Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
Practice Use Only
सिर्फ अभ्यास के लिए

1) Fiscal Deficit can be defined as excess of total expenditure over total revenue (excluding borrowing) of government.

During 2023-24, Fiscal Deficit was 5.6% of GDP.

Factors contributing to high Fiscal Deficit
- → Need for high capital investment [11.11 lakh cr]
- → Subsidies [largest exp on food, fertiliser]
- → Low Tax to GDP [11%]
- → External shocks, Inflation.

~~Factors~~ Consequences of High Fiscal Deficit

1) Crowding out → Government borrowing most & thus less investment for private

2) Obligations → High interest payments on & debt.

Question No. प्रश्न संख्या
UPSC
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
For Practice Use Only सिर्फ अभ्यास के लिए

3) Inflation → Financing Fiscal Deficit creates more currency

4) Planning → Adversely affects spending on other sectors of health, education

5) Instability → IMF expecting debt to GDP exceeding 100%.

However, if the debt ~~crea~~ is used for infrastructure creation, it will lead to multiplier effect

Measures for Fiscal consolidation

1) Tax reforms → Direct Tax code, Taxpayer charters, Faceless appeal

2) Sustainable expense → Decreased on subsidy & more on Investment

3) Disinvestment → of unviable assets

4) Institutional Reforms → More authority to ~~Fisc~~ Financial stability & Development Council

Thus, India should try to achieve target of 3% Fiscal Deficit as per Financial Stability & Responsibility Management

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only
सिर्फ अभ्यास के लिए

2) India has the vision of becoming Viksit Bharat @ 2047 and for that India has increased its capital investment to ~3%.

Significance of capital Investment

1) Multiplier effect → Investment will bring more revenue in long term
2) Economic growth → Job opportunities, infrastructure development
3) Attracts FDI → Better infrastructure, Ease of Doing Business
4) Human capital → Helps to reap benefit of Demographic Dividend
5) Decreased hurdles → Better roads, electricity provides for smooth business
6) Optimum utilisation → Yield better result than spending on subsidies.
7) Self Reliance → will promote

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

manufacturing, Make in India.

However as per World Bank, India still has a deficit of capital investment of $1 bn/day

Challenges in capital investment

1) Long gestation → Investment yield result after long time
2) Lack of private participation → Only 8% private invests
3) Corruption → only 15P in ₹1 reach in real
4) Bureaucratic hurdles → Approvals, land grants, long process
5) Fiscal Deficit → Due to more expense
6) Double Balance sheet problem → High NPAs, Failure of Projects

Thus, above problems need to be addressed by ensuring easy approvals, more private investments to reap the benefits of demographic dividend and becoming Viksit Bharat @ 2047

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only निर्मल अभ्यास के लिए

3)

Peri-urban agriculture refers to agricultural practices in urban-outskirts, urban and other areas

Emergence of Peri-urban agriculture
- → Straight from farm needs
- → Viable opportunities
- → Natural, organic

Opportunities in promoting Peri-urban agriculture

1) Increased food security → More area under agriculture, thus yield

2) Increased farmers income → More opportunities to farmer.

3) Organic farming → can promote Natural, organic farming

4) Changing culture → Organic, straight from farm norms

5) Land use → Optimum utilisation

6) Climate change → More area under

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

agriculture means more greenry.

Challenges in promoting Peri-urban agriculture

1) Pollution → use of Pesticides, Fertilizers, stubble burning

2) Land → High cost of land and encroachment

3) Capacity Building → Need for climate resilient agriculture

4) Chemical use → Difficulties of sustainable, Organic agriculture

5) Awareness → On Peri-urban agriculture

Steps needed

- Incentives
- Market creation
- Handholding of farmers

Thus, Peri-agriculture can promote food security thus, achieving SDG 2 (Zero Hunger) and make India self-reliant.

Question No. प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
Use Only निर्पक अभ्यास के लिए

4) India's agriculture sector contributes only ~25% of GDP while employing ~54% of population and is the largest producer of pulses.

India's challenges in achieving self sufficiency in Pulses and vegetable oils

1) Distorted MSP → favours rice, wheat more

2) Lack of linkage → Forward, Backward linkages

3) Research & Development → Lack of crop re. climate resilient

4) Financial constraints → More subsidy, finance for producing wheat, rice

5) Awareness → Lack of Market, awareness among farmers.

Question No.
प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only
सिर्फ अभ्यास के लिए

Measures to address

1) MSP changes → More focus on pulses, vegetable

2) Food Processing → Development of industries (Mega Food Park)

3) support → Farmers on sowing, marketing, export

4) Incentives → Financial support to farmers

5) Awareness → on leguminous properties.

Thus, If India is to become self reliant, it needs to focus on pulses, vegetable oils which can contribute effectively in reducing import bills as well.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

5) India is the ~~sixth~~ ~~largest~~ 12th bioeconomy in the world (Bio-economy report) and introduced schemes of Biomanufacturing and Biofoundry in Interim Budget.

Potential of biomanufacturing & biofoundry in green economy

1) Sustainable Yields → Increased yields without chemicals [DH-11 Mustard]

2) Decreased Pesticides → Provides protection without chemicals [Bt cotton]

3) Enhanced Nutrition → By fortification [Golden Rice]

4) Climate Resilience → Provides for climate change protection [Bt Brinjal]

5) Less Greenhouse gas → Promotes carbon sequestration [Carbon farming]

6) Sustainable Practices → Promotes soil health [Biofertilizer, Biopesticides]

7) Reduced Pollution → Bioplastics

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

Bioproducts

8) Bioenergy → Efficient, clean energy

9) Waste utilisation → Bioenergy & promotes circular economy

10) Biofabrics → Less pollution, waste

11) Food Industry → Bio encapsulates, Biosensors promote sustainability

12) Health sectors → Biosensors, Gene therapy reduced needs for medicines, thus pollution

However there are challenges

- Financial constraint (0.67% GDP spend on R&D)
- Technical constraints (Need for skills)
- Regulatory constraints (unethical practices)

Thus, Biomanufacturing, Bio-foundry has diverse application for sustainable development and thus helps to achieve Panchamrit Target of Net Zero Emission by 2070

Next IAS ID: GSMACT24A1045, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

6) Recently, ISRO successfully tested Pushpak, Reusable Launch vehicle (LEX03) which will promote India's space economy.

Significance & Benefits of Reusable Launch vehicles

1) Cost Benefit → Decreased costs on launch vehicles

2) Debris Reduction → Thus, achieving objective of debris free space

3) Optimum utilization → of Previous materials used in launch vehicles

4) India's capability → showcase India's strength in space sector

5) Commercial advantage → Launching other countries' satellites

6) Promotes Research → Advanced research on technology development

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

7) Saves time, effort → on creating new launch vehicles

8) Private sector → Promotes private participation by providing new opportunities

9) Self Reliance → Decreased dependence on other countries' launch system

However, there are certain issues

- Specified Materials Needed
- More R&D needed
- Capacity Building issues

Thus, India is the sixth largest space economy and Reusable Launch Vehicle can promote India's space capabilities and promotions and contribute to dream of becoming global leader.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

7) Carbon credit trading scheme (CCTS) is launched by Ministry of Power under ~~Environment Protection~~ Electricity conservation Act.

Features of carbon credit trading scheme 2023

1) Carbon credit → 1 carbon credit is equal to 1 tonnes of equivalent CO_2

2) Guidelines → for both obligated, non obligated entities, DISCOMs

3) Voluntary Participation → for Non-obligated entities

4) Foreign Participation → Allows foreign to get them accredited

5) Accreditation agency → creation of Agency for carbon accreditation

6) Institutional Mechanism → 4 different agencies - BEE, Govt controller, CERC, NISM

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

Potential for mitigating greenhouse gas emissions

1) Cap and Trade → Provides for limit on Greenhouse gases

2) Obligation → For entities to stick to limit and also promotes voluntary participation

3) Punishment → Provides deterrence against emissions

4) Promotion → sustainable Lifestyle, healthy practices

5) Collaboration → Foreign and Private sector participation.

Thus, CCTS is an effective scheme towards achieving the target of Net Zero by 2047 and needs to be complemented by adoption of LRE effectively

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-08-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

8) Heat waves is the prolonged high temperature that leads to difficulties in living normal life.

As for WHO, the death of those over 65 has increased by 70% due to heat waves over last two decades.

Reasons for Increased Heat waves
- → Climate change
- → Temperature changes due to anti-cyclone
- → Urban Heat Island

Thus, it is considered appropriate to include heat waves as notified disaster under Disaster Management Act 2005.

Reasons for including heat waves as notified disaster

1) Disruptions → 5% loss of income, 2 million death, increased disease,

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC

2) Disease → lead to respiratory, morbidity issues

3) Increased intensity → frequency, occurrence has increased

4) No formal mechanism → to deal with heat waves, at alert

5) Old age → very adversely affected and need helps

Benefits from notification

1) Preparedness → Early warning system, Monitoring

2) Mitigation → steps taken in advance

3) Planning → Heat action plan, response team

4) More focus → Attention, awareness

5) Capacity Building → Resilience, training.

Thus, considering the heat wave effects, there is a need to take concrete steps to prevent it from causing social, economic disruptions

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

9)

Cyber space now has emerged as fifth zone of warfare and also a major ~~zone~~ area of gray zone warfare.

How 'Joint doctrine for cyber space operations' helps

1) Coordination → Provides synergy of efforts in cyber care

2) Institutions → CERT-In, NCIIPC, I4C

3) Monitoring → Better surveillance of cyber threats

4) Security → Protection against cyber espionage, terrorism.

5) Capacity Building → Training, awareness, expertise

6) Funding → More budgetary allocations.

Next IAS ID: GSMACT24A1945, GSMAC2403, 09-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

7) Addressing new challenges → Ransomware, Phishing.

8) Resilience → Against any cyber threats.

However there are certain issues

- Only 0.67% spent on R&D
- Lack of skills, expertise
- Ever evolving technology, operators.

Further Measures needed

1) More R&D
2) Balance between cyber security & Privacy
3) International collaboration
4) comprehensive law on cyber security.

India ranks 10th in Global cybersecurity Index and can become a global example in same

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

b) Recently, the Border security forces' Jurisdiction was fixed to 50 km across border in states adjacent to Pakistan, Bangladesh

Need for extension of BSF's Jurisdiction

1) Security → Increased cross border terrorism, infiltration necessitated

2) Uniformity → No vagueness in area and uniform

3) Power → To BSF to search, seize, operate in area

4) Grey zone warfare → Need for strategic tactics of BSF

5) Strengthening → Better Border Management, Security

6) Development → can take development activities in that area.

Question No. प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only सिर्फ अभ्यास के लिए

7) Trafficking → Address issues of trafficking, counterfeiting

8) Recent Incidents → Drone attacks, Pulwama attack necessitated.

9) Surveillance → Better monitoring activities.

Issues in extension

1) Against federalism → state host border

2) No consultation → with state government

3) Lack of Training → Sensitivity training, capacity Building issues

4) Personnel → Lack of adequate officers

5) Cyber warfare → Need for experts, security

Thus, In present cold war era, India needs to strengthen its border security and BSF plays important role

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

11) As per Periodic Labour Force survey, unemployment rate is 3.2%. and women's participation in labour force is 41%.

Structural unemployment

It occurs when people are not able to get job due to structural issues like lack of infrastructure, job opportunities, market conditions adverse, lack of skills, etc.

Relevance of structural unemployment

1) Unemployable Workforce → only 47% has received formal training

2) Capital Intensive industries → Lack of focus on labour intensive jobs

3) Job displacement → People losing jobs due to computerisation, ITs.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

4) Inequitable growth → More jobs to skilled and less for Poor

5) Market conditions → create vicious cycle of Poverty, Middle Income Trap.

6) Underutilization → wastage of human capital & resources.

India is in demographic dividend, ~~as for I~~ If one out of third unemployed in youth, India will never be able to reap its benefits.

Measures to be taken

1) Investment → More capital expenditure (₹11.11 lakh crore)

2) Skills → Skill India Mission, SANKALP, STRIVE

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

सिर्फ अभ्यास के लिए

3) Labour Intensive Industry → Textile, Footwear [PM SAMARTH]

4) Inclusive growth → schemes for poor like DAY NRLM, MGNREGA

5) New technology → Future Skills Prime

6) Social security → Platform, City workers

7) Financial inclusion → Banking services [Jan Dhan Yojana], credit

8) Industry → Promote startups, Make in India, PLI scheme

Thus, if India to become global leader, it needs to work on its structural issues, promote infrastructure development and focus on Inclusive growth and Development.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

12)

Micro, Small and Medium Enterprise (MSME) contribute to 25% of employment, 40% of exports.

Role of MSME in fostering regional growth

1) Rural employment → Provides jobs in rural areas Eg → cottage

2) Women empowerment → Provides more jobs for women Eg → Many MSMEs women led - Lijjat Papad

3) Financial Inclusion → Ensures financial empowerment, income

4) Innovative solutions → To regional issues Eg → Mitticool, Jai Kisaan

5) Investment → Ensures infrastructure development, services Eg → Pathshala

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

6) Standard of Living → Provides basic services Eg → Pathshala, Health.

7) Sustainable Development → Prevents climate change Eg → Earthshastra

MSMEs contribution to Industrial diversification

1) Low capital needed → Thus, more & more Business started

2) Innovative → Promotes new, idea Eg → Nutricool

3) Traditional customs → Promotes skills like Madhubani

4) Risk taking → Promotes risk taking behaviours

5) New ventures → Exploit new opportunities Eg → Tejal Padhad

6) Makes In India → Focus on self reliance.

Question No. प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only सिर्फ अभ्यास के लिए

MSME contributing to technological advancements

1) Harness technology → use to innovate, create new ideas
2) Digital literacy → Balanced regional growth
3) New innovations → using tech for innovative solutions
4) Expanding market → Promotes R&D in better technology.

Thus, MSMEs are becoming a major contributor in India's economic growth and steps like MSME Act, samadhan, CGTSE etc help in promoting them

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

13)

Minimum support Price (MSP)

provides guaranteed payment of minimum amount for food crops to farmers. At present, announced for 22 crops.

Importance of MSP
- → Minimum income to farmers
- → Price stability of crops
- → Procurement of food grains

Legalization of MSP can insure farmers

1) Guarantee → Minimum payment guaranteed

2) Market → Provides protection against market volatility

3) Protection → Against exploitation

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

by intermediaries

4) Responsibility → Make government responsible

5) Price stability → Linking food price to MSP.

6) External shocks → Provide Protection against inflation, imports, etc.

> However Legalising MSP has its own challenges

1) Biased → To crops / To areas

2) Increased Fiscal Deficit

3) Determining effective MSP

4) Distorting market prices

5) Against WTO rules

6) Promote chemical fertilisers

7) Stress on water and land.

Question No. प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only सिर्फ अभ्यास के लिए

Other measures that can be taken

1) Diversification → of food crops under MSP
2) Promotion → of sustainable natural farming
3) Export → Promotion
4) Food Processing → Effective development
5) Infrastructure → Warehousing → cold storage
6) ICT → e-NWR, e-POS, other technology

Thus, steps should be taken to ensure that farmers are protected against price shocks and opportunities should be provided for diversification of income.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

(4)

Food corporation of India (FCI) bears the responsibility of collecting food from farmers and distributing them to citizens under Public Distribution system (PDS)

Role of FCI in PDS

1) Direct Role → FCI can directly distribute food grains to public in PDS, Fair Price shops.

2) Indirect Role → can sell food crops to state government at centre issue Price

3) Procurement → Open Market Procurement of food crops from Farmers at MSP

4) Storage → FCI can store food grains in centre warehousing corporation, states warehousing

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

corporation or can even engage private sectors.

5) Monitoring → Ensure distribution of food grains to customers or citizens

However there are certain issues with PDS

1) Excess stock → Exceeds by 166 MMT

2) Wastage → Around 84% food grains wasted in stores

3) Ineffective functioning → Lack of efficiency in procurement, distribution

4) Capacity Building issues → Lack of training, awareness

5) Outdated technology → Lack of adoption of use of IT, AI.

Measures to reform functioning of PDS

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

1) Scientific storage → As recommended by Santa Kumar committee

2) ICT use → More adoption of blockchain for record, ePOS for distribution

3) Infrastructure → cold & storage, warehouse facilities

4) Rationalisation → Procurement, distribution of food grains

5) Open Market sale → of excess stock as well as export.

Thus, FCI plays important role in food security thus ensuring SDG 2 (zero hunger) and should be strengthened and should be expanded to meeting nutritional needs as well.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

15)

Nanotechnology makes use of materials on nano-scale (1-100 nm). India ranks third in nanotechnology science and publications.

Role of Nanotechnology in enhancing agricultural productivity and food security

1) Increased productivity → Better yields due to better use of resources

2) Efficient resource utilisation → Nano urea increase efficiency by 25%.

3) Nanofertilisers, Nanopesticides → decreased use, better efficiency like Nano silver.

4) Better Monitoring → Nano-sensors to ensure monitoring of crops

5) Soil Health → Nano-magnets to

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

remove toxics, contaminants

6) Enhanced shelf life → Nano-encapsulates increase shelf life

7) Water Management → Nano-membranes - better use of water

Recent developments

- Nano urea by IFFCO
- Nano silver Pesticides
- Development of Nano-sensors

Benefits of use of Nano-Fertilisers & Nano Pesticides

1) Soil Health → Preserve nutrients, prevents deterioration

2) Decreased Pollution → Decrease eutrophication of water

3) Decreased costs → Better and optimum utilisation of fertilizers

4) Increased Income → Increased farmers income

5) Health Benefits → Decrease

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

soil toxicity due to chemicals reduced.

6) Increased yields → Efficient resource use, productivity.

Risks associated

1) Nanophytotoxicity → May lead to other toxic challenges

2) Lack of Research → More data, research needed

3) Associated costs → Need to make it a viable option for farmer

4) Lack of awareness → Need to ensure proper campaigning.

5) Lack of training → on how to use them.

Thus, Nanotechnology can help to achieve the goal of food security and ensure optimum utilisation of resources ensuring Sustainable Development.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

16) Nobel Prize of Physics 2023 was given for discovery of synthesis of Quantum Dots.

Quantum Dots make use of materials at atomic and subatomic level to provide various advantages.

Advantages & Properties of Quantum Dots

1) Flourescence → change in energy efficiency by changing size
2) Tunable Emissions → Different colours, size
3) Quantum confinement → Better efficiency
4) Biocompatible → Ensure use in various biomedical applications
5) Thermostats → can be used at various temperature.

Question No.
प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only
सिर्फ अभ्यास के लिए

On the basis of above features there are various applications of Quantum dots →

1) Q Led → Quantum Led TV provide better image.

2) Sensors → to ensure effective energy

3) ~~Capacity~~ Capacitors, Transistors → Better energy delivery

4) Solar cells → Due to thermostat properties

5) Batteries → Due to Flourosene confinement

6) Supercomputers → Provide more energy

7) Bioapplications → Biomedical devices, Biofoundry due to Biocompatibility

8) Health sectors → Imaging, sensor, detection devices

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

9) Space sector → can be used for recording activities, images

10) Other applications → various Industries - media, movies, etc.

However there are certain issues

- R&D (only 0.67% spend)
- Capacity (All trained, skilled workforce)
- Import dependency (on critical materials)

Thus, Quantum technology can promote India's economy and needs to be harnessed to achieve goal of becoming Viksit Bharat @2047

Question No.
प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only
सिर्फ अभ्यास के लिए

17)

Biodiversity conservation plays important role in ensuring sustainable growth, protection of nature, wildlife and preservation of culture.

Role of Protected areas in Biodiversity conservation

1) Reducing encroachment → Prevents human encroachment in forests

2) Protection → Safe space for wildlife

3) Preservation → Forests protected, preserved

4) Community Engagement → In conservation

5) Monitoring → Better monitoring and need for steps

6) Maintaining ecosystem → Development

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

activities not contradictory to environment.

National Parks, Wildlife sanctuary Biosphere reserves effective in Preserving India's biodiversity

1) Protection of wildlife → Tiger population increased, Elephants protected

2) Reduced illicit trade → By not allowing people in protected areas

3) Research & Development → Gene banks,

4) Using ICT → Satellites, Pugmark, Drones for monitoring

5) Better control → Easy to monitor, restricted entry

6) Community Engagement → Forest Rights Act, Preserve culture.

7) Regulate activities → shifting cultivation, deforestation.

Question No. प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only

However there are certain challenges

1) Human-animal conflict → Increased in number
2) Encroachment → In the name of development
3) Climate change → Affecting sustainability, Pollution.
4) Capacity issues → Lack of training officers
5) Extinction → some species extinct, many threatened
6) Illegal trade → Ivory, Red sanders.

Thus, Biodiversity conservation needs to be strengthened to ensure equitable, inclusive growth and will help to achieve the just society.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

18)

Particulate Matter (PM 2.5, 10) and ozone are the major pollutants in India

Causes of high levels of Particulate Matter, Ozone

1) Industrial Pollution → Release various pollutants like steel, coal industries

2) Vehicular Emissions → Major source of ozone

3) Temperature Inversion → Prevents Pollution from dispersing

4) Stubble Burning → Release pollutants into atmosphere

5) Waste management → Improper burning of waste, Incineration

6) Climate change impacts → Dip in La Nina, Monsoonal rain, winds increase levels.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

7) Transport, Tourism → contributes to 14%, 8% to pollution respect.

8) Short Lived Pollutant → 45% of Pollution

Steps taken by Government

1) Monitoring → Swach Vayu Survekshan, Air Quality Index

2) Institutional framework → CPCB, CAQM

3) Laws → Air (Prevention) Act, 1980. Water Act, 1974, Environment (Protection) Act 1986

4) Portals → PRANA, SARAR, SAMEER app

5) Schemes → To reduce PM10, PM2.5 by 40%, Banning stubble Burning

6) Policies → Adoption of Bharat Stage VI, Biofuels, Ethanol Blending.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

However they are not very effective as

1) India ranks 3rd in World Air Quality Index
2) Increased Pollution levels
3) Increased impacts due to climate change events.

Measures needed

- Global collaboration
- More Budgetary Allocation
- IRE implement community involvement

Thus, Air Pollution is one of the largest cause of death and India's pollution levels are at alarming level and needing stringent measures to ensure Article 21 (Right to Healthy, safe environment)

Next IAS ID: GSMACT24A1945, GSMAC2408, 08-08-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

19)

Drug Trafficking includes illicit trade of drugs, and its uses.

India is a major hub for drug trafficking

1) Location → Located between Golden crescent and Golden Triangle

2) Porous Borders → Increased Infiltrations, drugs

3) Addictions → Increased use in west, East, North East India.

4) ICT → use of drones, to deliver.

Challenges associated

1) Social Impact → Adverse impact on youth

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

2) Organised crime → Promotes human trafficking, counterfeit

3) Terrorism → Provides financial, institutional support

4) Economic disruption → Lead to loss of GDP

5) Security challenges → Increased insurgency, infiltrations

6) Tensions → Increased tension, stress in society.

Multi pronged approach to address

1) Surveillance → Increased border surveillance Eg → using Drones

2) Strengthening → Eg → BOLD-QIT borders

3) Cooperation → In dealing with drug trafficking with other countries

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

4) Rehabilitation → care & support to drug addicts

5) Capacity Building → training to BSF, CAPF

6) Financing → More funds on strengthening defence mechanisation

7) Community Policing → Involving locals in fighting against issues

8) Control → CIMBs to better control border.

Thus, drug trafficking is a major issue for India which has its economic, social, national impact and stringent actions are needed to be taken to deal with issue.

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

Question No. प्रश्न संख्या

UPSC

For Practice Use Only सिर्फ अभ्यास के लिए

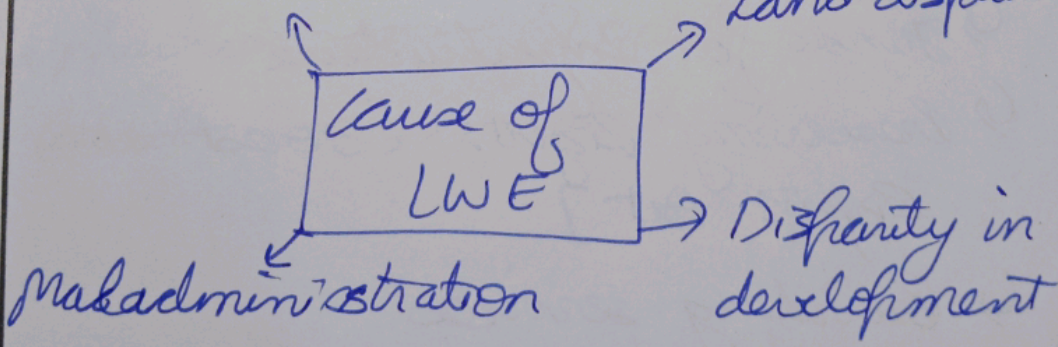
20)

Left wing extremism believes in Maoism approach to carve out independent states

Features of Left wing extremism
- → People's support
- → Technical & Military capabilities
- → Guerilla warfare
- → Maoism ideology

India's response need both Socio-economic policies (soft approach) and hard security measures because of its causes

Exploitation



Steps taken by India

Question No.
प्रश्न संख्या
Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM
UPSC
For Practice Use Only
सिर्फ अभ्यास के लिए

SORT APPROACH →

1) Integrated Development Plans
   - ↳ Funding for Development
   - ↳ PM Reconstruction Plan
   - ↳ Aspiration District Program

2) Economic opportunities
   - ↳ Sarda Plan
   - ↳ Udaan, Nai Manzil, Nai Roshni

3) Dialogues
   - ↳ Remote surrender rehabilitation
   - ↳ confidence Building Measures
   - ↳ People-to-People contact

4) Development
   - ↳ Funds for Infrastructure
   - ↳ Preserving Rights [Forest Rights Act]
   - ↳ Providing services

HARD ~~&~~ APPROACH →

1) National Action Plan & Policy →

Next IAS ID: GSMACT24A1945, GSMAC2403, 08-09-2024 01:21 PM

For Practice Use Only सिर्फ अभ्यास के लिए

↳ Funds to CAPF
↳ Intelligence by NTRO

2) COBRA → Batallions for counter Insurgency (COIN)

3) Operations
↳ Grey Hound - Andhra
↳ Black Panther - Chattisgarh

4) AFSPA, using CRPF to control

5) SAMADHAN Doctrine

6) SMART Policing.

Thus, Naxalism has its root cause in social economic issues and hard approach needs to be complemented by soft approach for root and bread branch eradicton.