International support: Myanmar and china support armed insurgents
- ⑥ ULFA and manipur people liberation front.
- ⑦ Cross border insurgency: Illegal migration of Rohingyas into Indian territory.

Effective measures to deal with

- ① Autonomy and decentralization of governance: ⑥ sixth schedule and autonomous district council
- ② Special Package for development: ⑥ PM-DevINE: development of north-east region.

③ Signing Peace agreements: (Eg) In 2023, ULFA signed peace agreement with Home Ministry.

④ Development Initiatives: (Eg) sports university in Manipur.

⑤ Connectivity and Infrastructure:

(Eg) Airports in Arunachal Pradesh, Nagaland.

⑥ Connect with local population: civil society and NGOs to build ties with different ethnic groups.

The peace in north east region will ensure peace in the whole country. a multistakeholder and nuanced approach is needed for this.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.19) While developmental initiatives have a significant role to play, they alone cannot root out terrorism militancy in Jammu and Kashmir. Comment. (15 marks, 250 words)

जम्मू-कश्मीर में आतंकवाद/उग्रवाद के उन्मूलन के लिए विकासात्मक पहलें महत्वपूर्ण हैं, परंतु ये अकेले पर्याप्त नहीं हैं। टिप्पणी कीजिए। (15 अंक, 250 शब्द)

Home ministry reported 77.1
decline in terror activities post
abrogation of article 370 in
Jammu and kashmir.

Role of development initiative

- ① Provide economic opportunities: ④
Multinational companies providing jobs to locals.
- ② Improving trade and commerce:
New record number of tourists visited Jammu and kashmir.
- ③ Militancy to Mainstream: youth
joining sports club like cricket and football.

- ④ Democratic participation: 58.46% voter turnout in panchayat elections.
- ⑤ Gender justice: women now able to join mainstream society.

But terrorism and militancy still persist:

- ① International factor: role of Pakistan and ISI in supporting radicalism.
- ② Cross border terrorism: groups like Jaish-e-Mohammad and Lashkar-e-Taiba working from Pakistan occupied Kashmir.
- ③ Use of modern technology: drones and social media to spread their ill propaganda.

To deal with above factors

- ① Connect with local population:
(a) operation Sadh bhavana of Army.
- ② Vibrant village program : to increase the capability of the border villagers.
- ③ Integrated Border Management : to deal with illegal cross-border filtration.
- ④ Smart fencing BOLT-QIT : use of sensors and radars.

Honourable former Prime Minister Atal Bihari Vajpayee Ji gave the slogan of kashmiriyat, Insaaniyat and Jamhooriyat to mainstream the Jammu and Kashmir into Indian culture.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.20) What do you understand by theaterisation of commands? Enumerating the impediments in theaterisation for India's armed forces, discuss the role of Chief of Defence Staff in enhancing the effectiveness of India's external security response. (15 marks, 250 words)

कमांड के थियेटराइजेशन से आप क्या समझते हैं? भारत के सशस्त्र बलों के लिए थियेटराइजेशन में बाधाओं का वर्णन करते हुए, भारत की बाह्य सुरक्षा प्रतिक्रिया की प्रभावशीलता को बढ़ाने में चीफ ऑफ डिफेंस स्टाफ की भूमिका पर चर्चा कीजिए। (15 अंक, 250 शब्द)

Naresh Chandra Task force
and Kargil review committee both suggested theaterisation of commands (Army, Navy and Air force) under single commander for coherence.

Impediments of theaterisation of armed forces

- ① lack of civil-military cooperation: to deal with policy issue of theaterisation.
- ② Issue of hierarchy in armed forces: who will command the 3 forces.
- ③ Issue of coordination and

coherence : commander should be able to understand all 3 services equally.

④ Reservation of Air force : as pilots already trained for specific regions.

⑤ lack of equipments : theaterisation will require rationalised movements of equipments.

Role of chief of Defense staff in enhancing effectiveness

① Coordinator of armed forces : chief of all 3 armed forces.

② Secretary to Government of India : as primary source of Defense policy. inputs.

③ Quick and proactive response :

in case of any exigencies (E) Balakot strike.

(4) Better civil-military coordination:
act as channel between defense
forces and political force.

Issues in chief of Defense staff

- Not given any operational role.
- still working as administrative
member of government.
- lacks any commanding function
like USA and U.K.

Honourable Prime Minister
Narendra Modi announced that
soon India will have theaterisation
of armed forces to improve its
efficiency and quick response.

Feedback

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Mentor Feedback Questions

- 1
- 2
- 3
- 4
- 5

Test Goal

- 1 ☐
- 2 ☐
- 3 ☐

Outcomes

- 1
- 2
- 3

Marking Scheme

Mark	Good	Average	Below average
10 Marker	3.75 - 5.0	3.0 - 3.5	< 3.0
15 Marker	5.75 - 7.0	4.0 - 5.5	< 4.0
20 Marker	7.75 - 10	6 - 7.5	< 6
✓✓	Key / Relevant Point		
✗	Vague / Irrelevant		

* Subject to change without prior notice.

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