

NEXT IAS

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(To be filled by candidate)

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Registration Number : Date of Examination : 27/8

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☒

Test - 1

Code : TC073

MTS IGP Batch 2023

GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the 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.

Candidates must read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. :

(For filling by Examiners only)

Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

MACRO COMMENTS



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1.

Ans. Windfall taxes refers to higher taxes on extra profit earned by companies in short period of time.

The rise of Unicorns in very short period of time has brought in light the need for this tax. It is based on idea of Welfare State (under Article 38 of constitution), where State through this tax aims at redistribution of wealth.

Windfall tax redistributing wealth

Arguments in-favour

① A large number of companies experiencing profit → greater revenue

Arguments against

① Harms corporate entrepreneurial spirit and will lead to lack of growth

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for government

② Reduce fiscal deficit
↓
more money for
welfare scheme

③ Help in increasing
spending on
infrastructure
↓
~~leads to~~ promote
job opportunity
↓
economic equality

(Economic survey)
② Lead to 'Stagnation'
↓
low revenue in
long run

③ Still Debt: GDP is
low → but poor
economic equality
(85% GINI coefficient)
↓
thus real issue is
poor economic not lack
of wealth.

Windfall tax hence should
not be a very high and regu
ensure the ease of doing business
is not interfered with in
the economy.

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2.

Ans. Under new monetary policy regime, India has set the target of inflation to remain between 2-6%.

Success of implementing this regime

- ① prevented high price rise
- ② Benefit for low income group citizens
- ③ ensure strong macro-economic stability
- ④ Prevented uncertainty in policy making
- ⑤ Became guide for taking decision on Repo rate
- ⑥ promoted 'savings' in long run.

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eg (2019-20)
28% → 32% (2022-23)

Challenges of Keeping Inflation target fixed

- ① Repo rate remained low
↳ couldn't use countercyclical fiscal policy
- ② Export Ban on commodities hampered business aspects eg Rice export ban (45% share)
- ③ Prevents high investments boosting demand
- ④ Lack of competition as high inflation promotes supply side innovation.

However as Phillip
Curve suggests to keep employment
at optimal level inflation should
remain in balance, thus good step
by government

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2.

Ans. with 41% ^{export} global share, India produces 17.53 MT of Millet highlighting its importance. (M. of Agriculture)

Millet promoting sustainable agriculture

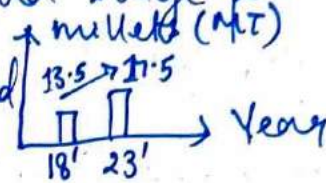
- ① Low water crop, prevent virtual water export & can grow in semi-arid region → irrigation efficiency
- ② Low requirement of fertilizers or pesticides
- ③ Wastage used as fodder crop for cattles
- ④ Soil remains nourished and helpful for multicropping.
- ⑤ Brought resilient crops.

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Improving Food Security by Millets

① Production is easy and huge potential
as less inputs required



②

② Addressing malnutrition

2-1 Low glycemic index → diabetes
good

2-2 Rich in macronutrients
eg Iron, B-vitamins

③ 2-3 High fibre content

③ cheap crops → thus easier to access

Government steps → under POSHAN
Abhiyan

↓
Agri Research
for millets

(Budget 23)

↓
One district
One product

Thus declaration of
International Year of millets is good
step by UN to raise awareness of
millets

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4.

Ans. Jal Jeevan Mission was launched to provide functional ^{drinking} tap water connection to each household by 2024. It aimed at ensuring water security.

Significance of the mission

- ① Availability of drinking water ^{increased}
- ② women don't have to travel for long hours to collect water
- ③ Prevents misuse of water as direct connection
- ④ fulfilling goal of welfare state, to provide life of dignity (water basic right)
- ⑤ provided employment opportunity in setting up water connection

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Impediments to success of mission

- ① Funding issue as delay in devolution from Centre to State to Local government
- ② Fake beneficiaries leading to exclusion and inclusion errors (CAG report)
- ③ Corruption by government officials leading to delay and fund misuse
- ④ Lack of awareness among people to avail the scheme
- ⑤ Lack of availability of water so that connection can be provided

Way forward → social audit of scheme
↓
behavioral change → regular monitoring of targets
campaigns

Thus ~~not~~ Jal Teenam mission will help achieve SDG#3

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5.

Ans. Battery Energy Storage System (BESS)
refers to the devices where energy can
be stored which is generated from
sources like solar energy and
wind energy, etc.

Applications for BESS:

- ① Help in energy preservation
- ② Allow renewable energy to be
stored
- ③ Can be used for electricity generation
at later stage
- ④ Help in promoting e-vehicles,
e-buses, etc.

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India's energy demand is going to increase by 50% from 2020 levels till 2030, thus huge investment is required.

BESS revolutionising energy programme

- ① Allow shift to non fossil fuel energy
- ② Promote e-vehicles & devices
- ③ Reduce ~~low~~ cost of generation of electricity in long run
- ④ Promote investment in renewable energy sector

Thus BESS promotion via schemes like PLI & will help us achieve our NDG targets under Paris agreement.

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6.
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Ans. Gaganyaan Mission is first human space flight mission of ISRO and if successful will make India the 4th nation to do so.

Developments so far

- training of space crew being conducted
- Crew Module has been created and tested for spaceflight
- Crew escape mechanism has been tested (Abort system)

Challenges on mission

- ① Reliability of GSLV-Mk II : 98%
- ② Ensuring launch vehicle remains intact
- ③ Crew abort system should be efficient.

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- ④ Health concern of astronauts
- ⑤ Delay in launch due to camp break

Benefits of mission for society

- ① Awareness on space mission,
being an astronaut increased
- ② India's Technological competency
is being tested & if successful will
have spinoff effect
- ③ Society & Nation's morale & dignity will be enhanced

Thus Ganganyaan
mission's success will make India
a major power in space arena &
lay base for Mangalyaan Mission

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7.

Ans. Government has approved 'Green Hydrogen Mission' to boost green hydrogen as renewable energy source of the future.

Significance of the mission:

- ① Annual 5 MMT green house emission prevented
- ② 125 GW energy potential by 2025
- ③ Will reduce ^{energy} imports by ₹ 8 Lk crore
- ④ Total ₹ 1 Lk crore investment will be made
- ⑤ 16 Lk jobs to be created

Mission importance for Climate Change

- ① Shift to non-fossil fuel

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source of energy

- ② High carbon sequestration as a result of this mission
- ③ will promote e-vehicles and thus reduce pollution
- ④ Factory pollution will also be limited by it

However issues like:

- ① Technological backwardness
- ② high investments required
- ③ Lack of skilled manpower, etc. may impede the success of

mission.

Thus timely implement-
-ation of targets under Green H₂
mission is required to achieve

'Paramount' Targets

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8.
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Ans. Jashiroath crisis which led to land subsidence, brought to light the fragile ecosystem of Himalayas.

Lessons for environmental conservation]

① Proper Environmental Impact assessment before giving project

eg NTPC power project as a case

② Stop ~~the~~ construction ~~of~~ on vulnerable land → eg MC Mishra committee reported 50 yrs ago about land already being weak one

③ Sustainable Tourism is required
eg Chor Bhamra ^{project} road issue

④ We have to focus on afforestation

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⑤ Adopt traditional knowledge or best practices

Lessons for Disaster Management:

① Need of hazard mapping of hilly areas to know such cases earlier
(eg) recent Shimla landslides no early warning

② Have to focus on adaptation as well as soil already loosed on these areas

③ Training of NDRF forces

④ People rehabilitation should be focus as increasing instances

⑤ Raising awareness and early warning systems are need of the hour

Further following Madhav Gadgil and Keshvisargan committee report is required.

U.P.S.C.

9.

Ans. The 'Khalistan issue' which began during Indira Gandhi era post independence is regaining current in present times.

Radical trends still simmering for Khalistan

- ① Support by foreign NRI's of Punjab, in Australia, Canada, UK.
- ② Lack of response by their governments and allowed free speech
- ③ These anti-national elements supported by big businessmen, organised crimes
- ④ The availability of social media, dark net, anonymity via VPN has helped them

U.P.S.C.

spread their ideas.

- ⑤ The 'anti-minority' narrative gained prominence post Farm Bills issue

Measures to handle it

- ① Diplomacy to ensure actions by UK, Canada government
- ② Serial Media flagging & taking down of such content
- ③ Revoking NRE status of those involved
- ④ Improving intelligence network & keeping track of activities.

Successionist breeds harm the idea of nation thus involving all stakeholders, raising public awareness is required.

U.P.S.C.10.
=

Ans. Recently J&K DGP has flagged how drones are used for drug smuggling, arms trafficking, on borders; highlighting potential of drone in maintaining national security.

Drone challenging border security:

- ① Huge border land (15 km) & thus easy to go undetected.
- ② Drones fly over fences, microdrones under radar, thus difficult to trace
- ③ The speed of movement of drugs, etc. also increased making difficult to catch culprits
- ④ Locals are working with these operators, difficult to gain intelligence

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Suggestions to tackle drone operation

- ① Introducing drones in security for surveillance of such activity,
- ② Arresting & tracing through smugglers the route of drone operations
- ③ Collaboration & training from successful countries like Israel
- ④ Improving border infrastructure with ICBMS, ~~power~~ training of security force to tackle issue at earliest

Thus in today's world of technology, greater capacity building is required of security forces

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11.

Ans. Electricity Amendment Bill 2022 was brought to reduce the stress of discom sector which has been facing losses for many years.

Advantages of the bill

① For consumers

- ↳ greater choices will be available
- ↳ reduction of non discriminatory subsidies

② DISCOMS

- ↳ Their profitability will enhance as provision for reducing subsidies which will reduce losses in long run

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↳ Improving infrastructure will reduce transmission cost

Environment

↳ Wastage of electricity will reduce as subsidies reduced and efficient transmission to be used

Shortcomings of the bill

- ① ~~Electricity~~ Federal balance disturbed as electricity is state list subject
- ② Monopoly may emerge of few prominent players
- ③ States plans to provide welfare schemes to poor will be impacted

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Measures to overcome them

- ① Bill to be made by consulting
state governments ~~req.~~ via GST
meet
- ② States should be allowed to make
own welfare policies
- ③ Monopoly of Discoms should be
prevented
- ④ The rate / price by consumer should
not be very high

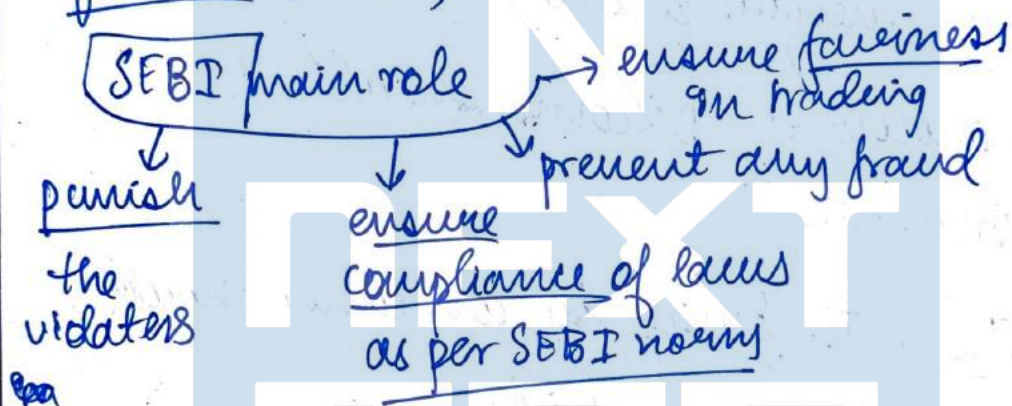
Thus the decision to
send bill to Parliamentary committee
will help scrutinise & bring a
consensus based solution.

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12.

Ans. The recent Adani-Hendenberg short selling issue has brought in light the role of Securities & Exchange Board of India (SEBI)



Challenges faced by SEBI

- ① Emerging new techniques used by companies to commit fraud → makes it difficult to trace at early stage
eg shortselling highlighted by Hendenberg

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- ② Lack of manpower to tackle the large sized share market
- ③ High volatility of share market makes it difficult to manage
- ④ Skilled officers are lacking as lack of training
- ⑤ Corruption by officials which lead to negligence of insider trading type practices (eg) Chitra Ramkrishna fraud

Measures to address these constraints

- ① Recruitment process
 - 1.1. Skilled training as per need of the hour
 - 1.2. Ethical training to ensure high integrity.

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② Infrastructure

2.1 More offices should be opened
considering growing stock
market

2.2 Using latest technologies, AI
and ML to predict frauds

③ Collaboration with foreign regulators

to ~~can~~ improve performance,
trace issues at early stage, etc.

SEBI introduced
'circuit breaker system', limits on
withdrawal, etc. to ensure regulation

However considering
India is 5th largest destination for
FDI (IMF), SEBI reforms are need of
the hour.

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18.

Ans. Agriculture still recruits 45% of workforce (PFS), contribute 18% of GDP (ES) and is responsible for food security highlighting importance of Agriculture.

Constraints impeding agriculture

④ Input side

1.1 Land fragmentation with
85% small & marginal farmer

1.2 Low quality of seed

1.3 Soil Pollution due to fertilizers,
pesticides overuse

1.4 Water scarcity
(85% groundwater for agriculture)

1.5 Low information regarding MSP

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(only 6% know as per Shanta Kumar committee)
↓
before sowing

② Post Harvest

1.1 Lack of infrastructure to sell

2.2. limited options to sell

③ Others like → welfare scheme
↓ exclusion error
poverty trap disaster impact

Technology role in overcoming constraints

① Land records establishment using drones for surveying (land consolidation)

② 'Soil Health Card' to display the soil requirement for farmer

③ 'Kisan radio' m-Kisan App for early pre sowing information

④ Weather information alert &

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- monsoon trends to make farmer alert
- ⑤ 'e-NAM' to ensure more selling avenues with farmers
 - ⑥ Promotes precision farming and saves water (eg) Drip irrigation technology
 - ⑦ Further 'Nano Urea' will help promote fertilizer efficiency
 - ⑧ 'GM Crops' to increase productivity

Issues in using technology → low income of farmer

↓ <u>digital illiteracy</u>	↓ less visiting centres	↓ lack of awareness
--------------------------------	----------------------------	------------------------

Thus following Ashok Dalwai & Swaminathan Committee recommendations on technology will help doubling farmer income by 2024.

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14.

Ans. In India 50% of agriculture is dependent on irrigation (Agriculture Census 2015-16), thus forms backbone of agriculture.

Impact of irrigation: 1. Negative Impact

① Natural resources

1.1. Fast depletion of water as

82% groundwater extraction used in agriculture (2/3rd Area under water stress - NITI Aayog)

1.2. Soil erosion as rice-wheat monoculture leads to overusage & field being under water lead to loosening of soil strength.

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② Environment

2.1. It leads to water & soil pollution
as fertilizers mixed with water
seep through ground into them

II. Positive Impact

- ① Boosted green revolution
- ② Made India major rice production
economy
- ③ Ensure water availability during
low monsoon season.

Measures to ensure sustainable irrigation

- ① 'Irrigation' to be used to ensure
no wastage of water & fertilizers
excess
- ② Using irrigation modern technob
gies like

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2-1 Drip irrigation to minimise
water loss

2-2 Sprinkler system to cover
more area

- ③ Using traditional methods like
Tanks, Johad to store water and
using it for irrigation to preserve
groundwater
- ④ Proper water flow distribution
via canal, rivers, etc.
- ⑤ Precision agriculture to be practised.

Government schemes
like PM KSY aiming at more
crop per drop are good steps and
should be used with technology
for sustainable agriculture.

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15.

Ans. Dr Homi Bhabha and Dr Vikram Sarabhai
laid the foundation of atomic energy &
space ~~energy~~ technology respectively in
post independence India

India benefitted in following ways:

II. Dr Homi Bhabha's contribution

① Laid initial emphasis on using
nuclear energy for practical purpose

② Dr Homi Bhabha research centre
pioneered - India's Pokhran-1
(Smiling Buddha) nuclear bomb
development

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③ The usage fusion reaction for energy generation helped India gain technology for ensuring energy security

Thus his works allowed India ~~economics~~ & energy and defense security capabilities

II. Dr. Vikram Sarabhai's contribution.

① India's journey to space began under his watch.

② He pioneered development of ISRO into its initial stage

③ First satellite launch was also

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guided by him

④ He made our space ~~for~~ scientists
community believe that India
is capable of being a leading
power in Space.

Thus Vikram Sarabhai
Space Station was in honor of his
name. He helped us gain edge
in the 4th space of warfare and
economic & technological security.

Thus both these
great men are given 'Radma Bhushan'
to congratulate their contributions.

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16.

Ans. Generative Artificial Intelligence (AI)
refers to using AI to produce letter,
music, video, image, painting,
~~etc.~~ any digital art, by giving
it command of our need. eg ChatGPT

Potential to push innovation boundaries

- ① Faster speed of processing our
demands eg ChatGPT write a poem
as per our need within seconds
- ② Save time in trivial tasks →
more focus on innovation
eg Using Generative AI to mix two
(within seconds) music sets
- ③ Collaboration between various

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and forms & new products.

[eg] AI used to create T-Shirts with
any design within seconds

④ Help in increasing reach to
untouched sections of society

⑤ Any model can be run & tried &
tested to check its feasibility
& will reduce error & increase
efficiency

[eg] Speech corrected, music reviewed

[Scriptal impact raising concerns]

① May lead to loss of jobs of
millions [eg] Web developer, artists

② Used to create deepfakes

2.1 Pornographic content

2.2 Election campaign disturbed

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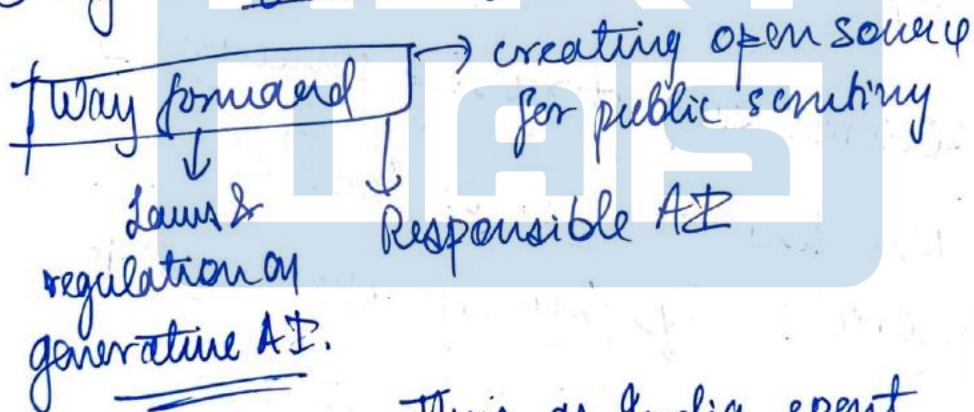
129) Biden, Trump deepfakes in 2020 election

③ Loss of creativity as overdependent on AI.

④ Ethical challenges of AI usage

⑤ Digital divide as will create classes on basis of those who can afford & understand and those who don't

⑥ Regulatory challenge for State governments



This as India spent \$3Bn on AI in 2022-23, shows the government focus on promoting innovation in this sector

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17.

Ans. Mangroves are trees at intertidal zones found near water bodies



At COP27, Mangrove Alliance for Climate was launched to promote climate actions for mangrove

Purpose of this alliance:

- ① Increase global efforts for mangrove protection
- ② Increase awareness among all stakeholders for sustainable mangrove management
- ③ Research and creating database

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for analysing Impact and future
of mangroves due to Climate Change

- ④ Ensure initiatives like 'MAB' to
protect wetlands, biosphere reserve
include mangrove protection.

As IPCC AR6 has
highlighted how rising sea level,
increasing frequency of cyclone will
'impact' coastal region, mangroves
thus are under considerable stress

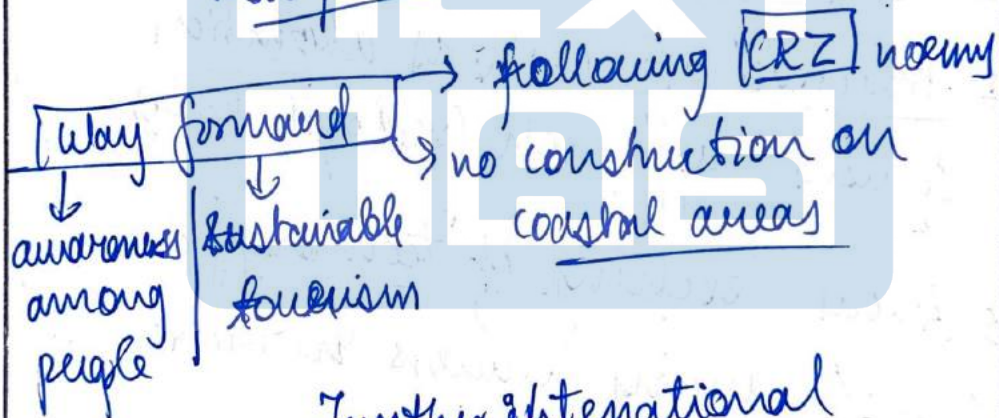
Importance of Mangroves for Tropical
coastal nations

- ① Prevent soil erosion of coastal
regions as roots are deep.
- ② Carbon sequestration is high
due to them

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- ③ Provides medicinal usage to local community
- ④ Tourist hotspots thus important for economy. eg Bali, Indonesia
- ⑤ Biodiversity is rich in these regions
- ⑥ Protect against Disaster as act as shield against cyclones
eg Shitankania mangroves during cyclone Taalke



Further international collaboration are required to ensure these 'supermarkets' or 'lungs' of coastal ecosystem are protected.

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18.

Ans. Coalition for Disaster Resilient Infrastructure (CDRI) was started by India with nations like Australia, Japan to ensure disaster resilience is improved in Indo-Pacific region.

CDRI bringing robustness to Disaster Management approach

- ① 'Proactive' approach as adaptation focused approach (need of the hour)
- ② Allow exchange of 'technology' & 'ideas' among leaders in their fields; best practices
- ③ 'Funding challenge' (biggest issue) will be resolved to some extent

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④ India's promotion of its 'SAGAR' doctrine (i.e. security & growth of all in the region)

⑤ All nations involved are impacted directly by climate change → thus ignoring issue is not an agenda unlike COP summit with ^{Global} North-South divide

[Need for new strategy for India]

① IPCC AR6 → South Asia most vulnerable region to climate change impact

② Huge amount of economic investment required (\$1.6 tr by 2030)

③ Increasing frequency & intensity of disasters.

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लुप्त ना लिखें)

- ④ Help get latest technology and best practices globally.
- ⑤ Can't rely on international organisation under UN as defunct under 'Great power rivalry'
- ⑥ India to emerge as global leader in climate change and as voice of small island nations
- ⑦ India is signatory to Sendai Framework & thus new measures required
- ⑧ USIDR: \$1 invested on disaster resilience = \$7 gain

Further using traditional knowledge, following PM's-10 point agenda is required for robust disaster management

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19.

Ans. As per Minister of IT, India witnessed 13.9 Lakhs cyberattacks in 2022, showing its alarming threat.

Few recent prominent attacks
 ↓
AIIMS servers Oil India Ltd Aadhaar
attacked blackmailed data
 using crypto leaked

Key factors promoting this trend

- ① Low skilled manpower in cyber security leading to lapses
 eg AIIMS data breach via e-mail usage
- ② Poor [digital] infrastructure leading to delay in action
 eg CERT-In overburdened

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- ③ No. of attacks are made at a large number in single time
- ④ easy access to Internet
- ⑤ Existence of Dark Web, VPN making it difficult to trace identity
- ⑥ Support by countries to provide best possible technologies
- 124) Red Echo group from China attacked Mumbai power plant

Impact of cyber attacks on various sectors

- ① Critical Infrastructure
↳ functioning of impacted disturb large population
- ② Health Sector
↳ Information leak used for target advertising of patients

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③ Economy

↳ loss of productive money and business environment deteriorate

④ Government

↳ important functioning stops
↳ critical data is leaked

⑤ National Security

↳ Use to create havoc by attacking defense areas.
↳ Kudakulum Nuclear plant attack show chance of nuclear leakage

Way Forward → skill training
↓ more funding for cyber infrastructure
↓ awareness of citizens
↓ separate police cells in each districts

Further signing Budapest Convention, international collaboration is the need of the hour.

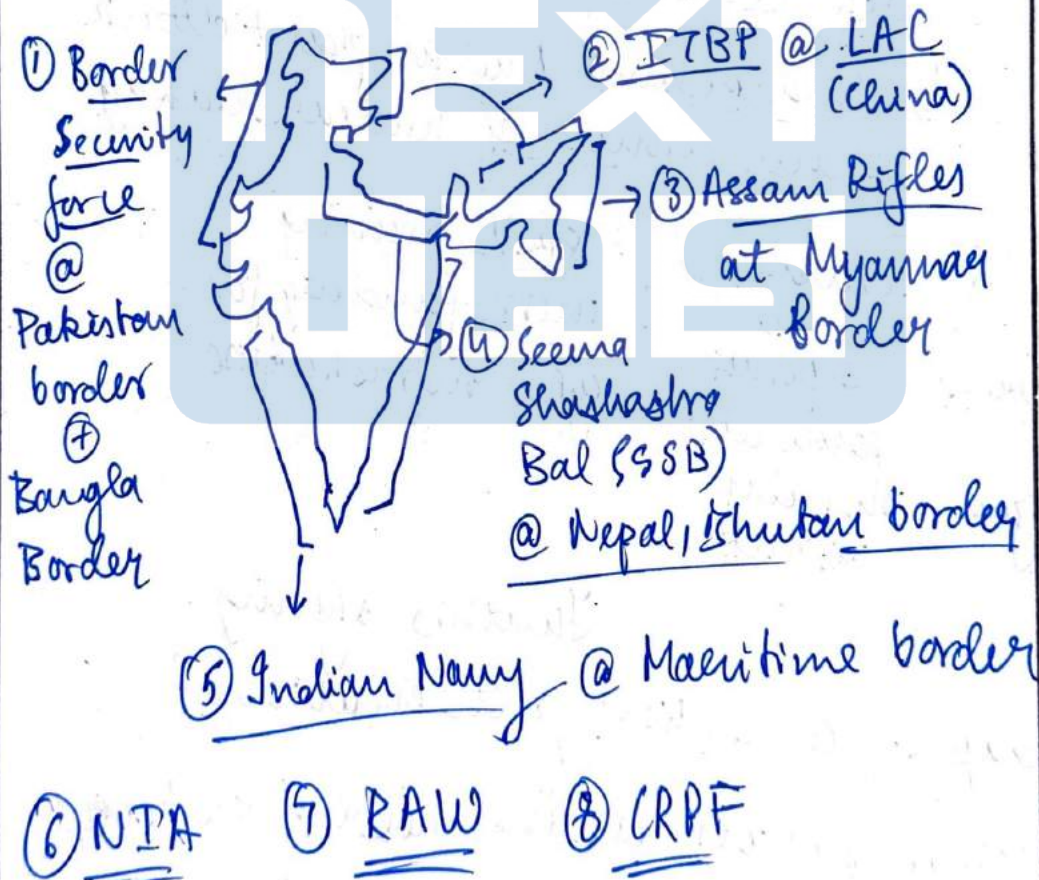
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20.

Ans. Considering India has 15k km land boundary & 7.5k km maritime boundary, border security becomes complex tasks.

Fig: Border security forces & agencies in India



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Methods to increasing cooperation and coordination between different security agencies

- ① Real time information dissemination between headquarters of various agencies
 Eg) NIA informing BSF of potential infiltration
- ② Integrated command centres to ensure any emergency can be tackled with involving all agencies
- ③ Cross agency training and posting helps improve synergy
- ④ Domain experts to be recruited and IPS officers need to be specialised in their fields
- ⑤ Improving digital infrastructure at border areas so that

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adopting newer technologies become easier

- ⑥ Using satellite images, drones for maritime patrolling & same time using AI by NIA to predict potential security breaches

[Case Study:] Operation Sannabrayan which seized largest ever drug shipment of ₹ 15K Cr was possible due to collaboration between security agencies

Thus considering rising threat of transmission, drug smuggling as highlighted by Kashmir DGP, secessionist mobs, etc.; active collaboration among agencies becomes necessity.