



GENERAL STUDIES (Test-5)

निर्धारित समय: तीन घंटे
Time allowed: Three Hours

GSM (M-I)-2405

अधिकतम अंक: 250
Maximum Marks: 250

Name: VANDITA

Mobile Number: [REDACTED]

Medium (English/Hindi): ENGLISH

Reg. Number: DKBG - 2790

Center & Date: KBC / 7/8/24

UPSC Roll No. (If allotted): 0803478

प्रश्न-पत्र के लिये विशिष्ट अनुदेश

कृपया प्रश्नों का उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

इसमें बीस प्रश्न हैं तथा हिन्दी और अंग्रेज़ी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न के अंक उसके सामने दिये गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहियें जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिये। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिये।

प्रश्न-सह-उत्तर-पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिये।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instruction carefully before attempting questions:

There are **TWENTY** questions printed both in **HINDI** and **ENGLISH**.

All the questions are compulsory.

The number of marks carried by a question is indicated against it.

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. No marks will be given for answers written in a medium other than the authorized one.

Word limit in questions, wherever 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.

केवल मूल्यांकनकर्ता द्वारा भरा जाए (To be filled by Evaluator only)

Question Number	Marks	Question Number	Marks
1.		11.	
2.		12.	
3.		13.	
4.		14.	
5.		15.	
6.		16.	
7.		17.	
8.		18.	
9.		19.	
10.		20.	
Grand Total (सकल योग)			

मूल्यांकनकर्ता (हस्ताक्षर)

Evaluator (Signature)

पुनरीक्षणकर्ता (हस्ताक्षर)

Reviewer (Signature)



Student's Feedback					
Sr. No	Parameter	Poor	Average	Good	Excellent
1.	Handwriting & Grammar				
2.	Introduction				
3.	Meeting Demand				
4.	Conceptual Clarity				
5.	Structure & Presentation				
6.	Value Addition				
7.	Flow Chart/Diagram				

Area of Strength

Area of Improvement

1. धन शोधन में प्रयुक्त होने वाली विभिन्न पद्धतियों पर चर्चा कीजिये। भारत में धन शोधन को प्रत्याक्रमित करने के लिये भारत सरकार द्वारा किये गए महत्वपूर्ण उपायों का सविस्तर वर्णन कीजिये।

(150 शब्द) 10

Discuss the different methods used in money laundering. Elaborate measures taken by the Indian government to counter money laundering in India. (150 words) 10

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

The act of converting black money
into white money using layering
of transactions is Money
Laundering.

Effects of
Money
Laundering

- ① loss of tax to government
- ② used in illegal activities like arms and drug smuggling
- ③ threat to national security (e) terror funding.

METHODS OF MONEY LAUNDERING

- ① shell companies in tax havens. (e) parent companies with no independent functioning located in Hawaii
- ② Hawala transaction transnational movement of money through channels.

- ② False purchase of assets at over valued prices
eg buying property in foreign countries at 30 times more than real worth.
- ④ Fake donations in NAO & charities eg 30% of Indian NAO ecosystem support money laundering.

MEASURES BY GOVERNMENT

- ① Stringent PMLA - Prevention of Money Laundering Act - burden of proof on accused
- ② Exceptional powers of Enforcement Department - under Ministry of Finance - MPC norms do not apply
- ③ Boost to digital payment ecosystem - Digitalisation of Economy, GST filing, CBDC are all attempts to curb money laundering.

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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Introduction
Content
Structure & Presentation
Value Addition
Conclusion
Marks Obtained

2.

छत्तीसगढ़ में नक्सलवाद के कारण उत्पन्न चुनौतियों का विश्लेषण कीजिये। नक्सलवाद से उत्पन्न चुनौतियों के समाधान के लिये भारत सरकार की रणनीति की संक्षेप में व्याख्या कीजिये। (150 शब्द) 10

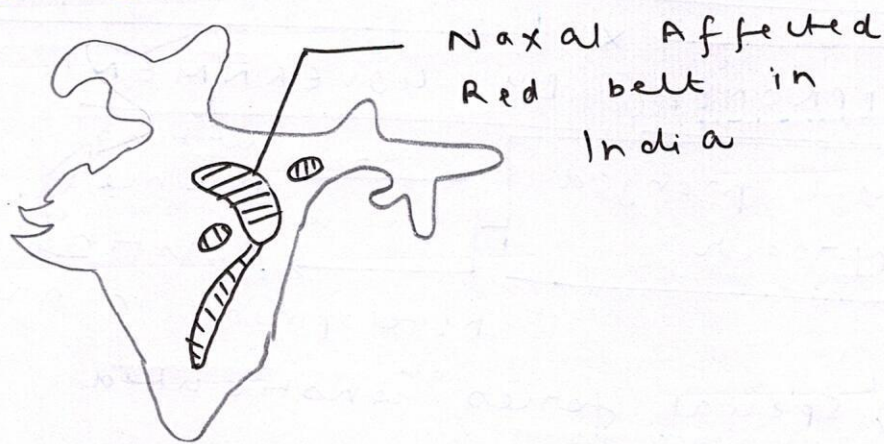
Analyze the challenges posed by Naxalism in the Chhattisgarh area. Briefly explain the Government of India's approach to countering the challenges posed by Naxalism.

(150 words) 10

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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The violence out of naxalism saw a decline ~~in~~ of 66% in last 5 years but still 100+ districts are naxal affected.



Challenges of Naxalism in Chhattisgarh

- ① Disrupting law and order
- ④ attack on civilians and army
- ② Influence on local tribals

weakened Governance

Polarisation of youth & tribal people

- ③ hampers economic Development
- eg infrastructure, industrialisation and mining of resources.
- ④ Poor socio economic indicators in Affected areas - Gross, Enrolment Ratio, healthcare facilities and penetration of Government schemes

APPROACH BY GOVERNMENT

Dual pronged Approach

- curbing violence
- Boosting development in areas.

- ① Special forces constituted
- eg Black Panthers
- ② Use of technology for surveillance
- eg satellite mapping, drones.
- ③ Military operations
- ④ development programmes
- eg Green Hunt, Aspirational District Programme
- ⑤ Human Resource development
- eg Eklaavya Model school
- * the problem of Naxalism requires whole of the Government

Approach

www.drishtiias.com

Contact: 8750187501, 8448485517

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हाशिये में नहीं लिखना
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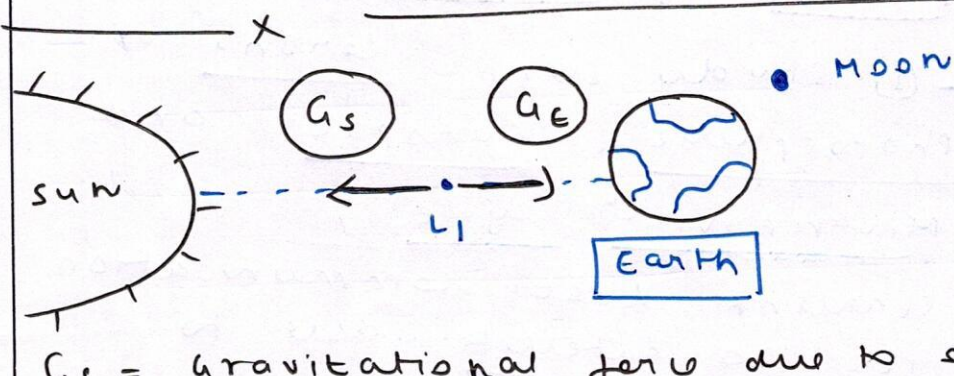
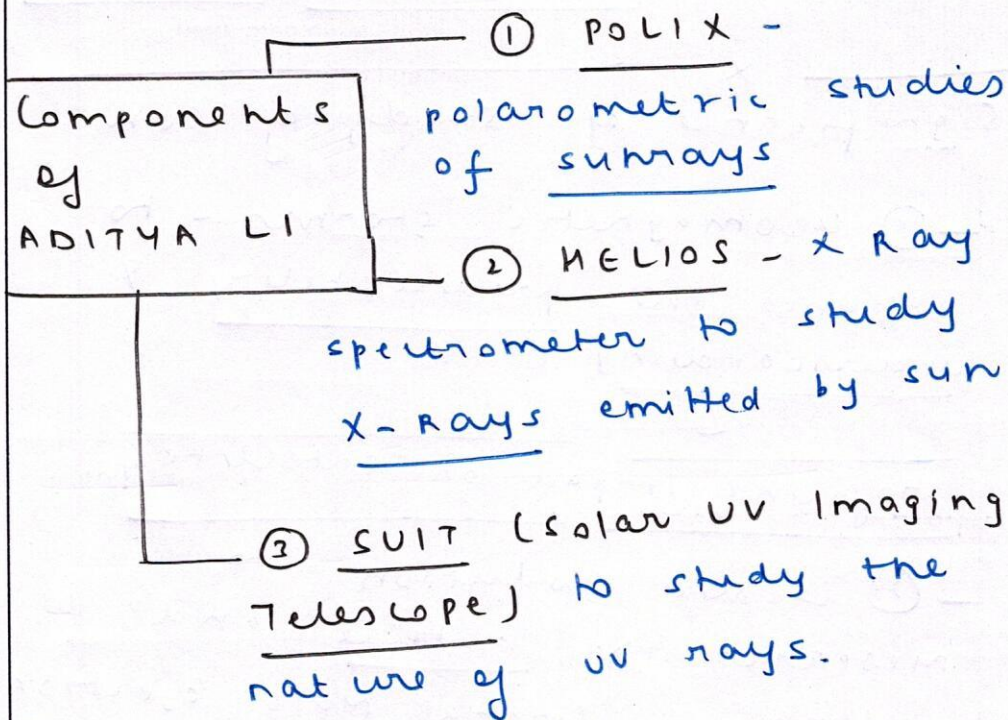
Introduction
Content
Structure & Presentation
Value Addition
Conclusion
Marks Obtained

3. आदित्य L1 मिशन के घटकों पर प्रकाश डालिये एवं व्याख्या कीजिये कि इसे L1 पर बने रहने की आवश्यकता क्यों है। साथ ही, सौर अन्वेषण के महत्त्व का वर्णन कीजिये। (150 शब्द) 10
- Highlight the components of the Aditya L1 Mission and explain why it needs to stay on L1. Also, emphasize the significance of exploring the sun. (150 words) 10

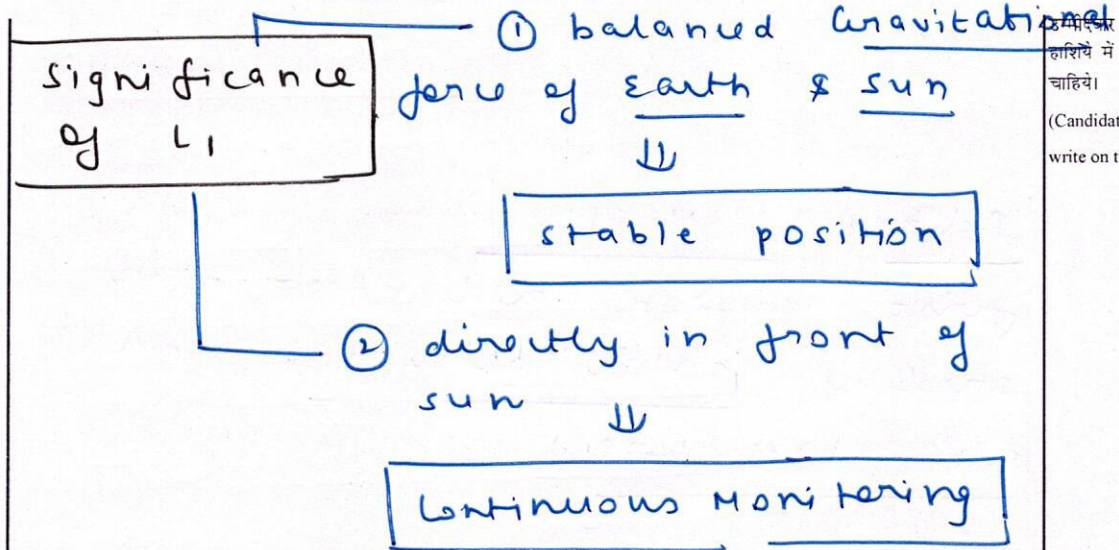
उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

Aditya L1 Mission is India's first mission dedicated for studying solar activities and sun structure.



G_s = Gravitational force due to sun
 G_e = Gravitational force due to earth.



उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

Significance of study of sun

- ① Geomagnetic storms - to enhance the predictability & understanding
 - ⇓
 - Profound impact on satellites
- ② Cosmic evolution - to research the nature and pattern of Coronal Mass Ejection
- ③ study sun - corona & photosphere, sunspot and Milankovitch cycle
- (*) starlink lost communication to its 20 satellite due to

Geomagnetic storm
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Introduction

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4. स्वास्थ्य और रक्षा क्षेत्र में कृत्रिम बुद्धिमत्ता की संवृद्धि और विकास का वर्णन कीजिये।

(150 शब्द) 10

Give an account of the growth and development of Artificial intelligence in the health and defence sector. (150 words) 10

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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Artificial Intelligence has shown
its potential with development
of growing Robotic surgery and
Unmanned Guarding of borders.

A.I in health

- ① Predicting likelihood of
getting disease - using data
from genetics and lifestyle disease
- (eg) Heart monitoring ⇒ Heart Attack
Probability
- ② Early & Accurate Diagnosis
- (eg) AI detected breast cancer
5 years prior to its symptoms.
- ③ Automation of lab procedures
Accuracy + Reducing stress on
healthcare professionals
- (eg) Biofoundry.
- ④ Compiling new Researches

↓
Upskilling of doctors

AI in defence

- ① Guarding borders using Remote sensing technique



Zero infiltration

- ② Uptaking Risky operations like surgical strikes - Reduced threat to life of soldiers

- ③ Data processing from satellites and drones



Early warning system

Potential of AI can be improved by -

- ① Increasing the input capacity and data size
- ② Building digital infrastructure
- ③ Digital literacy.

The benefits of AI can become equitable and inclusive by ensuring data privacy & protection

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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5. भारत में साइबर सुरक्षा में वृद्धि करने के लिये भारतीय साइबर अपराध समन्वय केंद्र (I4C) द्वारा किये गए उपायों का परीक्षण कीजिये। साथ ही, उभरते साइबर सुरक्षा जोखिमों से निपटने के लिये भारतीय रिजर्व बैंक द्वारा की गई पहलों का भी परीक्षण कीजिये। (150 शब्द) 10

Examine the measures taken by the Indian Cybercrime Coordination Centre (I4C) to enhance cyber security in India. Also, examine the initiatives taken by the RBI to address emerging cyber security risks. (150 words) 10

उम्मीदवार को इस
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चाहिये।

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I4C acts as nodal centre for
information gathering and data
collection for cybersecurity in
India

Measures by I4C

- ① Highlighting the vulnerabilities
of digital ecosystem using
ethical hacking
- ② spotlighting key digital
infrastructure of India - incl.
data servers of RBI, banks,
ISRO.
- ③ capacity building for
resilience in cooperation with
all critical digital infra.
holders

④ Suraksha Pakhwada for
Cybersecurity - Literacy &
awareness among citizens for
safe Internet practices

Initiatives by RBI

- ① Highlighting critical
financial digital resources
↳ for enhanced safety
- ② Cyber security safety norms
for banks
- ③ card tokenisation to
prevent fraud.
- ④ special App. to report
cyberfraud in financial aspect

A bolstered and resilient
digital ecosystem committed to
cybersecurity alongwith cooperation
among all stakeholders is
need of the hour.

उम्मीदवार को इस
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6. सांख्यिकीय विज्ञान के क्षेत्र में सी.आर. राव के कार्य क्रैमर-राव असमिका और राव-ब्लैकवेलीजेशन के माध्यम से उनके योगदान की विवेचना कीजिये। (150 शब्द) 10

Discuss the contribution of C.R. Rao through his work Cramer-Rao inequality and Rao-Blackwellization in the field of statistical science. (150 words) 10

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7.

भारत की समुद्री सुरक्षा चुनौतियों पर प्रकाश डालिये। इस संबंध में समुद्री जलदस्तुता रोधी अधिनियम 2022 के महत्व का विश्लेषण कीजिये। (150 शब्द) 10

Highlight the Maritime security challenges to India. Analyze the significance of the Maritime Anti-Piracy Act 2022 in this regard. (150 words) 10

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

The rising polarisation of Indian Ocean and recent piracy attacks by Houthi Rebels have underlined the need for effective maritime security.

challenges with Maritime security

- ① Fragmented Responsibility
eg between Indian Coast Guard police and Indian Navy
- ② Lack of effective monitoring need for surveillance using satellite, Remote sensing & drones.
- ③ Lack of single Theatre Command only Andaman & Nicobar has one.
- ④ India does not have nuclear powered submarine. ⇒ Reduced stealth

|- ⑥ Rising disease influence
⑨ string of pearls - Humbantota
port of Sri Lanka.

— X —
Significance of Maritime Anti-
Piracy Act 2022

- ① Codified procedure and SOP
 ↓
 Swift Action
- ② Easy deportation of
 Accused.
- ③ In sync with UNCLOS
 and High seas Treaty

A technologically empowered
navy will help in enhancing
surveillance and guarding of
coastal borders. When coupled
with integration between
different agencies

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हाशिये में नहीं लिखना
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8. इसरो द्वारा प्रमोचित प्रमुख अंतरिक्ष अभियानों की रूपरेखा प्रस्तुत कीजिये एवं देश की विकास प्रक्रिया में इन अभियानों के अनुप्रयोगों पर प्रकाश डालिये। (150 शब्द) 10

Outline the major space missions launched by ISRO and highlight their applications in the country's development process. (150 words) 10

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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ISRO has become the world's 6th largest space agency with more than 90% success rate at economical input cost.

Major space Missions

- Mars orbiter Mission (MOM)
India's first interplanetary mission
- Chandrayaan I - confirmed presence of water on moon
- Chandrayaan II - successful orbiter placement
- Chandrayaan III - soft landing on surface of Moon.
- Aditya L1 - placement on Lagrangian point
- ⊗ Shukrayaan, Gaganyaan and Indian space station are some

upcoming projects 17

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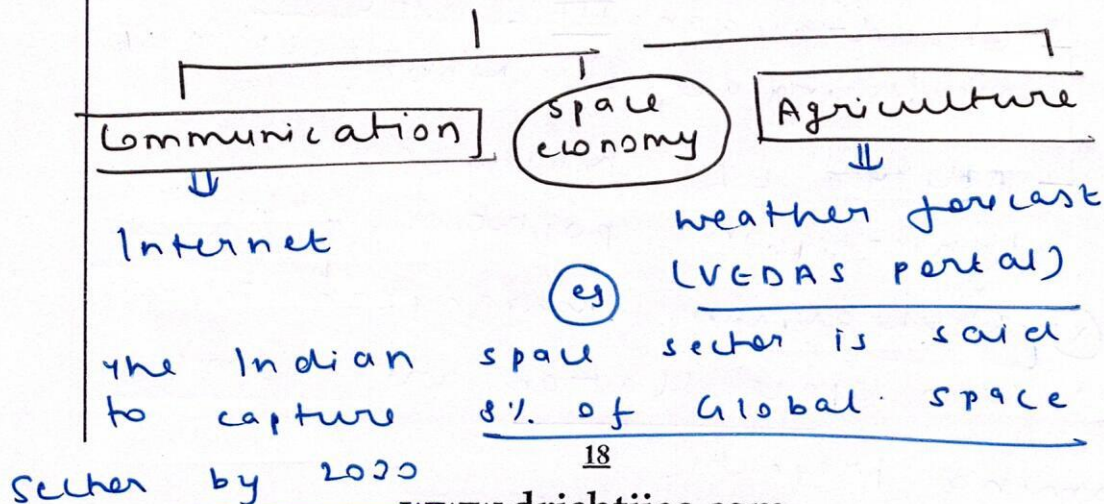
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Application in Development

- ① Use of technology in defence
 - eg ballistic missile of DRDO inspired by ISRO Rocket launch
- ② Rising soft power
 - eg India - 4th country to land on moon
- ③ Boost to other sectors by services like Remote sensing Spatial Mapping
- ④ surveillance of Biodiversity and landslide, flood prediction

↓
Early Disaster Response
- ⑤ Cumulative Impact on other sectors



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9. जैव प्रौद्योगिकी पर विशेष बल देते हुए कृषि में विज्ञान और प्रौद्योगिकी के महत्व पर प्रकाश डालिये।

(150 शब्द) 10

Highlight the significance of science and technology in agriculture with a special focus on biotechnology. (150 words) 10

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

There has been an unprecedented rise in use of science and technology in Agriculture.

SIGNIFICANCE IN AGRICULTURE

- ① Enhance productivity
eg) HYV seeds by Norman Borlaug
- ② Climate Resilience
eg) shahbhagi Dhan - drought tolerant
- ③ Efficient Resource Utilisation
eg) Micro irrigation, drip irrigation
- ④ Reduced Input Cost
eg) Nano fertiliser - Nano urea 90% efficiency.
- ⑤ Increasing nutrient quality
eg) ~~the~~ yellow rice
- ⑥ Edible vaccine →

Human health
- eg) Rotavirus in banana

BIOTECHNOLOGY in AGRICULTURE

- ① Building pest resistance
 - eg) Bt cotton against pink bollworm
- ② Improving texture & taste
 - eg) Dhara mustard - less pungent
- ③ Enhanced productivity
 - eg) DMH-11 Mustard
- ④ Reduce post harvest loss
 - eg) Irradiation of fruits by X rays, use of bioplastics for increasing shelf life
- ⑤ Improve nutrition through biofertilification

Technology in Agriculture can not only help in building resilient and climate proof Agriculture but can also help in enhancing the income of farmer

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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10.

बढ़ते संगठित अपराध के लिये उत्तरदायी विभिन्न कारकों पर चर्चा कीजिये। भारत के संदर्भ में आतंकवादियों और संगठित अपराध के बीच संबंधों का वर्णन कीजिये। (150 शब्द) 10

Discuss the various factors responsible for exacerbating organised crime. Describe the linkages between terrorists and organized crime that exist in context of India.

(150 words) 10

The incidence of organised crime
has seen a rise of 10% in
last 5 years (NCRB Data)

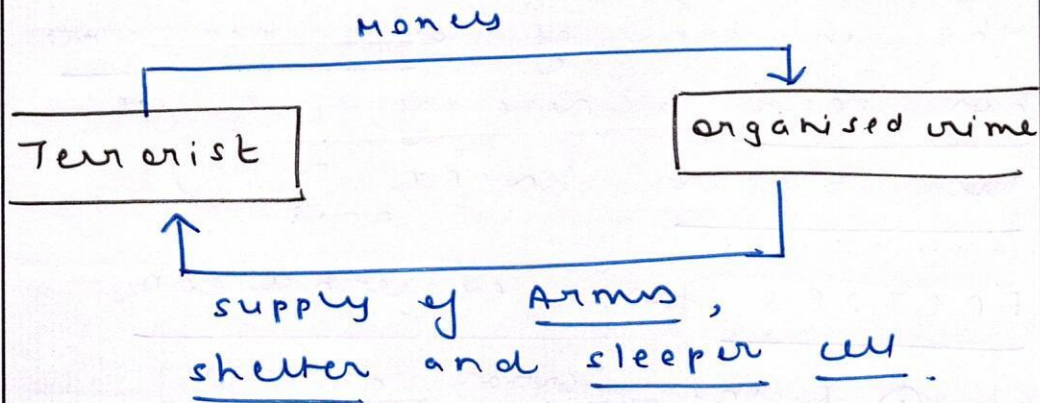
FACTORS for exacerbation

- ① Rising terror funding
by state and non state actors
- ② support of state enemies
like ISIS of Pakistan helping
drug syndicate in India
- ③ porous borders of Nepal
and Bangladesh
- ④ Money laundering - funds
organised crime and terror
groups
- ⑤ law and order situation in
neighbouring countries - political
instability in Bangladesh and
Pakistan

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हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

Linkage between terrorists and organised crime



① Role of terrorist in organised crime - providing with money and information and protection

② Role of organised crime
supply of Arms and shelter
huge role in building of
sleeper cells in India

A whole of the government
approach tackling terrorism
and crime is required through
coordination and intelligence
sharing between Police & Army

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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Introduction
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Marks Obtained

11.

वजन कम करने और मधुमेह जैसी जीवनशैली संबंधी बीमारियों की रोकथाम के लिये अक्सर कृत्रिम मधुरक का उपयोग किया जाता है। यद्यपि, WHO ने इनके सावधानीपूर्वक उपयोग का सुझाव दिया है। कृत्रिम मधुरकों के प्रकारों और उनसे संबंधित मुद्दों पर प्रकाश डालिये। कृत्रिम मधुरक पर WHO की सिफारिशों का उल्लेख कीजिये। (250 शब्द) 15

Artificial sweeteners are frequently used to achieve weight loss and prevent lifestyle diseases such as diabetes. However, the WHO has suggested caution against their use. Highlight the different types of artificial sugars and point out the issues related to them. Mention the WHO recommendations on artificial sweeteners. (250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

Recently WHO tagged aspartame based artificial sweeteners as carcinogenic having multitude impact on human health.

Potential Effect

- ① Cancer development
- ② Renal failure
- ③ Tissue toxicity
- ④ Hormonal Imbalance

↓
Infertility

x
Types of Sweeteners

Natural Artificial Sweetener

eg) Stevia

Chemical Sweetener

Protein based

eg) Aspartame

Low calorie

eg) Saccharin

eg) Sucralose

I Natural Artificial sweetener

→ sourced from nature
→ Artificial since it doesn't
have glucose / fructose as
sweetening agent

(eg) leaves of stevia - natural
protein based sweetener.

Effect — ① less harmful
② may lead to toxicity
③ Inadequate Research.

II Artificial Chemical sweetener

A. Protein based

- chemically sweet protein
- no glucose / galactose /
fructose
- Aspartame

Benefit - ① low calorie based
② Diabetic diet

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

Effect — ① carcinogen

— ② impairment of
insulin receptors

B. low calorie chemical sweetener

— form of glucose but
low calorie intake

— used for weight loss.

Effect — ① still spikes blood glucose
— ② ~~not~~ bitter aftertaste

X
WHO Recommendations

— ① low calorie / no calorie
based

— ② non glucose based

— ③ low / no toxicity /
residue buildup in liver

— ④ Managed Intake by
consumers.

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

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Marks Obtained

12.

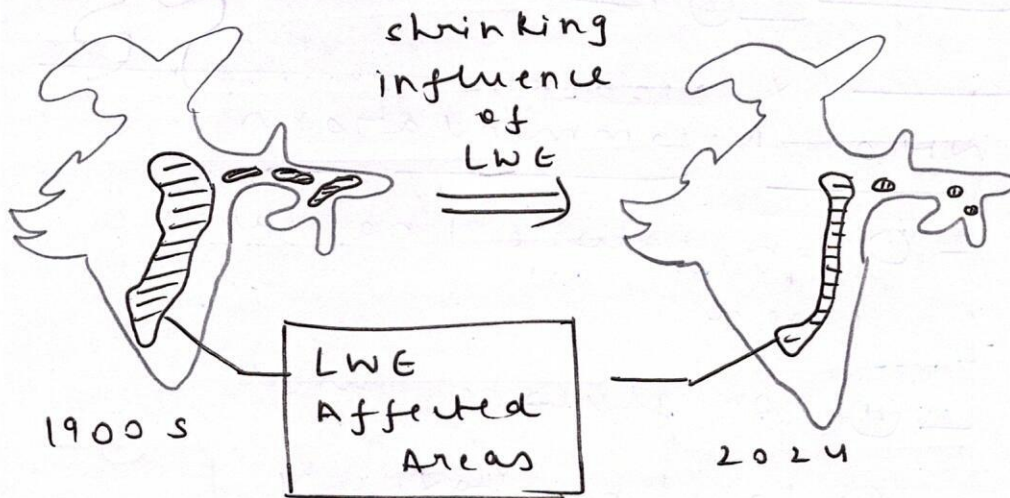
वामपंथी उग्रवाद (LWE) एक समय आंतरिक सुरक्षा के लिये सबसे बड़ा खतरा माना जाता था हालाँकि वर्तमान में इसमें गिरावट देखने को मिली है। वामपंथी उग्रवाद का मुकाबला करने के लिये भारत सरकार की रणनीति को संक्षेप में समझाइये। देश से वामपंथी उग्रवाद (LWE) की विचारधारा के उन्मूलन में युवाओं की भूमिका की विवेचना कीजिये। (250 शब्द) 15

Left-Wing Extremism (LWE) has transitioned from once being considered the foremost internal security threat to now appearing to be in decline. Briefly explain the Government of India's strategy to counter the LWE. Discuss the role of youth in eradicating the idea of left-wing extremism (LWE) from the country. (250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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The violent incidents due to LWE has seen a decline of 66% and fatality rate has declined by over 60%.



STRATEGY OF GOVERNMENT

| 2 Pronged Approach

↓
Curbing of
Influence by
Police Action

↓
Solid
Economic
Development

I

Curbing of Influence

- ① Dedicated battalions -
eg Black Panthers
- ② constant surveillance & Monitoring
- ③ zero tolerance policy against violence by NWE
- ④ Military operations eg Green Hunt

II Socio Economic Development

- ① Penetration of Government schemes - Pradhan Mantri Kaushal Vikas Yojna, Garib Kalyan Yojna
- ② Tackling poverty and unemployment
eg TRIFED - 41 Mahotsav - 75
products of tribals got 41 tag.

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

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Marks Obtained

- ② skilling & Training
(eg) PMKVY, Munar Maat
USTAAD scheme
- ④ Education - Eklavya Model
Residential schools
- ⑤ Health - eradication of Sickle
cell Anaemia by 2030.

ROLE OF YOUTH

- ① youth inducted in training and education
↓
weakened leadership of Naxalism
- ② undertaking productive
life choices
- ③ Modernisation and westernisation
(eg) GOAL scheme to inculcate
leadership in youth

Whole of the government approach required.

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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Marks Obtained

13.

अनुसंधान एवं नवाचार को प्रोत्साहित करने में बौद्धिक संपदा अधिकार (IPR) का क्या महत्व है? भारत में IPR व्यवस्था पर प्रकाश डालिये। (250 शब्द) 15

What is the significance of the Intellectual Property Rights (IPR) in promoting research and innovation? Highlight the IPR regime in India. (250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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India has retained 42nd Rank on International IP Index in 2024 with score of 38%.

SIGNIFICANCE OF IPR

- ① Impetus to private sector to conduct Research

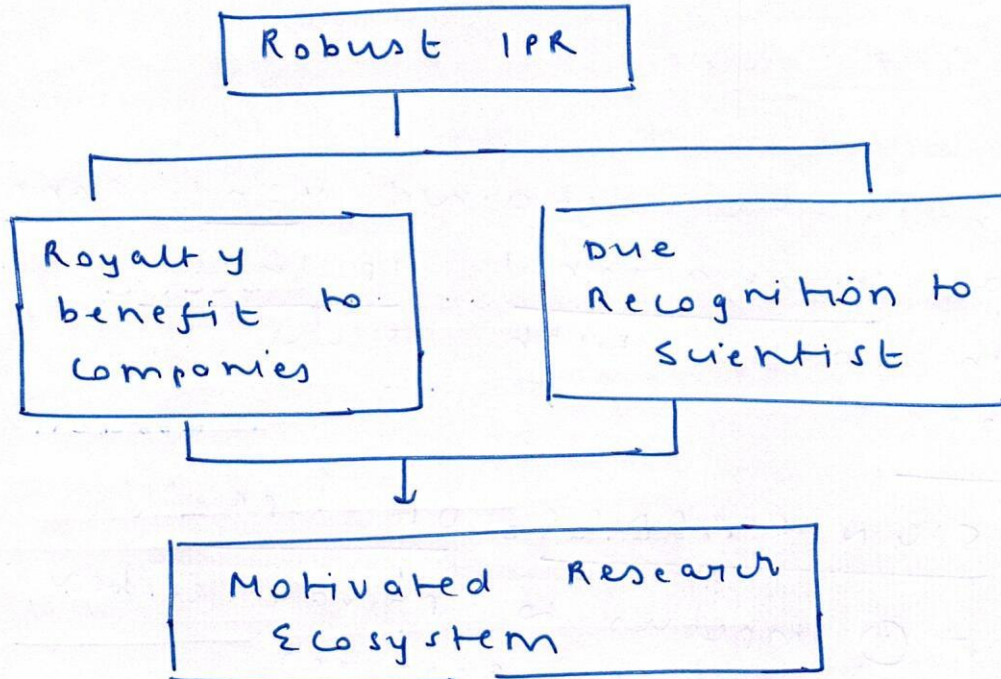
↓

Protection to new thoughts ideas and products

- ② prevent Plagiarism
- ③ prevent legal dispute which can be resource consuming
- ④ legal ownership to ideas and products.

↓

scientists get their due share and recognition



उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

IPR Regime in India

- ① Centralised registration of IPR by companies, individuals
- ② one single body for Giving patent
- ③ Regulation Against over breeding of patent
- ④ Provision of Compulsory licensing - deters the private sector but crucial for greater public good.

Challenges in Indian IPR Regime

- ① long wait time
- ② lack of capacity building personnel $\Rightarrow$ leads to over piling of Application
- ③ No separate courts for IPR conflict $\Rightarrow$ long pendency
- ④ outdated laws not suitable for growing biotechnology, AI and quantum computing

WAY FORWARD

- ① Updating laws
- ② Capacity building
- ③ Fast track courts for speedy resolution

A robust and well trusted IPR ecosystem is necessary for India to become Vishwa Guru

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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14.

शिक्षा के क्षेत्र में कृत्रिम बुद्धिमत्ता (AI) के एकीकरण के परिवर्तनकारी प्रभावों का परीक्षण कीजिये।
पारंपरिक शिक्षण पद्धति में क्रांति लाने और विद्यार्थियों के अधिगम परिणामों में वृद्धि करने की इसकी
क्षमता को रेखांकित कीजिये। (250 शब्द) 15

Examine the transformative impact of integrating artificial intelligence (AI) into the field of
education, emphasizing its potential to revolutionize conventional teaching approaches and
enhance student learning outcomes. (250 words) 15

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

AI has profound impact on
education and conventional
teaching practices.

Impact on curriculum

① Inculcation of Modern skills
like coding, Machine Learning
Robotics

② Enhanced technical and
specialised skills in quantum
computing & super computing



Prepare students for
IR 4.0, AI future

Impact on teaching

- ① black board replaced by Smart board
- ② personalised interactive sections for every student
- ③ unique pedagogy for every child.

Effective and efficient learning, Holistic development and Enhanced learning outcome

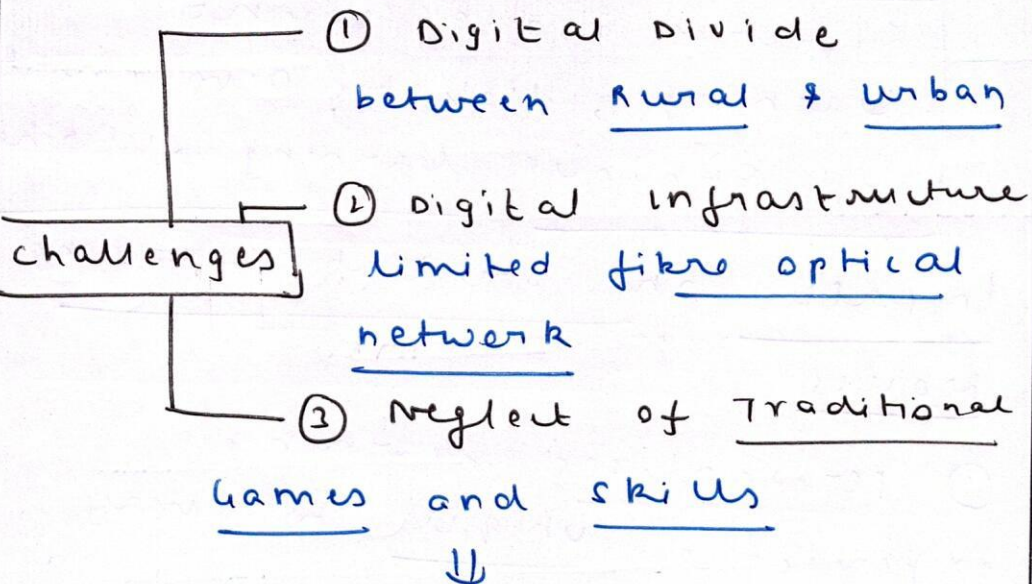
Impact on student learning process

- ① personalised learning experience unique to every child to match his needs
- ② specialty benefit to disabled and vulnerable sections of society.
- ③ Reduced Memorisation and Note learning

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

- ④ Emphasis on concept building
- ⑤ Easier and effective monitoring and evaluation of performance instead of Annual tests.
- ⑥ fun and interactive learning.



Social development

A digitally inclusive and equitable integration of AI in education will help in better retention of education among all students.

उम्मीदवार को इस
खंड में नहीं लिखना
चाहिये।

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15.

चर्चा कीजिये कि स्वच्छ और सुरक्षित पेयजल की उपलब्धता सुनिश्चित कराने में नैनोटेक्नोलॉजी का उपयोग किस प्रकार किया जा सकता है। इन नई प्रौद्योगिकियों का अनुप्रयोग भारत के सामाजिक-आर्थिक विकास में किस प्रकार योगदान दे सकता है, अन्वेषण कीजिये। (250 शब्द) 15

Discuss how nanotechnology can be utilized to provide clean and safe drinking water. Explore how the application of these new technologies can contribute to India's socio-economic development. (250 words) 15

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

IIT Madras recently
developed an efficient technique
of decontaminating hard
metals from underground
water.

Use of nanotechnology in water
Purity

- ① use of zeolite to filter
chemicals and metals
↳ purification of water
- ② Nano phyto plants for
bioremediation and removing
organic waste from water
- ③ Use of nano flora and
nano fauna - to absorb
heavy metals like Cu,
Tn, from water.

- ④ Nano detector to locate point and non point source of water pollution
- ⑤ Nano sensor to monitor quality of water
- ⑥ Aquifer Mapping and Groundwater Table

Application in socio-economic development

- ① Universal Access to clean water ~~especially~~ especially in Rural areas

⇓

Improvement in health indicator

⇓

Reduction in water borne disease like cholera & brain fever

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

11

Reduced Health burden
of Government

② Reduced out of pocket
expenditure ⇒ investment in
education, skilling, nutrition

③ Curb malnutrition in
children due to worms and
stomach parasite (eg- Taenia)
present in unclean water.

Healthy
work
force

⇒

Productive
work force

↓

improvement
in key social
Indicator
like MMR,
IMR

←

Contribution
in GDP and
nation growth

Clean drinking water is
guaranteed under Jal shakti
Mission

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

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Value Addition
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Marks Obtained

16.

भारत की ऊर्जा जरूरतों को पूरा करने में परमाणु ऊर्जा कार्यक्रम की प्रमुख भूमिका का परीक्षण कीजिये तथा इस क्षेत्र में आत्मनिर्भरता प्राप्त करने में देश की प्रगति की विवेचना कीजिये। (250 शब्द) 15

Examine the pivotal role of the nuclear energy program in fulfilling India's energy needs, and also emphasize the nation's strides in achieving self-reliance in this domain.

(250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

Nuclear energy contribute 2.5% in India's total energy production.

Potential of Nuclear Energy in India

① India has natural source of monazite, thorium

② vitrification technology to solidify nuclear waste

Role of Nuclear Energy Program

① scope in southern India due to isolated locations and proximity to non-residential areas

② clean energy - meet India's INDC requirement

— ③ Modern technology of
Pressurised Water Reactor
India is in 2nd stage of
Nuclear programme

— ④ Convenience of building
Integrated Grid for nuclear
energy.

Challenges
in Indian
Nuclear
Energy

① very high setup
cost - less profitability

② Reluctance of
Residents - delay in
projects

eg) Kudankulam project

③ Threat to safety

eg) breach in reactor,
Radioactivity etc.

WAY FORWARD (Nation's
stride)

- ① Emphasis on small Modular Reactor (30-300 MHW)
- (a) low input cost
 - (b) less displacement of people
 - (c) more safe and secure

- ② Attaining net gain energy in fusion reactor

(eg) Artificial sun of china powered by nuclear fusion

- ③ Building stringent protection norms and convincing locals

- ④ Gaining foreign technical expertise - (eg) Germany
to reduce input cost and increase safety.

A safe nuclear energy sector followed by secure disposition of radioactive matter is the need of hour.

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

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Marks Obtained

17.

पूर्वोत्तर भारत में सशस्त्र बल विशेष शक्तियाँ अधिनियम (AFSPA) के उद्देश्य पर प्रकाश डालिये। पूर्वोत्तर भारत में उग्रवाद का मुकाबला करने के लिये सरकार द्वारा की गई प्रमुख पहलों का विश्लेषण कीजिये।

(250 शब्द) 15

Highlight the purpose of the Armed Forces Special Powers Act (AFSPA) in northeast India. Analyze the major initiatives taken by the government to counter insurgency in Northeast India. (250 words) 15

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

The Indian North East has
been suffering from
security issues and law &
order disturbances due to the
action of state & non-state
Actors.

Purpose of AFSPA in North East

- ① curb LE & WE influence
especially in Nagaland and
Assam
- ② Reduce the influence of
non state actors funded by
china and pakistan
- ③ curb infiltration
eg Rohingyas of Myanmar

↓
Affect peace of area

④ Internal conflict and dispute between local tribes
↓

Wileu

⑤ Growing Chinese influence
↓

Instability in Area

Initiatives by Government

① Curbing infiltration

eg Planning to stop the Free Movement Regime with Myanmar

② Signing peace agreements with local leaders

eg MOU with Naga forces to reestablish peace in area

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

— ③ Facilitating dialogue
between local groups.

eg Kuki and Meitei in Manipur

— ④ regional growth and
development

eg Sadiya bridge in Assam -
Arterial Route for Mobilisation
of Army & Resources

— ⑤ special intervention
for fostering economic
growth

eg PM-DEVINE

— ⑥ Improving connectivity

eg Akhaura - Agartala Rail
line

eg Kalandan Project.

A multi-pronged approach aimed
at building trust and fostering
development will ensure peace in

North East

Feedback
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18. भारत की आंतरिक सुरक्षा के लिये उत्तरदायी केंद्रीय सशस्त्र पुलिस बलों (CAPF) के भीतर विभिन्न एजेंसियों के कार्यों पर प्रकाश डालिये। साथ ही इनसे संबंधित मुद्दों एवं उपायों को रेखांकित कीजिये।
(250 शब्द) 15

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

Highlight the functions of various agencies within the Central Armed Police Forces (CAPF) responsible for India's internal security. Also, emphasize the associated issues and corresponding measures.
(250 words) 15

CAPF acts as reserved armed
forces for Centre and is
deployed in case of emergencies
and extrigent situations.

Issues with CAPF

① Administered by IPS
officer instead of Army
officer

↳ Inconsistency in
leadership

⇓

Management issues
and quality of
Administration Reduces

② vacancies and personnel
management - many posts
are vacant leading to
overburdening of officials.

⇓

Ineffectiveness

- ③ Inadequate focus on
capacity building and
training

↳ lack of regular training
and upskilling

④ lack of resources
like infrastructure,
funds, arms etc.

⇓

lack of innovation

⑤ poor grievance redressal

⇓

High suicide rate

Measures

- ① CAPF should be headed by Army officer instead of IPS officer
- ② Technological upgradation
- ③ Capacity building and training of personnel.
- ④ Internal counselling centre $\Rightarrow$ Reduce suicide rate.
- ⑤ well defined role and responsibilities

A bolstered CAPF can contribute not only in internal security but also in overall national resilience.

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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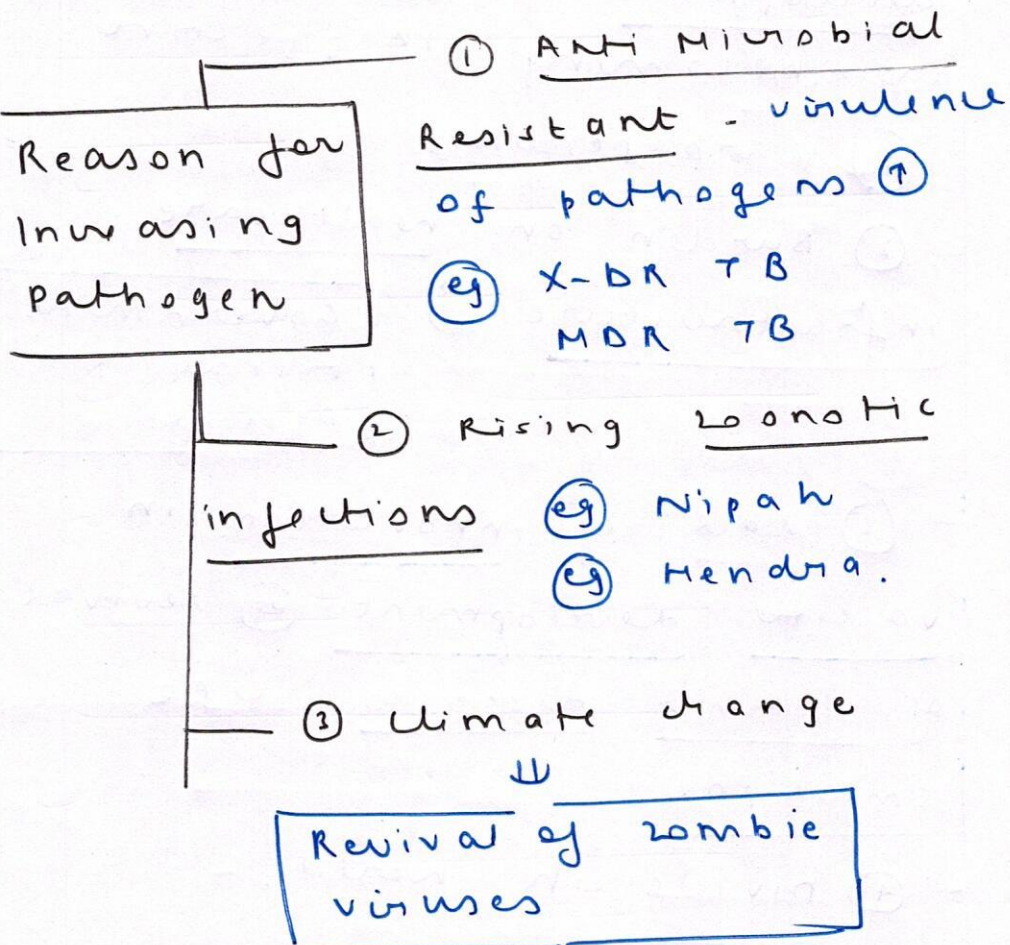
नए मानव रोगजनकों का उद्भव और विभिन्न रोगों का पुनः उभरना वर्तमान दशक में चिंताजनक है। इस घटनाक्रम से संबंधित चुनौतियों पर प्रकाश डालिये तथा इन चिंताओं को दूर करने के लिये आगे की राह प्रस्तावित कीजिये। (250 शब्द) 15

The emergence of new human pathogens and the re-emergence of various diseases are particularly concerning in the current decade. Highlight the challenges associated with these developments and propose steps forward to address these concerns. (250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

(Candidate must not write on this margin)

WHO has released the warning for upcoming pandemic Disease X and the need for revamping health infrastructure to tide over it



④ Global warming - The tropical belt conducive to pathogen growth is now expanding.

eg West Nile virus in Canada.

CHALLENGES

① stagnant pace of Antibiotic development and old antibiotics are becoming ineffective

eg Carbapenam.

② Burden on healthcare infrastructure ⇒

Government
Fiscal
Deficit

③ lack of innovation in vaccine development eg revival of extinct diseases like small pox

④ Divide in world. -

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

poor WASH and healthcare
infrastructure in under-
developed countries



new global pandemic

step forward

- ① Development of new Antibiotics
- ② Innovation in vaccine development
- ③ Healthcare infrastructure
eg- 6% of GDP
- ④ personal hygiene - WASH
- ⑤ Global monitoring of new strains and pathogen development
- ⑥ Global cooperation in health ecosystem need of hour.

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

(Candidate must not
write on this margin)

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20.

भारत में आतंकवाद रोधी एजेंसियों एवं हाल के विधायी उपायों का मूल्यांकन कीजिये। इन एजेंसियों और विधायी उपायों के संबंध में विद्यमान कमियों पर प्रकाश डालिये। साथ ही विवेचना कीजिये कि इन मुद्दों को संबोधित करने के लिये क्या किया जाना चाहिये। (250 शब्द) 15

Evaluate the recent legislative measures and anti-terror agencies in India. Highlight the lacunae in these legislative measures and agencies. Additionally, discuss what needs to be done to address these issues. (250 words) 15

उम्मीदवार को इस हाशिये में नहीं लिखना चाहिये।

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India has adopted a Zero-tolerance policy against Terrorism.

Legislative Measures

- ① Expanding the ambit of PMLA
 - L burden of proof on accused
 - L special enforcement agency ED
- ② Amendment in UAPA in 2019
 - L included individuals along with organisations
 - L tackle lone wolf Attacker

③ Terror laws on people
supporting ~~not~~ terrorists
in India

Agencies

- ED - web money laundering
and terror funding
- RAW - International
Intelligence gathering
- CBI - investigation of
terror activities

↳ nodal point of INTERPOL
communication

LACUNAE

- ① lack of infrastructure
and funding - poor use of
technology
- ② old tactics of spying

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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write on this margin)

- ③ 80% of energy diverted to Pakistan - low score for other sectors.
- ④ lack of coordination and cooperation

MEASURES

- ① Technology - Drones, Remote sensing, spying ware etc.
 - ② Coordination - information sharing, intelligence gathering and Mobilisation of resources
 - ③ Dividing the function of CBI - overburdened with internal investigation cases and foreign communication with INTERPOL
- A robust intelligence infrastructure will ensure security of nation

उम्मीदवार को इस
हाशिये में नहीं लिखना
चाहिये।

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Feedback

(For official use only)

Introduction
Content
Structure & Presentation
Value Addition
Conclusion
Marks Obtained



Space for Rough Work
(रफ कार्य के लिये स्थान)



Space for Rough Work
(रफ कार्य के लिये स्थान)



Space for Rough Work
(रफ कार्य के लिये स्थान)



Space for Rough Work
(रफ़ कार्य के लिये स्थान)