

TEST CODE 6 1 3 4 0 3

FIAS | MGP 2023 | Open Test – GS Paper #3

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	Sharda Gajanan Madysumar.		
Roll No./अनुक्रमांक	1910102906	Medium/माध्यम	English <input checked="" type="checkbox"/> हिंदी <input type="checkbox"/>
Center Code/परीक्षा केंद्र	1901	Date/दिनांक	31/9/2023

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

INDEX TABLE / अनुक्रमणिका			INSTRUCTION / अनुदेश		
Q. No प्र. सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक			
1			1. 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।		
2			2. 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।		
3			3. 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।		
4			4. 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 (व्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।		
5			5. 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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Total/कुल अंक	250		For Student Only / केवल परीक्षार्थी प्रयोग हेतु		
Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :	
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन <input type="checkbox"/>	Offline/ऑफलाइन <input type="checkbox"/>
*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।			For Office Use Only / केवल कार्यालय प्रयोग हेतु		
			ECN CODE/ ईसीएन कोड :	EG/ईजी :	Evaluation Date/ मूल्यांकन तिथि :
				① ② ③ ④ ⑤	

Note: Students are expected to incorporate suggestions from the solution 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. Asks specific questions, to get specific answers.

EXAMINER'S REMARKS



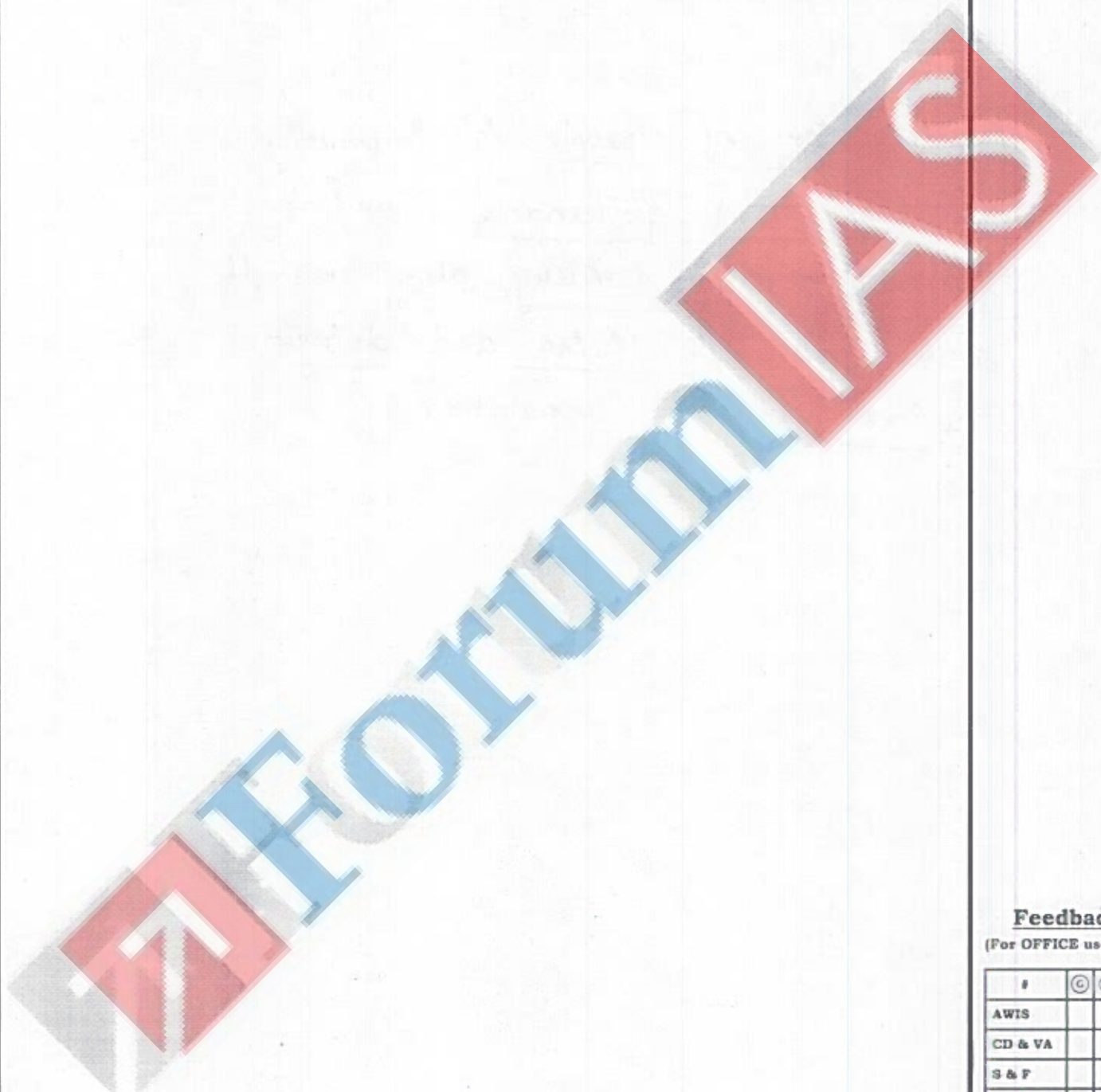
CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

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) To what extent can the Jan Vishwas (Amendment of Provisions) Act 2023 help enhance trust-based governance for ease of living and doing business? (10 marks, 150 words)

जन विश्वास (प्रावधानों का संशोधन) अधिनियम 2023 किस हद तक जीवन और व्यवसाय करने में आसानी के लिए विश्वास-आधारित शासन को बढ़ाने में मदद कर सकता है? (10 अंक, 150 शब्द)

Participation of people is imperative
to bring good governance in action.
Effective service delivery along with it
ensures ease of living and doing-
business for the population.



Feedback

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#	G	A	P
AWIS			
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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	
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Q.2) Fluctuations in the price of TOP (tomato, onion, potato) crops impact all strata of societies. Highlighting the reasons and implications of such fluctuations, evaluate the effectiveness of Operations Greens in stabilizing the otherwise restive horticulture sector. (10 marks, 150 words)

TOP (टमाटर, प्याज, आलू) फसलों की कीमत में उतार-चढ़ाव समाज के सभी वर्गों को प्रभावित करता है। इस तरह के उतार-चढ़ाव के कारणों और निहितार्थों पर प्रकाश डालते हुए, अन्यथा अस्थिर बागवानी क्षेत्र को स्थिर करने में ऑपरेशंस ग्रीन्स की प्रभावशीलता का मूल्यांकन कीजिए। (10 अंक, 150 शब्द)

Fluctuations in the price of T.O.P
leads to inflation in food prices
causing manifold impacts on economy &
population

• Reasons for fluctuations:

① Erratic climate

eg. El Nino causes droughts in Maharashtra - causing onion crop damage

② Artificial hoarding

eg. cartelization by few traders creates artificial scarcity of crops & hence fluctuation in their prices

③ Export avenues

↳ Russia Ukraine crisis opened new

opportunities for traders to export
crops out of India

∴ artificial fluctuations in domestic market

④ damage of crops due to lack of storage facilities

• Implications : (eg) no scientific cold storages at many places

① Inflation in crops

↳ hits poor the most

② Loss of income to farmers

↳ if distress sale in bumper harvest

• Role of Operation Greens in stabilizing
retail horticulture

① Government ensures stability in prices of volatile hort- products, hence controls inflation

② It encourages food processing sector to augment the surplus hort- production for value addition

Thus Operation Green has improved
horticulture scenario in India.

Feedback

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TOTAL MARKS	
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Q.3) A focused and sustained promotion and pursuit of blue economy help meet the challenges of food security, national security, and climate security. Discuss. (10 marks, 150 words)

नीली अर्थव्यवस्था का एक केंद्रित और निरंतर प्रचार और अनुसरण खाद्य सुरक्षा, राष्ट्रीय सुरक्षा और जलवायु सुरक्षा की चुनौतियों से निपटने में किस प्रकार मदद कर सकता है? (10 अंक, 150 शब्द)

Blue economy becomes significant in Indian context given 7500 km of coastal boundaries and its important strategic location in the Indian ocean.

• Promotion of Blue Economy to meet various challenges of :

① Food security

a) India is 2nd largest aquaculture nation

↳ proven avenues for promoting marine products in food diets

b) Seaweed farming opens avenues to counter nutritional insecurity as it is vitamin, minerals rich

② National security:

- a) safeguarding Indian assets ^{at coasts} ~~onshore~~ and offshore - vigilant forces like fishing community as "Sagar Suraksha Dal" is necessary

③ Climate security:

- a) vulnerability of coastal regions to storm surges, flooding due to sealevel rise, blue economy can enhance avenues of marine dependence
- b) erratic climate causes challenge to normal agri practices, thus blue economy can substitute it

Blue Economy must be promoted by issuing "Blue Bonds" and capacity building of coastal communities especially.

Feedback

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TOTAL MARKS	
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Q.4) What advantages does Green Hydrogen and a hydrogen economy offer in addressing national and global concerns? Discuss the impediments in its adoption. (10 marks, 150 words)

राष्ट्रीय और वैश्विक चिंताओं को दूर करने में ग्रीन हाइड्रोजन और हाइड्रोजन अर्थव्यवस्था क्या लाभ प्रदान करती है? इसे अपनाने में आने वाली बाधाओं पर चर्चा कीजिए। (10 अंक, 150 शब्द)

Green Hydrogen Mission of India aims to enhance production of green hydrogen to 5 mmt by 2030 and ensure India becomes global hub for it.

- Advantages of Green Hydrogen & hydrogen economy

- ① Addressing national concerns

- a) help transition to net carbon zero by 2070

- b) reduce air pollution, since India 4th largest emitter of GHGs

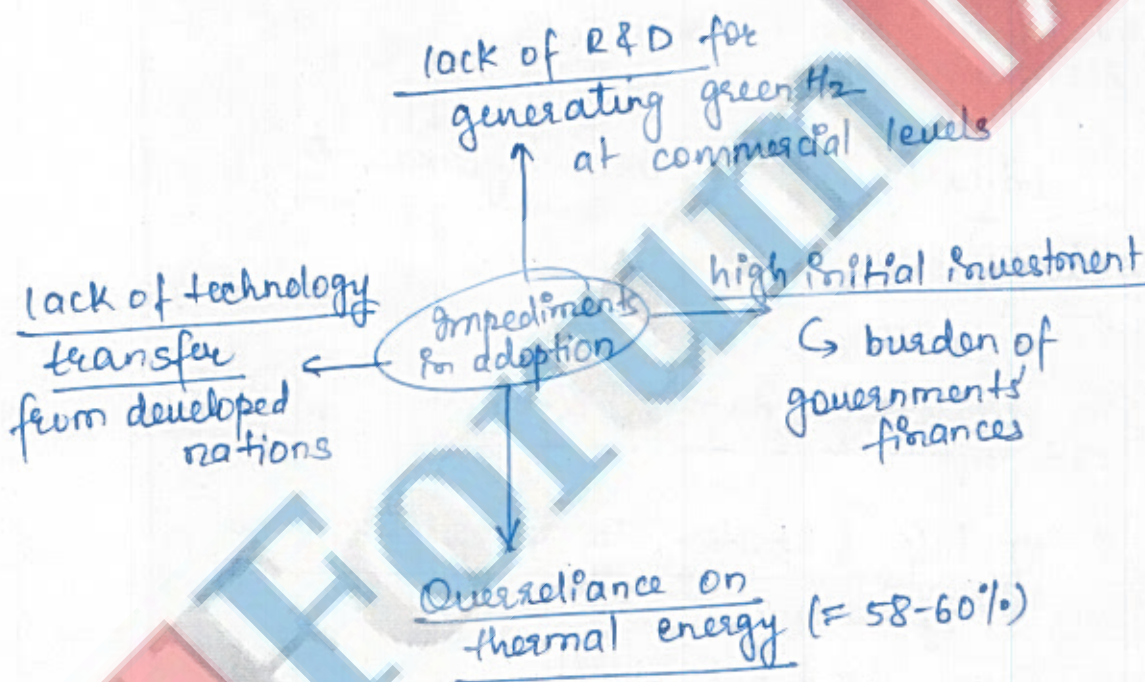
- c) reduce import dependence of fuels & hence reduces current account deficit

↳ Enhances fuel/energy security

2) Addressing global concerns:

a) Enhancing climate sustainable development

b) Reduction of emissions; ^{the} adherence to Kyoto Protocol & Paris deal 2015



India must increased its expenditure on R&D from present 0.7% GERD to develop potential of emerging Green H₂ economy.

Feedback

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TOTAL MARKS

Q.5) In what ways do plastics harm human, animal, and ocean health? Bring out the various domestic and international efforts that have been put in this regard in recent times?

(10 marks, 150 words)

प्लास्टिक किस प्रकार मानव, पशु और समुद्री स्वास्थ्य को नुकसान पहुँचाता है? हाल के दिनों में इस संबंध में किए गए विभिन्न घरेलू और अंतर्राष्ट्रीय प्रयासों को उजागर कीजिए।

(10 अंक, 150 शब्द)

'World Environment Day 2023' laid special emphasis on eradicating plastic pollution from the environment. Plastic pollution equally impacts ocean health, animals & humans.

• Impact of plastic :

① Human health

- microplastics or microbeads < 5mm can be intaken and causing bioaccumulation inside the body

eg) breastmilk of human showed contents of microplastic (Reports)

② Animal health

- animals often intake plastic as eatables causing plastic accumulated in their stomach eg) = 90 kg plastic was taken out of a cow (India)

③ Ocean health

- Ocean currents brings plastics from coastal areas to the destinations across the globe
 - Even leads to marine pollution & death of biodiversity
- eg: Saragossa sea - plastic sea in Pacific Ocean

• Efforts to fight plastic pollution

① National :

a) Plastic waste management rules (2022)

↳ ruled out single use plastic < 75 microns

② International

a) Biodiversity Beyond National Jurisdiction

↳ aims to establish Marine Protected Areas

b) Partnerships with private sector, civil societies

Thus plastic pollution must be dealt with motivation for "safer Ecosystem, safer Humanity".

Feedback

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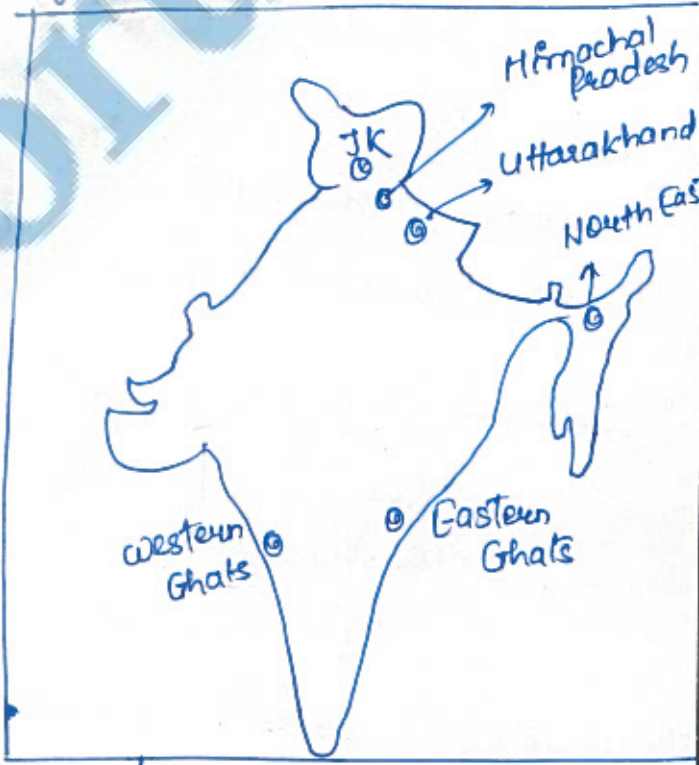
Q.6) Though spatially distributed across the length and breadth of the country, incidents of cloud burst disproportionately impact the mountaneous regions. Comment (10 marks, 150 words)

हालांकि सम्पूर्ण देश में बादल फटने की घटना आम है, लेकिन बादल फटने से पर्वतीय क्षेत्रों पर प्रतिकूल प्रभाव पड़ता है। टिप्पणी कीजिए। (10 अंक, 150 शब्द)

(CB)
 Cloudbursts is the phenomenon where heavy precipitation occurs to the tune of >100 cm in the span of 1 hour on the 1 sq km of area. This cause heavy loss of life & property due to its erratic nature, hence needs to be addressed properly.

• Though spatially distributed across the length & breadth, incidents of CB disproportionately impact mountains because -

- ① Increased height of the region
 ↳ susceptible to heavy showers



• cloudburst vulnerable areas in India

② geography of mountains- causes clouds to shed water in the limited area

③ high population density increases the vulnerability
 (eg.) Kedarnath floods

④ failure of GLOF enhances impact of cloudburst in the region

(eg.) Tapovan Vishnugarh area (2022)

⑤ huge infrastructure development led to loose land consolidated materials

↳ causes landslides and avalanches

(eg.) Himachal Pradesh (2023)

⑥ Unplanned Unorganised dam construction

↳ failure of reservoirs due to cloudbursts

(eg.) Tehri Dam

Thus efficient ~~flood~~ ^{land} plain zoning is required with vulnerability assessment which shifts vulnerable population to safer areas.

Feedback

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TOTAL MARKS	
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Q.7) As the emerging technologies enhance their reach and extent, the amalgamation of real and virtual will become inevitable. In this perspective, discuss how metaverse will alter the lives of common man. (10 marks, 150 words)

जैसे-जैसे उभरती प्रौद्योगिकियाँ अपनी पहुँच और सीमा बढ़ाती हैं, वास्तविक और आभासी का समामेलन अपरिहार्य हो जाएगा। इस परिप्रेक्ष्य में, चर्चा कीजिए कि मेटावर्स आम आदमी के जीवन को कैसे बदल देगा। (10 अंक, 150 शब्द)

(ET)
Emerging technologies like AI, Bigdata, Internet of Things (IoT), Augmented Reality, Virtual Reality are expanding the scope of human intellect & hence experiences.

• ET enhancing their reach & extent :

creation of augmented reality
 enhances immersive experiences of humans

(eg) projection of virtual objects in real-time world

helpful for healthcare, diagnosis

(eg) AI-operated Robotics

enhancing ease of living

(eg) interconnected ETs

like smart watch gauging ~~conn~~ heart pulses beats etc

• But ETs effort to amalgamate real and virtual is becoming inevitable :

- Meta Verse is augmenting virtual technologies to enhance real life / realtime experiences of humans

- It is encouraging predictive analysis and generative AI for consolidating human efforts, also provide innovative content (eg) new songs, visuals, poetics etc

But ethical use of metaverse alongwith enough security concerns addressed (privacy ensured) is the need of an hour.

Feedback

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TOTAL MARKS	
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Q.8) What makes dark matter difficult to detect? Also, analyse how the search for the elusive dark matter has influenced the trailing of modern pursuits in science. (10 marks, 150 words)

क्या कारण है कि डार्क मैटर का पता लगाना कठिन हो जाता है? साथ ही, विश्लेषण कीजिए कि मायावी डार्क मैटर की खोज ने विज्ञान में आधुनिक गतिविधियों को कैसे प्रभावित किया है। (10 अंक, 150 शब्द)

Dark matter forms \approx 60-65% of universe
with the attractive forces acting on the planetary objects. It occurs along with the dark energy (\approx 30%) which exerts ~~exp~~ repulsive force & causes expansion of Universe.

Detection of dark-matter becomes difficult given its non-visible appearance and studies based only on assumptions. Even the constituent particles of dark matter also doesn't interact with any forces of nature

- Research of Dark matter trailing the modern pursuits in science:

① led paved way for search of

particles responsible for dark appearance of universe

- ② conduct of various research on finding muons & its usages in human life
- ③ expands the scope of particle - quantum physics
- ④ helpful for studying expanding Universe and other galaxies

Thus even gravitational waves discovery in 2015 ^{left} ~~paid~~ great emphasis on studies of dark-matter in science.

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TOTAL MARKS	
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Q.9) While AFSPA has been criticised for promoting excesses by the security forces, its profound utility to upkeep the security situation cannot be overstated. Comment. (10 marks, 150 words)

हालाँकि सुरक्षा बलों की ज्यादातियों को बढ़ावा देने के लिए AFSPA की आलोचना की गई है, लेकिन सुरक्षा स्थिति को बनाए रखने में इसकी गहन उपयोगिता को नजरअंदाज नहीं किया जा सकता है। टिप्पणी कीजिए।

(10 अंक, 150 शब्द)

AFSPA was enacted given the rising ^(NE) insurgency in North East due to non-reconciliation of separatists demands by NSCN-IM (Greater Nagalim) etc.

• Yet AFSPA is criticized for promoting excesses by security:

① security personal given power to search & seize any suspected property without warrant

↳ hinders privacy of individuals, human rights

② power to fire dead - individuals suspicious of anti-India activities, post initial warning

↳ rise in ill-informed killing of innocents on pretext of security threat
(eg. Mon Killing (Nagaland))

③ no accountability of personnels

↳ enhances surveillance state, tyranny over individual's freedom

④ Peace in Tripura - so far

- Still AFSPA is profound to upkeep security situation:

① Rise in insurgency in NE

(eg) 48% incidents reported in Manipur (2017), Arunachal Pradesh (38% hike)

② Presence of anti-India elements along with porous borders to immigrate

③ Role of external actors like China to promote insurgency & instability in NE

Thus some amendments are needed in AFSPA to reduce human rights violation and make force humane.

Feedback

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TOTAL MARKS

Q.10) Its not only the heft but also the agility, efficiency, and swiftness which will define the warfare in the contemporary times. In this context, discuss the relevance of the Agnipath scheme.
(10 marks, 150 words)

यह न केवल अनुभव बल्कि चपलता, दक्षता और तेजी भी है जो समकालीन समय में युद्ध को परिभाषित करेगी। इस संदर्भ में अग्निपथ योजना की प्रासंगिकता पर चर्चा कीजिए।
(10 अंक, 150 शब्द)

Recent scenario of warfare has shifted from conventional (inter-state war by traditional weapons) to unconventional one using newer technologies, proxy armies and non-state actors. Thus Agnipath scheme becomes relevant to adhere to newer tactics and agile approach.

- Relevance of Agnipath scheme to enhance agility, efficiency, and swiftness:

① Reduced the age for entrants

- ensure young people with high physical strength are entering military

↳ enhances efficiency of workforce

② Training of entrants on lines of new warfare techniques

↳ makes military challenge ready & enhances preparedness given chances of nuclear warfare, cyberwarfare

③ Retention of 25% candidates for permanent commission

↳ Ensures "survival of the fittest" in the army

↳ Tech savvy, agile army

④ Thus Agnipath scheme aims to make India future ready given suspicions of two-front war (China-Pakistan).

Feedback

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TOTAL MARKS

Q.11) The path towards an Atmanirbhar Bharat traverses through an overhaul of industrial policies. Comment, with special reference to the Production Linked Incentive (PLI) scheme.

(15 marks, 250 words)

आत्मनिर्भर भारत की दिशा में मार्ग औद्योगिक नीतियों में व्यापक बदलाव से होकर गुजरता है। प्रोडक्शन लिंक्ड इन्सेंटिव (पीएलआई) योजना के विशेष संदर्भ में टिप्पणी कीजिए।

(15 अंक, 250 शब्द)

Industrial sector is the way to capitalize on the potential of India's economy. Since 1991 LPG reforms, industrial sector has seen marginal share of $\approx 31\%$ viz-a-viz 55% share of services, thus needs reforms.

• Atmanirbhar Bharat Schemes aims to transform industrial scenario in India via several measures including -

- ① Pre-packed insolvency for MSMEs
↳ Reducing burdens & liquidating it
- ② FDI Investments in defence, semiconductors
- ③ Production linked Incentive scheme
- ④ GSTN for enhancing tax collection

* Importance of PLI scheme for
Industrial reforms:

- ① encourages In-opens sectors like automobile,
solar PV manufacturing etc. to setup
units in India
- ② Incentives are provided for incremental
sales year-on-year, thus encourages
industries
- ③ Enhances indigenisation and
self reliant aim of Indian economy
- ④ Promotes "make in India" along
with "assemble in India" for the
whole world
- ⑤ It further taps on export
potential market developed
due to Indian manufacturing

Thus industrial reforms are via PLI
is a right step ahead. Yet challenges
like:

- ① stringent labour laws
- ② complex compliance & regulatory frameworks
- ③ land acquisition & clearances
- ④ inadequate investment & skilled workforce, needs to be addressed

This will make indeed Atmanirbhar
Bharat by "Amrit kaal 2047."

Feedback

(For OFFICE use only)

#	G	A	P
AWIS			
CD & VA			
S & F			
P & R			

Please put tick
marks in the above
table.

Here G is Good, A is
Average and P is
Poor.

TOTAL MARKS	
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Q.12) Infrastructure investments are crucial for socio-economic development, as they have a multiplier effect on economy, however, concerns for safety must not be ignored. Discuss in the light of recent events. (15 marks, 250 words)

बुनियादी ढांचे में निवेश सामाजिक-आर्थिक विकास के लिए महत्वपूर्ण है, क्योंकि उनका समाज पर गुणक प्रभाव पड़ता है, हालांकि, सुरक्षा के लिए चिंताओं को नजरअंदाज नहीं किया जाना चाहिए। हाल की घटनाओं के आलोक में चर्चा की जाए। (15 अंक, 250 शब्द)

Infrastructure sector needs investment of upto \approx 4.3 trillion dollars to boost economic size to \$ 5 trillion, of India.

Infrastructure has potential to huge socio-economic development like

① physical infrastructure

↳ roads, railways, ports etc. enabling ease of commutation & reduces logistics cost (current = 12-14%)

② social infrastructure

↳ schools, healthcare etc. boost human capital

Thus capital expenditure on infrastructure has multiplier effect of 2.5 in

the economy, but not without issues.

- Concerns for safety in infrastructure-
development

① Environmentally friendly infrastructure

eg. lack of Environment impact assessment
causes failure like Tapovan-Vishnugash
Hydro project (2023)

② Technologically equipped with
safety measures, equipment

eg. Delhi Safety services, observed
buildings (only 30-40%) in Delhi
are fire safety & resilient

③ "state of art technology" as per
Indian scenario must be ensured

eg. "Tramways" fails often due to
unavoidable avalanches, electric

failure (no 24x7 power)

④ lack of skilled workforce in handling infrastructure

eg) cybersecurity threats (recurring) like ransomware attack on AIMS server (2023) Delhi

↳ ≈ 30,000 vacancies at cyber cell staff

Thus Infrastructure is the "life blood" in 21st century, yet concerns must be addressed at its earliest, to ensure economic - sustainable growth.

Feedback

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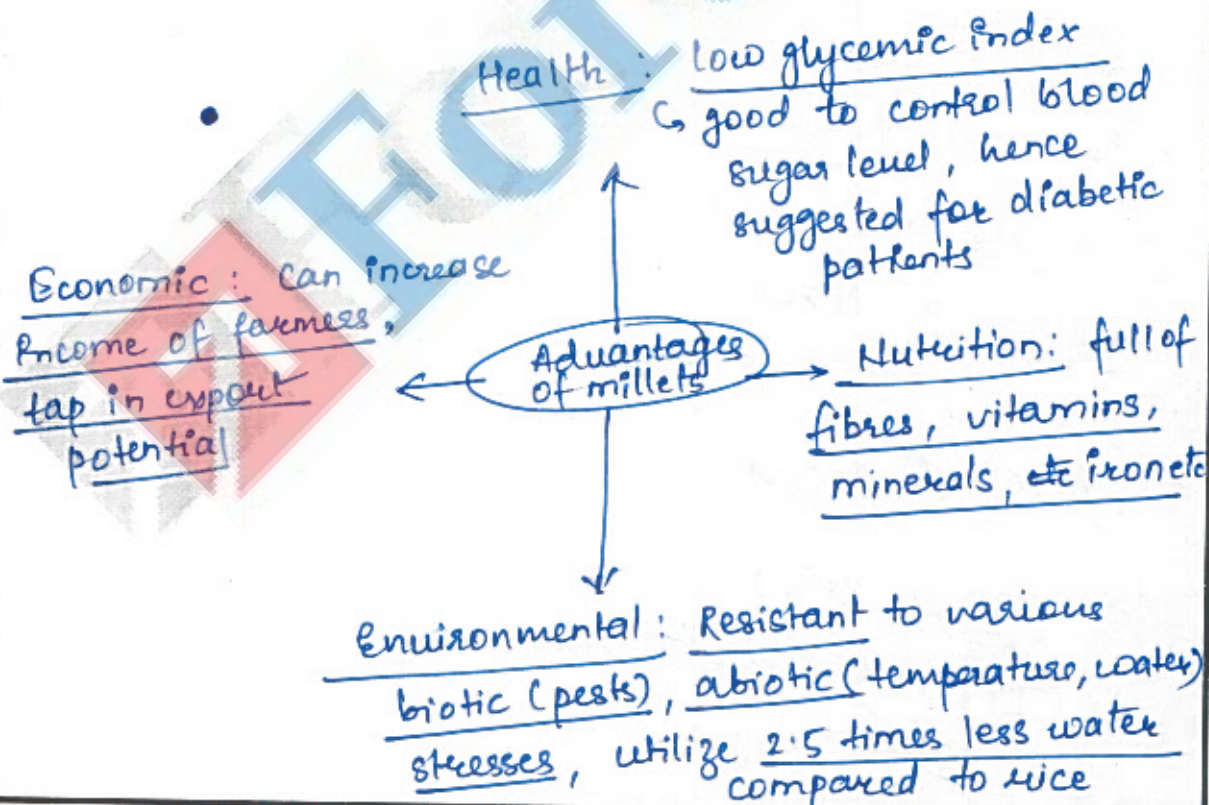
Here G is Good, A is Average and P is Poor.

TOTAL MARKS	
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Q.13) How will you explain the irony of poor adoption of millet crops despite their multifarious advantages? Also, recommend measures to curb this anomaly. (15 marks, 250 words)

आप मोटा अनाज की फसलों को उनके विविध लाभों के बावजूद खराब तरीके से अपनाने की विडम्बना को कैसे समझाएंगे? इसके अलावा, इस विसंगति को रोकने के उपायों की सिफारिश कीजिए। (15 अंक, 250 शब्द)

There have been decline in the area under millets production from 15% (2011-12) to ~ 12% (2018-19), yet millet production dropped from 40 MT to 45 MT. The benefits - multifaceted ensures positive impact on health & economy, yet fraught with challenges.



- Reasons for poor adoption of millets despite multifarious benefits:

① Lack of awareness

↳ people are unknown to the impacts of millet consumption

↳ less skills regarding food preparation from millets

② considered "poor man's food"

↳ Increased income level has led to improved standard of living, hence ignorance towards nutri-cereals

③ lack of support viz-a-viz rice, wheat

↳ MSP is tilted in favour of few crops, rendering farmers less motivated to grow millet



Inclusion of millets in ICDS - midday meal scheme is a step in right direction.

"International Year of Millets" (2023) must prove as torch bearer for millet promotion

Feedback

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Please put tick marks in the above table.

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TOTAL MARKS

Q.14) Analyze the role Agri-tech can play in penetration of technology in agriculture. In what ways can Agristack help address the crisis in the farm sector. (15 marks, 250 words)

कृषि में प्रौद्योगिकी के प्रवेश में कृषि-प्रौद्योगिकी की भूमिका का विश्लेषण कीजिए। एग्रिस्टैक किस तरह से कृषि क्षेत्र में संकट का समाधान करने में मदद कर सकता है। (15 अंक, 250 शब्द)

Technology in agriculture has a ^{huge} potential given share of agriculture to near 16-18% of GDP (India) & has potential to —

- ① reduce input cost via efficiency increase
- ② enhance productivity of crops
- ③ increased income levels for farmers

• Role Agri-tech plays in technology penetration in agriculture :

① Reduction of input cost

↳ R&D for drought - pest resistant crops (Gm crops), HYV seeds at lower cost → precision farming

② Soil health management

↳ to gauge nutrients of soil &

wisely apply fertilizers in proportion

(eg) Bhuvan soil - health card scheme

③ water management

↳ shift from flood irrigation to efficient
micro irrigation (drip-sprinkler)

leads to — productivity rise by 45%

(Ashok Dalwai Committee)

④ Post harvest management

↳ cold storages - scientific warehousing

facilities, help reduce food grain loss

i.e. currently 20-25% (annually) = Rs 92,000

⑤ Enhancing price realisation

↳ e-NAM ensures efficient price realisation

(eg) to farmers via integration of APMCs

• Role played by AgriStack in farm sector:

① Provides integrated-collated data

regarding different crops & its prices

② Opportunity for farmers & traders for diversified commodities and improved quality access

Thus Agri-stack with inclusion of private sector can be made more efficient to transform agri-farm sector via technological revolution, in India

Feedback

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Q.15) The objective of an inclusive clean energy transition will remain incomplete without leveraging the potential of the biofuels. Enumerating the seminal provisions of the National Biofuel Policy, analyze the possible challenges in its smooth implementation. (15 marks, 250 words)

जैव ईंधन की क्षमता का लाभ उठाए बिना समावेशी स्वच्छ ऊर्जा परिवर्तन का उद्देश्य अधूरा रहेगा। राष्ट्रीय जैव ईंधन नीति के मौलिक प्रावधानों की गणना करते हुए इसके सुचारु कार्यान्वयन में संभावित चुनौतियों का विश्लेषण कीजिए।

(15 अंक, 250 शब्द)

Panchamukta goals of India enlists

- ① ≈ 50% energy share from non-fossil fuels by 2030
- ② 500 GW energy from renewable sources
- ③ reduction in emission intensity by ≈ 45% by 2030 (from 2005 levels) etc.

For the above objectives, clean energy which is inclusive is envisaged. Yet focus is also to be put on biofuels since India has large agriculture sector, huge household wastes (biodegradable) etc.

• Provisions of National Biofuel Policy:

- ① Transition from 1st Generation to 2nd Generation
i.e., food crops to

i.e; non food crops (jatropha etc.) & later to 3rd Generation (algal fuel) as a biofuel transition target

② It allowed non-edible, damaged food crops & vegetables (potatoes) to be utilized for biofuel generation

③ Sugarcane molasses of type 2 (B) is allowed along with beetjuice etc. for biofuel production etc.

• Challenges in smooth implementation:

① Huge food insecurity

↳ India has poverty of $\approx 14\%$ (NITI Aayog) with still persistent hunger, malnutrition

② Investment in biofuel plants

↳ incentives ~~must be~~ are meagre to setup biofuel plants especially in Tier 2 & Tier 3 cities

③ Lack of R&D on 3rd Generation, environment friendly biofuel etc.

Thus biofuels are the easiest available resources for clean transition. But its challenges to make in eco-friendly must be addressed ^{at} earliest.

Feedback

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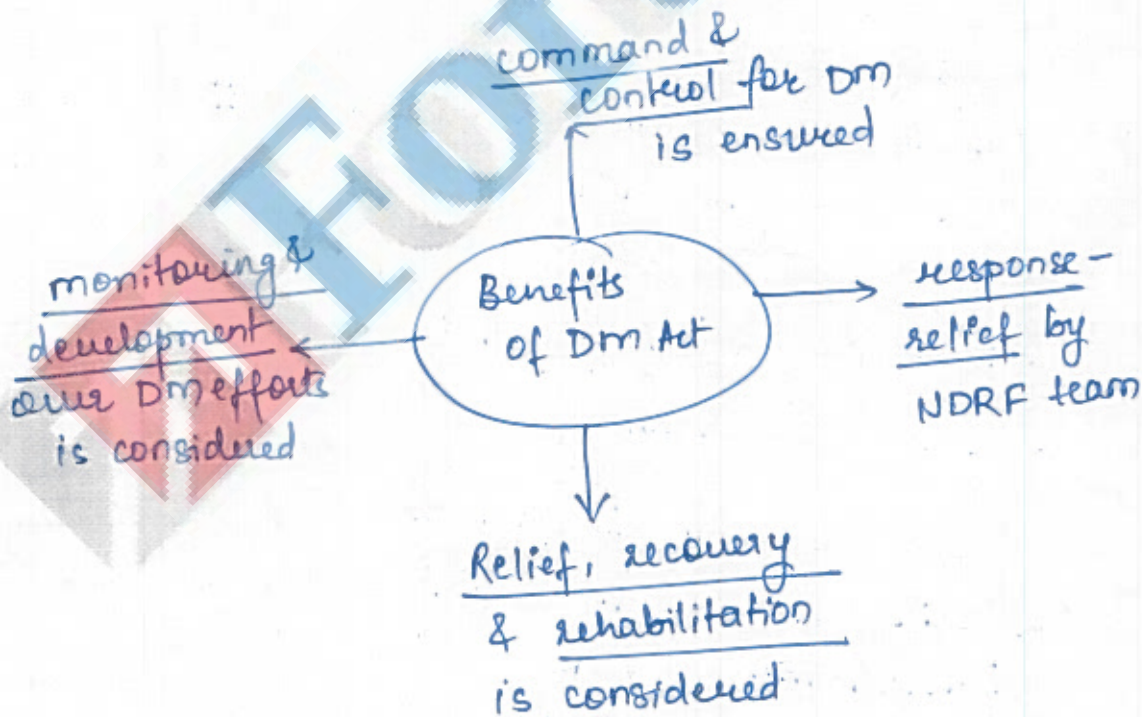
TOTAL MARKS	
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Q.16) Despite having a robust legal architecture in the form of Disaster Management Act, 2005, a coordinated on ground response to disaster remains in a state of want. Comment.

(15 marks, 250 words)

आपदा प्रबंधन अधिनियम, 2005 के रूप में एक मजबूत कानूनी संरचना होने के बावजूद, आपदा के लिए जमीनी स्तर पर समन्वित प्रतिक्रिया अभाव की स्थिति में है। टिप्पणी कीजिए। (15 अंक, 250 शब्द)

(Dm Act)
 Disaster Management Act, 2005 was enacted to bring coordinated center-state district governance's response to tackle disaster & bring efficiency in administration. It created NDMA with prime minister as its head (center) along with ministry of Home Affairs as nodal ministry.



- Difficulty in coordinated ground response to disasters w.r.a.u.r DM Act 2005 :-

① Overlapping institutions

- NDMA and NEC causes clash of functions & hence non-started at times

② Disaster Management is not part of any subject under Schedule VII (Independently)

③ "Water" as the central unit of planning & response is absent

↳ despite maximum disasters are related to water like floods, tsunami, cyclone, draughts etc.

④ Lack of devolution of functions to local level governance

↳ local government is not at planning stage rather only implementing agency

⑤ Deroid of Importance to community participation

↳ need of an hour is capacity building & training of community as 1st line of defence

⑥ ~~text~~ lacks punishment for officials for misutilization of DM funds

↳ complacent behaviour of bureaucracy persists

Thus DM Act 2005 must reconsider above lacunae to develop -

① robust

② decentralized

③ bottom-up approach, to deal disaster efficiently

Feedback

(For OFFICE use only)

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TOTAL MARKS	
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Q.17) With suitable examples, throw light upon the use of disruptive technologies like Big Data and Artificial Intelligence (AI) in enhancing the service delivery component of good governance.

(15 marks, 250 words)

उपयुक्त उदाहरणों के साथ, सुशासन के सेवा वितरण घटक को बढ़ाने में बिग डेटा और आर्टिफिशियल इंटेलिजेंस (एआई) जैसी विघटनकारी प्रौद्योगिकियों के उपयोग पर प्रकाश डालिए।

(15 अंक, 250 शब्द)

Disruptive technologies are the "wheels" of Industrial Revolution 4.0 with AI, IoT, Big data, Machine learning etc. It plays important role in enhancing e-governance & good governance.

- Use of AI, Bigdata in governance and service-delivery:

① Better targeting of beneficiaries

eg. cowIN app used component of Bigdata analysis to provide vaccination to Indian populace

② Effective disaster management

eg. Odisha Disaster Management Unit uses AI driven technology for

disaster forecast, predictive analysis

↳ reduced loss of lives & livelihoods
due to efficient Early Warning Systems

③ Collection and analysis of multi-diverse data

eg. India Stack rolled out by government ensures efficient analysis of information regarding various services for people
↳ potential to be rolled out on global scale

④ Enhancing transparency of administration

eg. e-Governance via myGov app

provides plethora of information about various government services provided

↳ makes people decide upon informed choices, (CPGRAMS) → for grievance redressal

But concerns of -

- ① data protection (of personal information)
- ② concerns of cybersecurity threat
- ③ digital divide in nation
- ④ digital illiteracy, acts as obstacles in effective - inclusive use of AI, Bigdata for good governance

Governments' efforts like "Bharat Net", "National AI Mission", etc. are right steps to empower people utilize good governance

Feedback

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TOTAL MARKS

Q.18) Trace the evolution of Indian Space Research Organization (ISRO) from its humble beginnings as the space agency of the government to becoming a technology behemoth, spearheading innovations with respect to satellites, launch vehicles, and planetary explorations.

(15 marks, 250 words)

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) के सरकार की अंतरिक्ष एजेंसी के रूप में मामूली शुरुआत से लेकर प्रौद्योगिकी दिग्गज बनने तक, उपग्रहों, प्रक्षेपण वाहनों और ग्रहों की खोज के संबंध में नवाचारों का नेतृत्व करने तक के विकास का अन्वेषण कीजिए।

(15 अंक, 250 शब्द)

ISRO began as an "Indian Space Agency" with the efforts of Dr. Vikram Sarabhai famously known as "Indian Space Founder". Currently as ISRO, the journey from ISA to ISRO has been full of ^{many} failures, lack of infrastructure, technology deficit etc. yet now stands as a behemoth in space sector.

But space sector share of India stands at merely $< 2\%$, which India aspires to raise at $\approx 9\%$ by 2030 (at global level)

- Various reforms for space sector via ISRO by government:

① liberalisation of data -

① now private sector is allowed remote sensing data upto 30 cm GSD from Indian Space satellites

② liberalization of space assets

- InSpace : formed for accelerating technology transfer to private sector

- NSIL : formed for commercialisation of space sector

③ Addition of new technologies

- ISRO spearheaded from PSLV to GSLV mk II (launch vehicle)

- also SSLV formed to reduce time (& manpower (6 men) to assemble rocket for small satellite launch

eg. upto 500 kg to 500km LEO

④ Adopting newer planetary missions

- eg. - Chandrayaan 3 (2023) to Moon's South pole
- Gaganyaan (In pipeline) as human space flight
 - Aditya L1 mission to Sun (~~at point~~)

Thus space ~~the~~ budget needs to be enhanced by the government along with investment in R&D for world-class infrastructure.

This will ensure journey of ISRO from behemoth to "leviathan" soon

Feedback

(For OFFICE use only)

#	G	A	P
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Here G is Good, A is Average and P is Poor.

TOTAL MARKS	
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Q.19) In what ways has Drug trafficking taken new forms and new routes in recent years. Elucidate the steps taken by the govt in this regard, with special reference to Operation Samudragupta. (15 marks, 250 words)

हाल के वर्षों में नशीले पदार्थों की तस्करी ने किस तरह से नए रूप और नए रास्ते अपनाए हैं। ऑपरेशन समुद्रगुप्त के विशेष संदर्भ में, इस संबंध में सरकार द्वारा उठाए गए कदमों को स्पष्ट कीजिए। (15 अंक, 250 शब्द)

Drug trafficking is a form of an
"organised crime" which takes up illegal
supplies of drug & narcotics along with
psychoactive substances across the world.

As per UN office on Drug & crime, crimes
proceeds from such organised crimes is
≈ 4.6% of global GDP

• Ways in which drug trafficking
has taken new forms and new routes -

(i) links of drug trafficking & naxalism

(eg) Indian police seized = Rs 700m of
heroin from Naxal camps in India

↳ used to finance purchase of
arms & ammunitions

② use of technology

eg. Drones are used to supply drugs
to hidden-remote locations

↳ Drone supplying drugs shot at
eg. Jalandhar (~~Indo-Pak~~ ~~border~~), came
from Indo-Pak border

③ Drugs supplied/ trafficked via disguise

eg. cosmetics, apparels used to hide
drugs — recovered by Customs
officials in Kerala airport

• Steps taken by Government to
tackle drug menace:

① Establishment of Narcotics Crime
Bureau

↳ and legislation NDPS Act to
punish offences of drug trafficking

② Operations like Operation Samudragupta

This Indian state is confirmed to eradicate drug smuggling. The vicinity to Golden triangle (South East Asia) and Golden crescent (^{West} ~~Central~~ Asia - Pakistan) makes drugs smuggling easier via porous borders. This must be handled with vigilant Border surveillance.

Feedback

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Please put tick marks in the above table.

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TOTAL MARKS	
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Q.20) Why does the North East remain a hotbed of insurgency? With special emphasis on government measures, discuss the steps to ameliorate the situation. (15 marks, 250 words)

पूर्वांतर उग्रवाद का केंद्र क्यों बना हुआ है? सरकारी उपायों पर विशेष जोर देते हुए स्थिति सुधारने के कदमों पर चर्चा कीजिए। (15 अंक, 250 शब्द)

(NE)
North East harbours ≈ 200 diverse ethnic communities making coexistence a challenge.
 Especially the British policy of intrusion in NE on aspects of mining, integration-assimilation created instability proliferating as insurgency in post-independent India.

• Reasons for NE being hotbed of Insurgency:

① Ethnic differences - policy of isolation of Britishers led to NE aloof from mainstream developments

↳ post-independence led to rise of demands of Independent Mizoland, Greater Nagalim

- ② Proliferation of insurgent group professing independence
- eg) NSCN-IM, NSCN-K, Bodoland Liberation Front etc
- ③ Ethnic clashes
- eg) Nagas Kukis - Meitais in Manipur led to significant violence against each other → helpful for aggravating insurgency
- ④ Role of external agents
- eg) China supports insurgent groups along Indo-Myanmar border, to destabilize India
- ⑤ Inadequacy of administrative efforts
- eg) 6th schedule and Inner Line Permit could not prevent illegal immigration, outsiders in indigenous tribal areas
- Government measures to ameliorate this insurgency :
- ① AFSPA enacted as counter-insurgency method

- ② Peace talks brokered like Naga Peace talks with NSCN-IM, NPP etc
- ③ Provisions like 6th schedule and Act 371 for fulfilling special demands of NE states

There have been increase in insurgency in recent times viz. 48% in Manipur (2017 data). Thus more vigilant efforts are needed to broker peace and establish law & order for internal security.

Feedback

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Please put tick marks in the above table.

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TOTAL MARKS	
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Mentor Feedback Questions

1

2

3

4

5

Test Goal

1

2

3

Outcomes



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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		

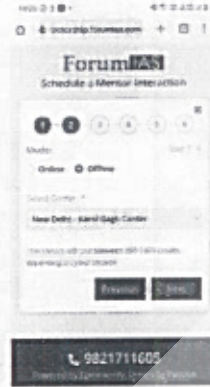
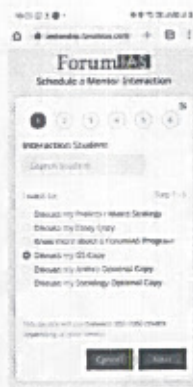
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