

NEXT IAS**GS MAINS ADVANCED COURSE 2024**

(To be filled by candidate)

TEST CODE : GSMAC2403**Test No. : 03**Name of Candidate: DEEPALI MAHTO Mobile No.Roll No. : GSMACT24A1216 Start Time 3:00 End Time 6:10Date of Examination: 26/07/24 Medium : English Hindi

| Q. No. | Maximum Marks | Marks Obtained |
|--------------------------|---------------|----------------|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 10 | |
| 4 | 10 | |
| 5 | 10 | |
| 6 | 10 | |
| 7 | 10 | |
| 8 | 10 | |
| 9 | 10 | |
| 10 | 10 | |
| TOTAL MARKS - 100 | | |

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|--------------------------|---------------|----------------|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 10 | |
| 4 | 10 | |
| 5 | 10 | |
| 6 | 10 | |
| 7 | 10 | |
| 8 | 10 | |
| 9 | 10 | |
| 10 | 10 | |
| TOTAL MARKS - 100 | | |

GRAND TOTAL -/ 250

EVAL CODE: EVAL DTE:

GENERAL INSTRUCTIONS

1. Immediately on receipt of the QCA booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet.
2. Candidates must mention all relevant details like Name, Email, Roll No, Mobile, etc. in the space allocated.
3. Candidate is expected to attempt all 10 questions within the given timeline.
4. Answers must be written in the medium authorized at the time of admission.
5. Candidates must write answers for the specific question under the respective question itself. Any answer written outside the space allotted may not be given credit.
6. Please write neatly. Avoid illegible writing.
7. Do not write/mark irrelevant matters in the QCAB.

सामान्य निर्देश

1. QCA पुस्तिका प्राप्त होने पर कृपया तुरंत जांच लें कि इस QCA पुस्तिका में कोई पृष्ठ या सामग्री आदि गलत छपी हुई या फटी हुई या गायब तो नहीं है। यदि ऐसा है, तो इसे एक नई QCA पुस्तिका से बदल लें।
2. अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा।
3. अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 20 प्रश्नों के उत्तर-लेखन का प्रयास करें।
4. प्रत्येक उत्तर, प्रवेश के समय चुनी गयी भाषा के माध्यम में ही लिखे जाने चाहिए।
5. अभ्यर्थियों को विशिष्ट प्रश्न के उत्तर संबंधित प्रश्न के नीचे ही लिखने होंगे। आवंटित स्थान के बाहर लिखे गए किसी भी उत्तर को क्रेडिट नहीं दिया जाएगा।
6. कृपया साफ-सुथरा लिखें। अपठनीय लेखन से बचें।
7. QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।

REMARKS:

Student Concerns / Query

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Evaluator's Feedback / Response

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MARKING SCHEME *

| Marks Per Ques | Below Average | Average | Above Average |
|----------------|---------------|-------------|----------------|
| 10 Marks | Below 3.00 | 3.00 - 3.75 | 4.00 and above |
| 15 Marks | Below 4.50 | 4.50 - 5.75 | 6.00 and above |

* Subject to change without prior notice.

IMPORTANT QR CODES



Topper's Copy



Common mistake and Correct Filled QCAB



Copy Scanner App



Next IAS Test Centre Location

MACRO COMMENTS

The Purpose of evaluation@nextias.com is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

STRENGTHS OF THE CANDIDATE

AREAS OF IMPROVEMENT



IMPROVEMENT SUGGESTIONS

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Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

1. Fiscal deficit is the difference in the expenditure of the government and revenue collected.

CAUSE OF FISCAL DEFICIT

i) promoting economic activity in the country.

ii) promoting counter cyclic measures like 'Make in India'.

iii) promotion inclusivity thro.

welfare scheme { Food security & PDS
- ensure health - Atmanirbhar Bharat
education - skilling.

iv) increase in capital expenditure

to 3.2% of GDP - 2024 (Budget)

↳ crowding in effect

↳ promote growth of other indus.

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(iii) geopolitical tension - cause
rise - in cost of fuel (oil, imports)

(iv) populist measure by some governm.
(e.g) Revadi culture

CONSEQUENCE (i) intergenerational pressure
due to high borrow

(e.g) oil bond

(ii) decrease the interest of private players - crowding out effect

(iii) higher interest rate + leading to decrease demand

(iv) inflation in economy

WAY FORWARD (i) application of pruden

in accordance with FBRM Act - 2016

(ii) promotion PPP in infrastructure
as Kellon committee

(iii) Output based budget

Fiscal consolidation is an essential
means to maintain the economic
health of nation

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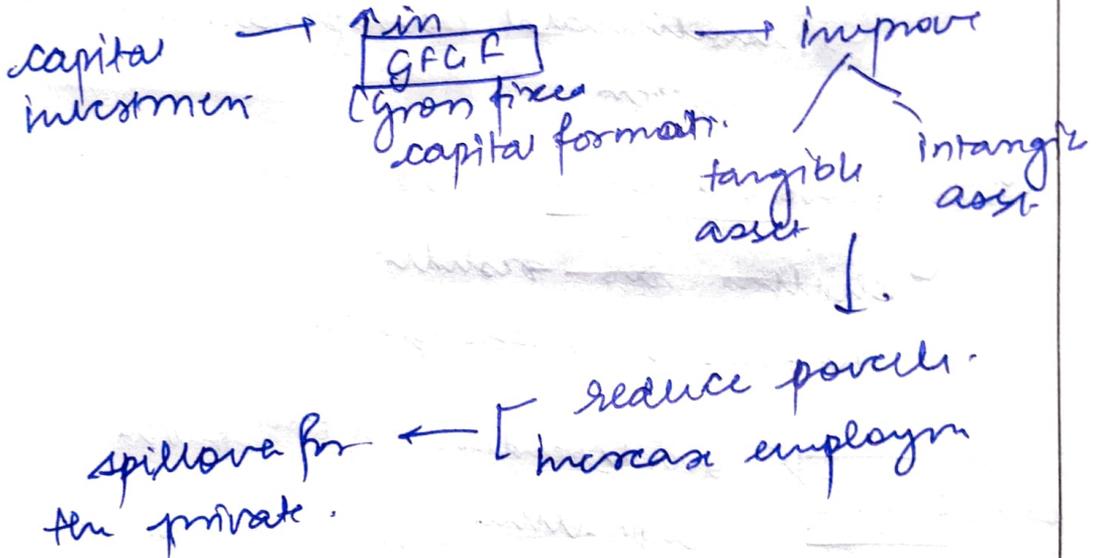
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Please do not write anything except the question number in this space
क्या इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

e.)

India @ 77 revision & to become.
Visit Bharat that is made.
India largest economy, and
reduce inequality.



POTENTIAL OF CAPITAL INVESTMENT

i) development of manufacturing

around 187 GVA

- ↳ PLI scheme in 12 major s.
- ↳ Food Park, Pharma Park.
- ↳ industrial hubs

(Please do not write anything except the question number in this space)
 कृपया इस स्थान पर प्रश्न संख्या को अनिवार्य रूप से लिखें।

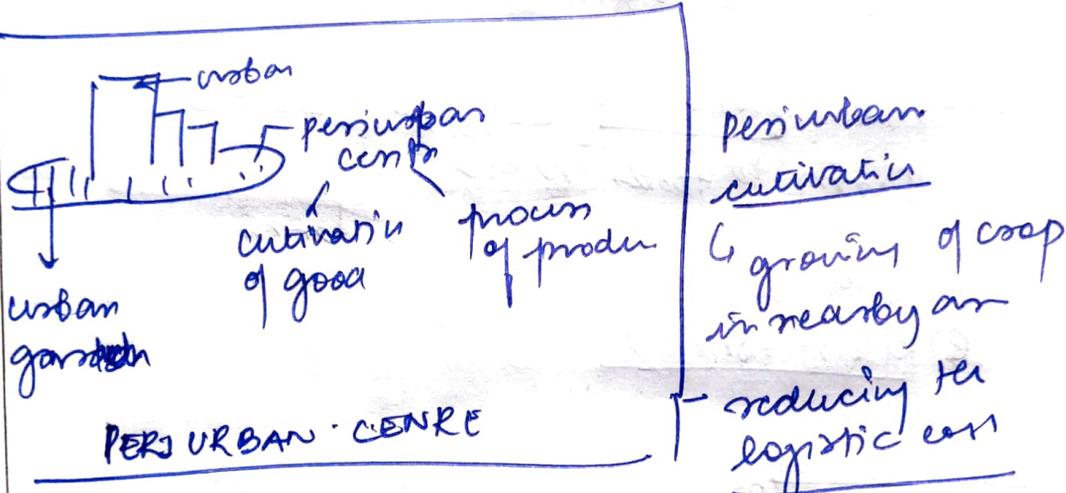
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उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए।
 Candidates must not write on this margin

3

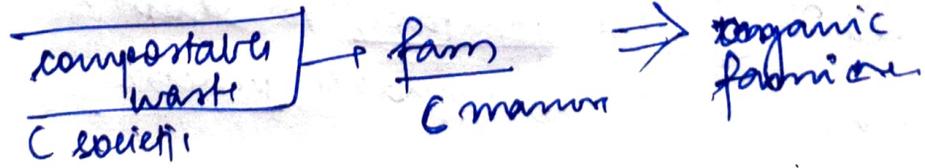
By 2050 60% of the Indian population will reside in the urban area as per UN report.



OPPORTUNITIES

i) access to nutrition food to the urban dwellers
 ii) address hidden hunger.

iii) cyclic economy could be facilitated



iv) promote green forest through
 (i) plantation, (ii)
 (iii) urban gardens

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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उम्मीदवार
इस हाजीरा
नहीं लिया
चाहिए।
Candidate
must not
write on
margin

- (i) Reduce logistic cost for the farm - Reduce wastage (140+ NIT)
 - ↳ Reduce carbonisation due to transport.
 - ↓
 - sustainable agriculture.
- (ii) Provide customer-farmers access farm to fork model
 - ↳ entrepreneurship in farm
- (iii) Kisan Konekt -

CHALLENGE (i) increase in population pressure in city.

- ↓
- satellite cities - access to
- land reducing

(ii) access to market require by capital cost

- ↳ setting up farmer's market.

(iii) require skilled workforce to adopt and innovate sustainable practice.

Thus the peri urban agriculture require

- ↳ government support in form of land access, market access to promote zero wastage farming.

India is the largest producer
and importer in Pulses - raw.
2nd largest importer in vegetable oil:

CHALLENGES WITH PULSE AND VEGETABLE OIL SUFFICIENCY

i) MSP regime to few crops like
rice, wheat → promote monocultures

ii) low market access due to
volatility in prices

→ covered phenomenon that makes
cultivation less favourable.

iii) lack of motive of farmers due to
to i) no open procurement of
oil & pulse crop
ii) less remunerative than
cash crop like cotton

(Please do not write anything except the question number in this space) कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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iv) low dourward market accs
 (i) export of pulses due to government policies on export accs.
 high price

b) low value addition and low market productive stage

MEASURES (i) development of oil co operatⁿ
 (ii) NMEO - oil palm share

be implemented in better and spirit

(iii) price deficiency payment system
 to crop like Pulse

↳ ESPM ANSA

(iv) inclusion of pulses in PDS - system
 ↳ increase in central procurement

(v) development of export sector
 ↳ APEDA to provide certification
 to gain more market Access

The pulses and vegetable oil crops
 require support through government policies to promote self sufficiency and achieve yellow revolution

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5) The biomanufacturing industry uses the biotechnology to manipulate genetics to develop products. Biofoundaries uses automation & innovative measures to achieve them.

Biomannufacture → DNA-manipulation at large scale

Bio foundary → Automate to produce energy

POTENTIAL

1) sustainable energy resource

2) ethanol class 4 uses GMO organism to generate ethanol.

3) promote sustainable source of energy (low waste generation, low environment impact)

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उम्मीदवारों को इस हाशिए नहीं लिखना चाहिए।
Candidates must not write on the margin

iii) potential to promote green job
 3) through skilled and unskilled workforce.
IEA - 2011 Green jobs will be created by 2030.

iv) achieve Paris Commitment - 800gW or green energy

CHALLENGES

- i) high economic cost
 - ii) nascent technology due to need of cutting edge tools device.
 - iii) ethical challenge open Pandora box of biotech tool to environment
 - iv) negative externalities in term of effect on genetic biodiversity.
- Biomufacturing & Biofoundry is a sunrise sector that has potential to achieve BE3 → Biotech, Environment, Energy

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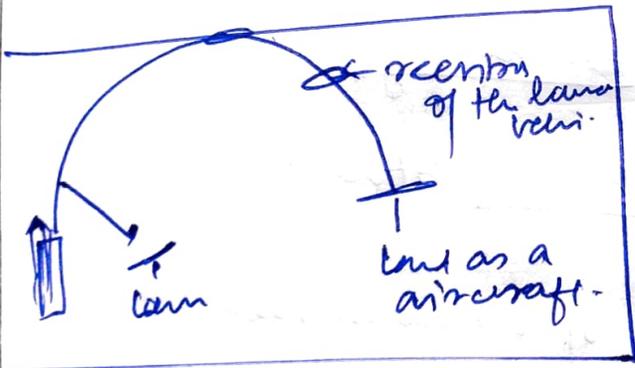
उम्मीदवारों को इस हाथिए में नहीं लिखना चाहिए।
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6) Recently the ISRO launched the RV3 vehicle by test flight.
to develop cost effective launcher vehicle.

Principle



i) It uses the propulsion system to launch satellite.

ii) reenter the atmosphere

iii) convert into the aircraft.

iv) autonomous landing of the

RVL - self manoeuvre as well as recalibration.
↓
land on the runway

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Significance

- i) Reduces the cost of launch of vehicle according to 80% of the cost as of launch vehicle
- ii) promote on demand launch of satellite
- iii) Develop new technology and come at par with other countries
- iv) NASA commit of relaunch veh. FALCON, SAPOR launches 20 people using it
- v) promote space tourism that has potential of \$11 billion industry in future

Carbon credit trading system is
launched in accordance of
clean development Mechanism of
Kyoto Protocol

FEATURE OF CARBON CREDIT TRADING INDUSTRY

- i) allowing offset of greenhouse
gases by voluntary means
- ii) it calculate the emissions target
and allows purchasing of
carbon credit
- iii) It is announced by Ministry
of Power and issued by
Bureau of energy efficiency
- iv) The target are made by
Ministry of environment forest
and climate change

Significance

i) it allow to monitor of the emission by industries

↳ reduce of GHG

ii) achieve Paris Agreement or NDC

iii) act as incentive to adopt green technology and move away from fossil fuel.

iv) adoption of green energy by the industries
↳ solar energy
↳ Hydrogen energy

v) facilitator of economy to occur to European market.

Carbon credit scheme will enable India to become net zero by 2070

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उम्मीदवारों को
इस हाशिए में
नहीं लिखना
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India in 2024 experienced the
highest temperatures or
heat wave

- Heat wave - i) It is when the plain
temperatures cross $3-4^{\circ}\text{C}$
of normal (40°C)
- ii) In hilly areas reaches to
 35°C range by $3-4^{\circ}\text{C}$.

It should be declared as Disaster

i) Due to increase in incidence of,

heat wave
ii) Delhi cross 50°C temperature

a) Effect on i) agricultural production
due to high

ii) effect on human production

iii) Fatalities caused due to

heat wave
4000 cases with 100 fatalities

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iv) need of multistakeholder -
approach to mitigate its -
danger and form a national
action plan (NAP)
↳ increase coordination betw
the state and centre

iv) It will also require change in -
the (i) building code to inc.
of sustainable practices
in construction

ii) creation of shade

iii) staggeration of working
hours.

iv) hospitals - releasing room
to combat it

However there is a need to add 6 heat
map on disaster under DMA-2005.

to have holistic action plan that is
forward looking

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
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9) The new Industrial Revolution 4.0 supported by computers, cyber space and internet require a strengthened cyber secure space.

Indian Army force formulation of Joint doctrine of cyberspace operation

Aim at

i) creation of special cyber space specialise unit in 6 commands

ii) guide the troops in planning and conducting of cyberspace operation

iii) help in addressing the challenge of cyber crime

a) cyber espionage - snapping

b) cyber terrorism - to protect

c) the cyber space from attack

d) cyber fraud e) Honey trap of defence off

iv) emphasise on military aspect of cyber warfare

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

Next IAS ID: GSMAC24A1216, GSMAC2403, 25-08-2024 11:48 PM

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उम्मीदवारों को इस दृष्टिकोण से नहीं लिखना चाहिए।
Candidates must not write on the margin.

iv) will facilitate training of the staff and create special cyber cadre.

v) address the new war zone on term of grey warfare
↳ to address propaganda, false news

vi) create uniform threatensat to combat challenges at the earliest

WAY FORWARD - i) collaboration between MITY & Ministry of

defence

ii) cert in - to flag cyber frauds can be used by the defence

iii) technology use of AI - to detect risks and disperse deepfakes.

Joint doctrine for cyber warfare will be able to address the new challenges that is being faced.

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10

Border security forces act as 1st line of defense against the threat in border of Bangladesh and

Pakistan



Recent change
→ The jurisdiction of BSF has been enlarged to 10km of the border areas.

Necessity

- i) porous border of Bangladesh.
- ii) Increase incidence of movement of people and goods, illegal
- iii) trafficking of arms, drugs, and cattle
 - 1) drug addiction is rampant in Bihar due to proximity to Golden crescent

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iv) increase tension and apprehension in citizens

8) symmetry of Bangladesh nation - due to apprehension of cattle trade

POTENTIAL ISSUE

a) the land that now comes under the BSF - will cause dispute

b) affect the federal structure as the overlap of jurisdiction of state & police force & BSF (Border Security Force)

c) increase apprehension and raise challenges with local.

d) lack of clear demarcation of duties between the police and BSF

way forward

i) promote centre & state coordination.

ii) use of trust building exercises

The BSF should work with the state police to improve security of the nation

11) Recently released the CMIE ~~stat~~ report states that the unemployment rate has reached 7.7% in India.

This highlights the persistent challenge of jobless growth in the Indian growth story.

CAUSES AND CHALLENGE

i) structural unemployment due to dependence on agriculture
↳ 47% of the population employ in the agriculture.

ii) low GVA in agriculture & the true potential of food processing industries not achieved.
↳ CGAR - 71% → 20% employment potential

iii) skilled Swarn - manufacturing industry - 80% of manufacturing done by MSME

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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उम्मीदवारों
इस इतिहास
नहीं लिख
चाहिए,
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iv) low skill set according to
skill set report only ODI-
population employment.

v) low skill upgradation only.
4.7% of population have
certification compared to 9.9% of
South Korea

vi) low technological upgradation.

↳ most MSME still use older
technology - not adoption
power loom in textile

↳ AI has potential to cost loss -
of 40% of employment worldwide

vii)

Relevance

↳ address the challenge of,
high demographics &
67% of population
below 29 yrs

↳ technological upgradation
in the world & AI, blockchain.

↳ need to improve skill

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लिखित परीक्षा में
लिखना
चाहिए
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→) support to the manufacturing industry.

WAY FORWARD

i) promote industrial-academic linkage to improve employment.

ii) technological upgradation of MSME & SAMARTI

↳ move MSME to access the

IONODE platform - access

the national market.

iii) promotion of Agricultural food processing industry

↳ PM Kisiki Sampada Yojana
↳ organic farm.

iv) market linkage (i) APEEDA for export

(ii) credit through EXIM Bank.

v) Internship schemes to improve the skill set

Hence the use of demography is an essential step to achieve the goal of becoming 3rd largest economy by 2030.

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उम्मीदवार इस हाथि में नही लिखें चाहे Candidate must not write on margin

12] Micro, Small and Medium Industries are the backbone of Indian success story.

As they contribute 30% to the GDP.

Role of MSME

- i) they employ 11 crore people in labor intensive form.
- ii) contribute 40% to the export -
↳ Indian handicraft.
- iii) they contribute to 80% of the manufacturing output.
↳ are associated with leather, textile, agro processes, India.
- iv) provide employment in the rural areas - prevent migration.

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चाहिए।
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Q) CHANPATIA - Bihar - textile
sect

vi) promote Entrepreneurship among
the people

e) OLA, started as MSME

vii) Development of region as industrial
zon

e) Ludhiana for textile.
Kanpur for leather.

MSME as Industrial Diversification
and technological Advancement

i) Adoption of new technology by
the MSME to increase production.

e) Irradiation, UV tech to reduce
microbial growth in agro base
industry

ii) increase capacity building.
by training of staff

e) Data scientist & AI to
develop e-tech MSME

(Please do not write anything except the question number in this space)
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चाहिए
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ii) It can venture out into various fields.

1) Pharma industry - creation of

APF
2) Recycle industry to promote resource cycling - sustainability

3) Sharan (Mumbai) employs 1,25 L and has turnover of \$ 1 Million per Ann.

c) New Service based industry

↳ like healthcare to the elderly

↳ Nurse on call

a) green energy → waste → Energy
WAY FORWARD
1) access to credit
2) MUDRA

(i) Regulatory sandboxes to foster innovation.

(ii) Technological support thro' ESIR, CEMR

(iv) skill upgradation & mapping.

↳ certification courses

As ~~PM~~ honorable PM said that - MSME on the wheel of nation development supporting them will lead to inclusive growth

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नहीं लिखना
चाहिए।
Candidates
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margin

13 } MSP (Minimum support price) is the price decided by CAEP (Central Agricultural Cost and Prices) to give remuneration to the farmers.

MSP | requirements

(i) act as cushion for farmers to get fair price

as it is calculated keeping

the input, market force in mind.

(ii) prevent distress selling.

(iii) decrease dependence on informal moneylenders → and falling in

vicious cycle of debt

(iv) promote investment in agriculture

↳ improve productivity

↳ employ more people.

(v) Punjab, Haryana, & W. UP success story of MSP

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को इस हाशिए नहीं लिखना चाहिए।
Candidates must not write on the margin.

Legislation of MSP

↳ well cause

POSITIVE

↳ diversification of crop like pulses, oil seed

↳ main agriculture more remunerative
↳ Ashok Dalwai Committee - double farm's income

NEGATIVE

↳ increase the financial burden on the government

↳ increase case of litigation to get fair price

↳ Distort the market

According to the above legislation of MSP should not be done

1) as only 25% of income has access to open procurement.

2) CSHANTA KUMAR COMMITTEE

ii) increase financial burden on government, feels already in debt

UPSC

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin.

(ii) low storage capacity India only has 57% of total storage capacity.

(i) will discourage the private players
 3) Maharashtra had to sell back the MSP-legalisation due to low interest of private part.

WAY FORWARD

(i) promote diversification of crop by capping or open procurement on farm.

(ii) price subvention scheme - PMASHA.

(iii) Development of storage capacity
 3) Agriculture Infrastructure Fund

(iv) promote Agriculture - Food processing

Industry

3) PM ^{Prishi} Kamipada Yojana

(v) cooperation / APO in rural area.
 4) act as entrepreneur 3) Lizat Papay

A middle ground between the MSP legalisation and open market need to be achieved to make the livability of farmers' income possible.



(Please do not write anything except the question number in this space) कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
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उम्मीदवांग
इस हाशिए में
नहीं लिखना
चाहिए
Candidates
must not
write on the
margin

14

National food policy - 2013 enable
creation of PDS system to 63%
of Indian population

- FCI - Food Corporation of India
was created.
- i) to collect the food grain.
 - ii) store the food grain under
the NFSAI -
 - iii) transfer of the food grain
to the state to be
distributed to the PDS
system
 - iv) maintain buffer stock to
maintain food security.
 - v) effective price support to
the farmer → MSP

UPSC

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उम्मीदवारों को
यह हाशिए में
नहीं लिखना
चाहिए।
Candidates
must not
write on this
margin

CHALLENGES - i) lack of storage space. cum. wastage of grain.

↳ Not according to NEFT

ii) high cost on FES - increases.

↳ debt burden

↳ extrabudgetary provision

iii) leakage - and black market.

Reforms require

i) Decentralised procurement - by the FES and State - to improve the storage capacity.

e) Jelangan - decentralised procurement. ↳ Pos build up

ii) use of Technological solution

↳ use of Fast TAG + GPS

to monitor movement of grain from one place to another

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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उम्मीदवारों को इस हाशिए में लिखने की आवश्यकता नहीं है।
Candidates must not write on the margin.

(ii) use of irradiation, safe storage spaces - to reduce wastage -

(iii) Central tracking website to regularly monitor of the grain

(iv) enlarging of procurement to go beyond the cereals -

↳ pulses - to provide proteins
seasonal
millet - B12, VitA

(v) open market selling of the

excess produce

↳ NABARD - to sell rice, wheat

to secure the loss suffered by PEF

As Shanta Kumar Committee recommended that the PEF need to be restructured to reduce losses and improve food security

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
इस हार्शिए में
नहीं लिखना
चाहिए
Candidates
must not
write on this
margin

Nanotechnology is the technology that utilises the substance of 10^6 size to improve the function of substance.

USE OF NANO TECH IN AGRICULTURE

1) Nanofertiliser : that enable targeted delivery of substance.

e) IFFCO - nanurea

- judicious use of fertiliser ..
reduce subsidiary bore

2) Nanopesticides : targeted attack and preservation of the crop

e) Nano Silver

3) Nanosensor help in monitor of soil moisture
↳ water conservation.

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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Answer Questions in NOT MORE THAN the Word Limit specified for each in the Par(thesis).
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को इस हाशिये में नहीं लिखना चाहिए।
Candidates must not write on the margin.

ii) nano purifier : that use osmosis - to purify the waters - in irrigation

v) GMO - crops use the nanosports to deliver the gene substance to the plant

vi) Nano biosensors, Nano probe to detect disease in plant

vii) Climate resilient
↳ Nano silica on plant leaves to protect from heat

Food Security

i) preservation of the food
↳ nano coating on fruits to delay ripening

ii) Nano package - to resist biodegradability
↳ nanocellulose

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - F or F Practice Purpose Only)

उम्मीदवारों को
इस दृष्टि में
नहीं लिखना
चाहिए।
Candidates
must not
write on this
margin

ii) fortification of cereals to fight hidden hunger & nanosemulsions

CHALLENGES

i) nanoparticle toxicity caused due to overload of nanopart.

ii) Alter the microbe flora
 gut due to food soil due to nanopesticide.

iii) higher cost due to R&D cost.
0.67% GST and low technology upgradation.
 inaccessible to the poor farm.

iv] lack of awareness among the farmer.

v] Regulation challenges due to:
lack standardisation of safety protocol.

Thus nanotechnology can help in precision agriculture, reduce resource utilisation & promote sustainability.

Quantum Dots are nanoparticles of 1-100 nanometers that has application in various fields

i] Health

i) effective delivery of medicine
a) nanomedicine in Cancer

ii) imaging of the organ

e) Quantum dots + CT scan
precision detection less invasive

ii] Agriculture

Quantum dots help in improving productivity

a) Quantum dots in soil to monitor moisture, temperature

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
इस दृष्टिकोण में
नहीं लिखना
चाहिए।
Candidates
must not
write on this
margin

iii) Electronics - due to flexibility, transparency

↳ QLED display that provides
good image

↳ vibrant color.

ii) flexible display in foldable
displays

iv) Energy - Quantum dot an effective
in capture of energy

↳ Photovoltaic cell → capture
of sunlight

↳ Energy storage - used in batteries
to store energy

v) telecommunication

↳ Quantum key communication
in defence sector

↳ reduce leakage, and
facilitate security

vi) Quantum computer

↳ faster algorithms and
analysis of data. can be used
in multiple spaces

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

iii) Environment use of Q. dot to monitor environmental degradation
1) removing of pollutants from the environment.

WAY FORWARD

i) Nation Quantum computer mission to promote investment and safeguarding of quantum technology.

ii) Quantum enabled science and technology

iii) International collaboration through ICET with USA

iv) making India self sufficient in computer.

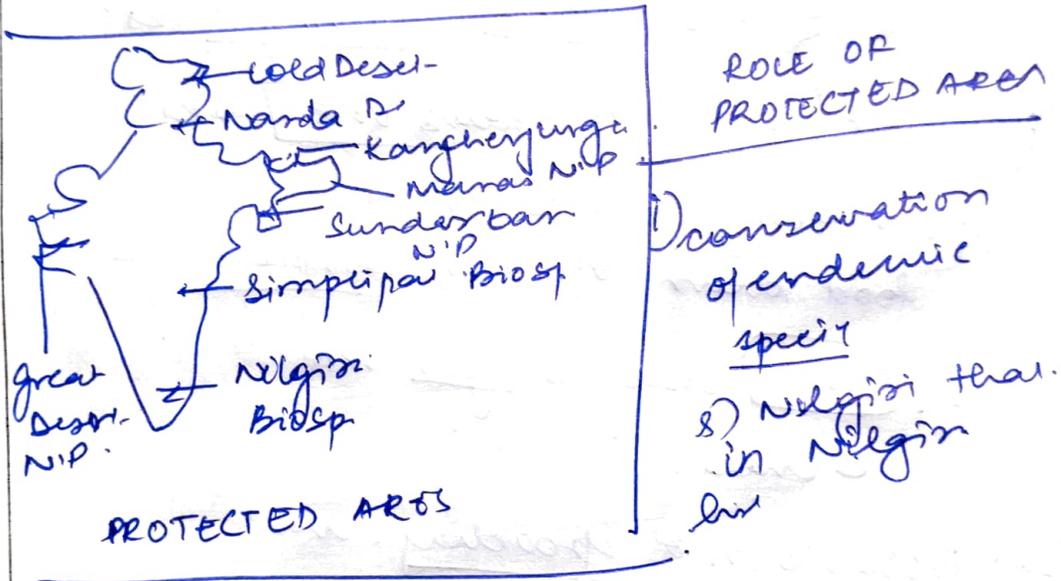
Thus Quantum dot application can improve the energy, environment, and human lifestyle.

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
सम हिसाब में
नहीं लिखना
चाहिए
Candidates
must not
write on this
margin

India has 1014 protected areas
in the country that include
National Parks, wildlife sanctuaries
and Biosphere reserve



- ii) promote conservation of the whole area
- ↳ regulation of human activities by Chief Wildlife Warden
 - prevent destruction of nature habitat
- iii) community participation through Joint Forest Management

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या को अतिरिक्त कुछ न लिखें।

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
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उम्मीदवारों को इस तालिका में नहीं लिखना चाहिए।
Candidates must not write on the margin.

iv) supplementation of Conservation program
↳ Tiger protection, - increase in population of tiger

EFFECTIVE i) increased the population of the tiger, Ghaniyar etc.

ii) identification of keystone species promoting protection of food chain of other animal

↳ Shole due to tiger in C. India.

iii) prohibition of poaching, and death
↳ Manas N.P - reduce incidence of rhinoceros death.

iv) community participation improve the strong

↳ Soligas in Karnataka to increase tiger population.

CHALLENGES

- i) NATURAL & climate change are associated challenge
 [1) Forest Fire in Uttarakhand
 2) Flood in Assam

ii) ANTHROPOGENIC

- 1) Wild poaching is continuing
 2) IVORY trade
 3) encroachment of forest area
 4) Man wildlife conflict - elephant in Chhattisgarh
 5) Melghat tigers
 6) invasive species - causing loss of local species
 7) chital in Anbuman & Nicoba due to introduction by colonial.

WAY FORWARD | effective monitoring of illegal activities

- 1) use of ecobridges to reduce death by car

Protected areas have been able to protect the biodiversity of nations but effective monitoring is required to promote sustainable life.

Nature Protector
Its Protector

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
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कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

उम्मीदवारों को इस हार्जिफ में नहीं लिखना चाहिए।
Candidates must not write on the margin

18] According to World Quality Index,
India is among of (8/10) most-
polluted cities in world

Air pollution in India is caused

due

i) use of Thermal power plant
↳ that releases PM_{2.5}, PM_{10.5},
SO_x, NO_x that causes pollution.

ii) Transportation use of petrol,
diesel cause release of
particulate matter.

↓
NO_x, SO_x + VOC (volatile organic
compounds)

↳ when these matter come in
contact with high temperature can
formation of stratospheric O₃ | formation.

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
सम हार्मिग में
नहीं लिखना
चाहिए।
Candidates
must not
write on this
margin

ii) construction work - due to infrastructure development cause release of PM_{2.5} & PM₁₀.

iii) stubble burning in the north plains during winter → contribute the pollution in the air.

v) use of firewood, cowdung as fuel.

vi) Absence of effective scrub, electrostatic machinery in industry.
→ Copper smelting, steel industry.

MEASURES TAKEN

i) Legal: Air ^{prevention} ~~pollution~~ & control ~~of~~ ~~pollution~~ Act - 1987

ii) the → National Action Plan for Delhi NCR zone

iii) Scheme →

i) National Clean Action Plan.

ii) Air Quality Index, National Commission for monitoring of Clean Air (NCAI)

iii) Green Energy [Surajghar National Hydrogen mission]

iv) SATAT scheme.

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

UPSC

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उम्मीदवारों को इस हाथिए में नहीं लिखना चाहिए।
Candidates must not write on the margin.

→) SAME to adopt EVM

Institution → Central Air Control Board
↳ National Green Tribunal
↳ prohibits burning of waste in open

Effectiveness → monitoring of the industries to reduce emissions

(i) increase in sale of EVM

(ii) 40% of the energy by the green energy (Solar + Wind + HES)

(iii) Ajwala Yojana reduce use of

CHALLENGES → Inadequate monitoring.

↳ poor data collection.

↳ Bihar only has 35 continuous monitoring centres

(i) not utilisation of fu.

NEGAM - only 30 cities of 2000 utilised fu.

(ii) stubble burning still a cause due to lack of behavioural change.

Hence Air pollution management requires holistic approach (i) stakeholders - Behavioural change (ii) regular monitoring.

↳ counter the transformation of energy → green challenge

UPSC

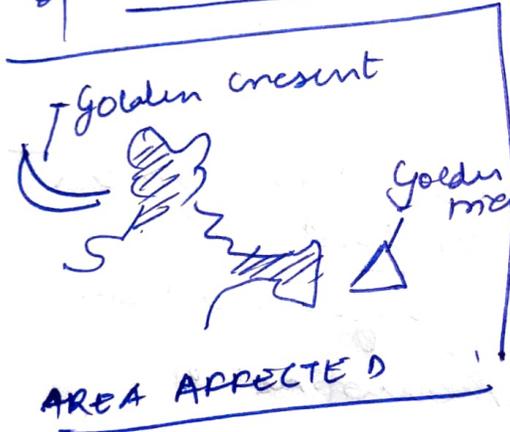
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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

Please do not write anything except the question number in this space.
कृपया इस स्थान पर प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

19

The youth of Punjab & Kashmir have been found to be addicted to drug highlighting the menace of Narcotic.



CHALLENGES OF NARCOTICS

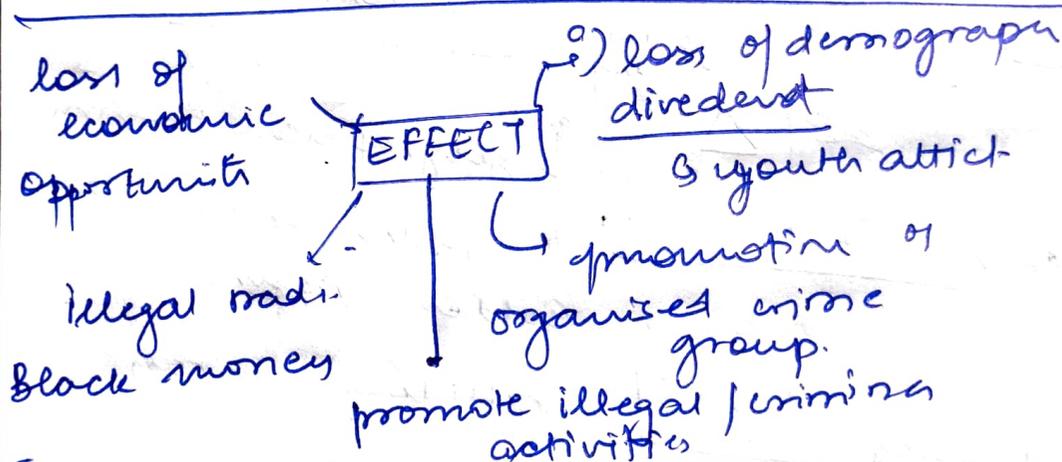
- i) Geographical proximity to golden crescent & Golden Triangle.
- ii) illegal trade → trafficking through the sea route & boats to transport.
- iii) Use of synthetic narcotic that are difficult to trace.
- e) DSB
- iv) Use of technology to buy-sell.
- 3) prone to supply narcotic cross border.

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer Booklet - For Practice Purpose Only)

i) Use of Dark net to facilitate trade.

ii) Use of Cryptocurrencies to settle the trade → difficult to trace.



WAYS TO TACKLE

1) Legal: Narcotics and Drug Prevention Act - mainly it - Bringing - faster resolution to act as deterrent.

ii) Institutions - promote co-ordination between NIA + Narcotic Bureau + ED + Police

UPSC

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

ii) Use of Technology

i) AI tools to detect the trade online

ii) Infrared devices to detect the trade in Airport, railway station.

iv) Community Participation

a) to act as eyes to flag any illicit trade

b) teacher + school collaboration to detect early addiction in stu.

c) use of CSO in border area to
 ↳ rehabilitate
 ↳ awareness generation

v) Border :- Integrated Border management System
 ↳ to check trafficking
 ↳ use of deam, IR - to prevent movement of D

Drugs is a menace that is activities destroy the youth and have spill on security and economy of nation. So multisectoral approach is require to tackle it.

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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Candidates must not write on this margin.

20

Left wing Extremism (LWE) is the use of violence to overthrow the democratic institution & promote their ideology through revolutionary means.



The cause of LWE

i) improper implementation of land reform

ii) political apathy

iii) 73rd AA not implemented in letter & spirit.

iv) alienation from the law.

v) low economic development.

vi) high segregation prejudice against the group.

vii) NCRs - 63%. ↑ crime rate.

viii) lack of infrastructure development

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
(Specimen Answer E-ooklet - For Practice Purpose Only)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

Answer it require

i] SOCIO - ECONOMIC POLICY

i) development of security infrastructure

ii) construction of road, railway &

industries -

↳ increase connectivity, employ

iii) Employment through DAY-NRLM

iv) trust building - CEO-NGO group

↳ education - Eklaya school
↳ in their traditional language - NEP-2020

v] SHG WOMEN - participation in employment

↳ Chattisgarh | SHG-tobac + TRIPET

selling of MCA forest produce

vi] Internet - Digital India mission

ii] Dialogue

i) use of SAMADHANI policy

↳ to improve dialogue

ii) Rehabilitation cum surrender scheme

↳ to build trust

(Please do not write anything except the question number in this space)
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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उम्मीदवार
इस शीट पर
नहीं लिखें
चाहिए।
Candidate
must not
write on
margin

ii) SANDESH method to promote PRT activities in LWE area.

iii) application of FRA (Forest Right Act) 2006 - in letter & spirit.

iv) Belangan - reduction in LWE due to gram Sabha consultation.

SECURITY → CLEAR - HOLD - DEVELOP | Tech

i) Specialised force (ii) gray hood of Telangana to eradicate LWE.

ii) Inter State coordination to reduce movement.

iii) Development of security infrastructure

- (police station
- Improving strength & training of personnel.

iv) Central coordination to improve decision making.

The above steps have helped in reducing the case of conflict by 85% and district limited to 30. Prolonged

coordination is required to eradicate LWE by 2026 - AS per MHA

