

General Studies GS3 - SECTIONAL TEST - 8 SCIENCE & TECH + ENVIRONMENT + DM Test Code - VR1223308	Evaluator Code: Date of Assignment: CQ:
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UPSC ROLL NO.:	0 8 3 1 3 2 0	Submission Date:
MOBILE NO.:		01/august/2025

QUESTION PAPER SPECIFIC INSTRUCTIONS

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

There are **TWENTY** questions printed in **ENGLISH**.

All the questions are compulsory.

The number of marks carried by a question/ part is indicated against it. Word limit in questions, wherever specified, should be adhered to. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

Q No.	Marks	Q No.	Marks	Q No.	Marks
Q1	/10	Q8	/10	Q15	/15
Q2	/10	Q9	/10	Q16	/15
Q3	/10	Q10	/10	Q17	/15
Q4	/10	Q11	/15	Q18	/15
Q5	/10	Q12	/15	Q19	/15
Q6	/10	Q13	/15	Q20	/15
Q7	/10	Q14	/15	Total	/250

Instructions:-

- Legible Scanning:** Exercise due diligence in scanning your scripts for clear legibility
- Submissions** marred by poor scanning, notably those with illegible sections or blackened pages due to improper scanning, risk being excluded from the evaluation process.
- Non-Adherence Consequences:** Failure to comply with the aforementioned instructions may lead to the disqualification of your submission.

For Student Only

Start Time - 13:00	End Time - 16:05
Mode of Examination online	Online <input checked="" type="checkbox"/> Offline <input type="checkbox"/>

Receiving date -

Dispatch date -

Parameters		Good	Average	Needs Improvement
Conceptual Understanding				
Understanding Demand of Question				
Structure	Introduction			
	Body			
	Conclusion			
Presentation-Illustrations, flowcharts, diagrams, etc.				
Language and Handwriting				
No. of Questions Attempted				
Adherence to Word Limit: Yes/No				

Mentor's Feedback

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Evaluator/Reviewer Suggestions



👍 😊 All the Best 😊 👍

Evaluator/Reviewer Suggestions



👍 😊 All the Best 😊 👍

Q-1 Carbon farming refers to agricultural methods aimed at sequestering atmospheric carbon dioxide into soil and vegetation.

Role in Sustainable Agriculture

- ① Soil Health and Fertility - improve organic matter, enhancing microbial activity.
- ② Reduce Input cost - by relying on natural nutrient cycling and soil biology.

Role in Climate Change mitigation

- ① Lower green house gas emission (GHGs) - practices like reduced tillage, crop covering.
- ② Carbon sequestration - and acting as natural carbon sink.

- ③ Support Net Zero goal by 2070 - by significant emission reduction.

Key Practises involved

- ① Cover cropping - growing legumes during off season.
- ② No-tillage - to reduce soil disturbance.
- ③ Rotational cropping - to restore soil nutrients.
- ④ Integrated Nutrient Management (INM) - by balancing Organic and inorganic fertilizers.

To achieve India's Paris Commitment goal of COP26, Carbon farming is the way ahead.

Q.2 Recently 'BIOE3 Policy' i.e.; Bio-tech-nology for economy, Environment and employment has been announced.

Use of Biotechnology in ensuring food security -

1. Agricultural crops - like climate resilient, pest resilient
Ex: GM Mustard Dhara.
2. Livestock security - for nutritious food like milk, butter, etc.
Ex: Unified genome chip for indigenous cattle breed.
3. New experiments in food - for food security Ex: lab-grown meat for vegan people.
4. Nutritional value - increasing deficit nutrients in food.
Ex: Vitamin A Banana (Hybrid)
5. Sustainability - with environment

Ex: PUSA - 2030 variety for short duration rice to avoid stubble burning.

Challenges in use of biotechnology

1. Research and Development - India accounts for only 0.6% GDP expenditure on R&D

2. Regulatory challenge - for GM crops in India.

3. Ethical consideration - while use of biotechnology. Ex: Risk to Monarch butterfly due to GM Crops.

→ proper regulation at place

way ahead → increasing expenditure on R&D Ex: Anusandhan Mission

→ public awareness about healthy food
Ex: Fit India Movement

To achieve SDG 1 of Zero hunger
Biotechnology is sin - quo - non.

Q.3 Human-Wildlife (flora and fauna)
coexistence has been practised
in India since time immemorial

Role of community led conservation
efforts -

1. Sustainable Development - Community
led conservation efforts balance
both ecosystem and development.
2. 'Jan Bhagirdari' - people
participation make it big
Ex: Mahadari community of
Gujarat with lion.
3. goes beyond 'letter' to follow
'spirit' of conservation.
Ex: Chipko Movement.
4. help administration in
conservation efforts Ex: Cheeta
Mitras in Madhya Pradesh

→

Example of such efforts

1. Bugun Tribe in Arunachal Pradesh - donated 1470 hectare of forest land for conservation of critically endangered bird 'Bugun Liocichla'
2. Sacred groves (across India) especially Meghalaya conserved 50 species of endemic plants.

Future actions to enhance community led conservation

1. Awareness about coexistence
2. People participation Eg: EIA assessment
3. Granting Rights Ex: Forest Rights Act
4. Devolution of power Ex: Schedule 5 & 6

Therefore, KMGBF goal to halt human induced extinction, human efforts are required.

Q-4 In the Budget (2025-26) goal to achieve 100 GW of Nuclear energy by 2047 has been set up.

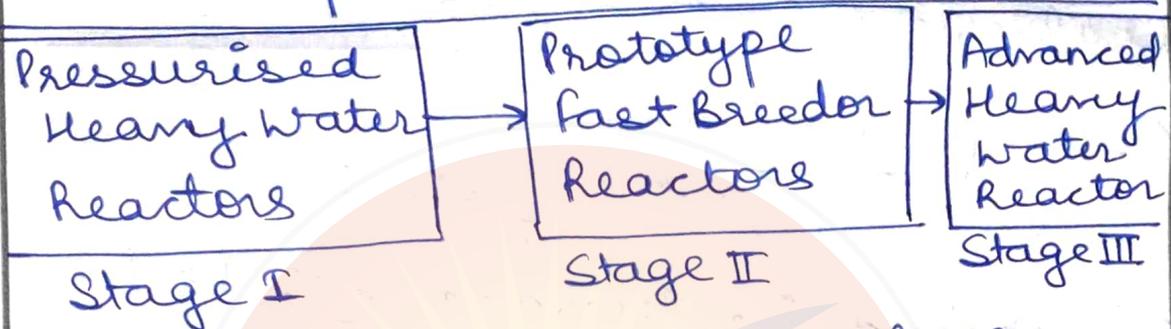


Fig: India 3 Stage Nuclear Programme

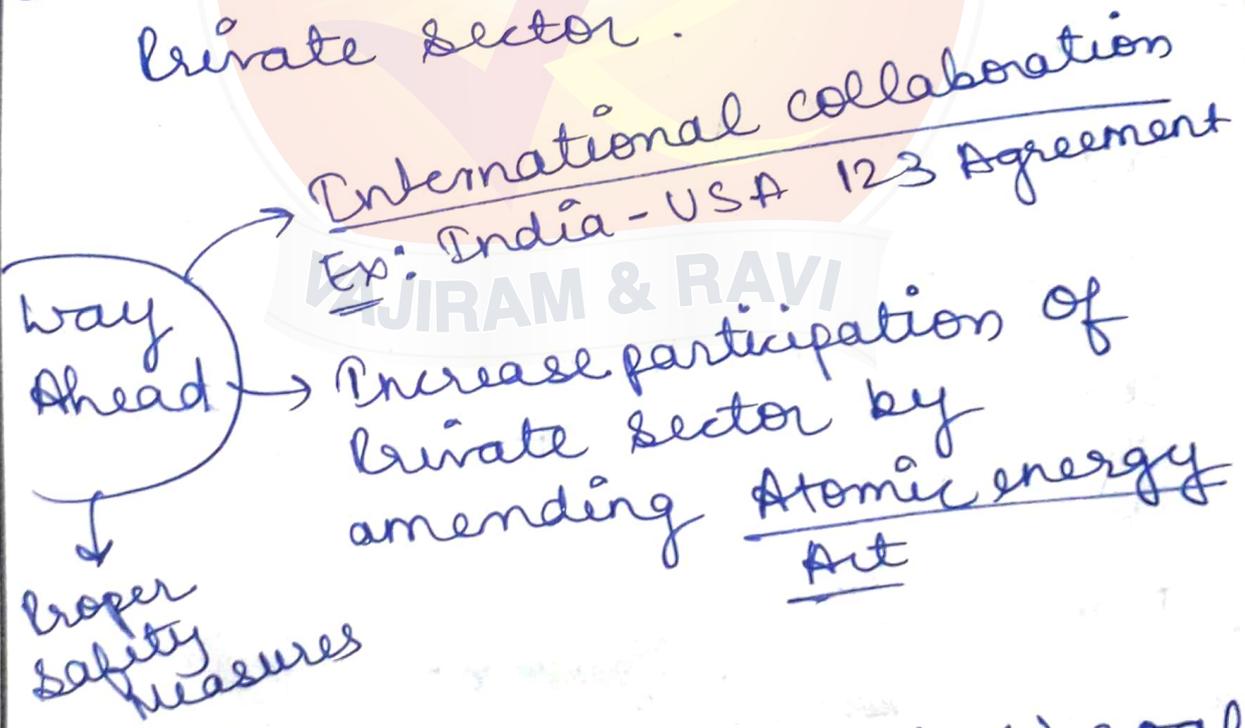
Significance of Fast Breeder Reactors -

- Fuel generation - FBRs generate more fuel than they consume.
- Use of fissile material - to convert into fertile material
 $[P-239] \longrightarrow [U-233]$
- No use of any moderator - like heavy water, liquid sodium.

4. Exploit Indian reserve of Thorium in next stage
i.e; $\boxed{U233} \longrightarrow \boxed{Th-232}$

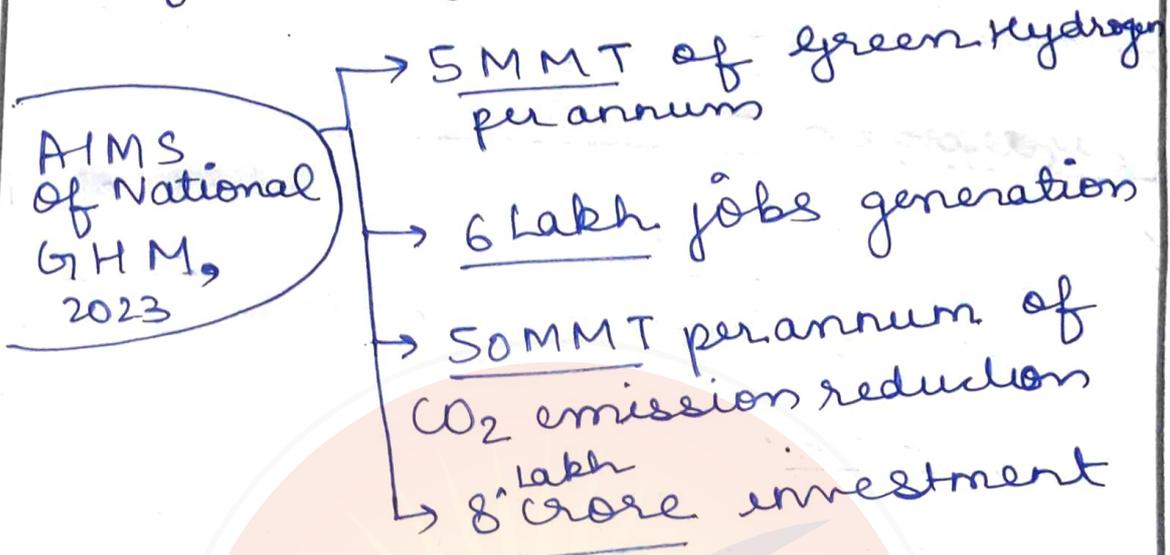
Challenges in Indian Nuclear Program

1. Huge cost involved and long gestation period.
2. Legislative menace Ex: India's Civil Liability for Nuclear Damage Act.
3. Restricted participation of private sector.



To achieve glasgow (COP 26) goal of 500 GW of renewable energy,
Nuclear energy in way ahead.

Q.5 India have recently launched Green Hydrogen Mission, 2023



Significance of green hydrogen

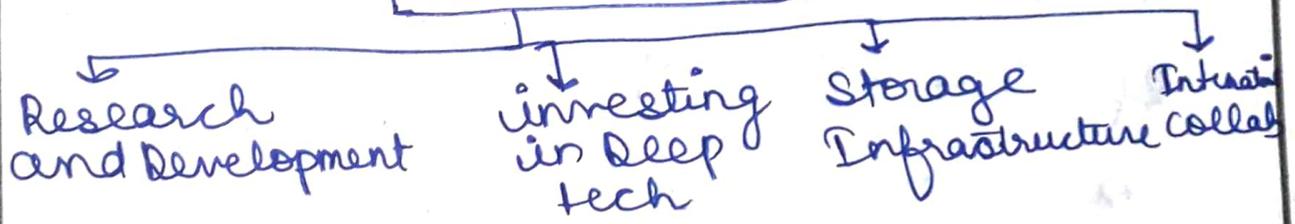
1. No green house gases emission
When hydrogen burn it release only water.
2. Abundance of H₂O - which is used as raw material to split into Hydrogen (H₂) and Oxygen (O₂)
3. Replacement of fossile fuels like petroleum, Diesel in vehicles.

4. Uses as Sustainable Aviation Fuel in aircrafts.

Challenges in adoption of Green Hydrogen -

1. Huge cost : Current cost of green hydrogen is \$4.10 to \$7 per kg.
2. Storage issue : it require very cool temperature at -252.8°C .
3. Water intensive - 9 liters of water is needed to one kg of hydrogen.

Solutions



To achieve net zero by 2070, Green Hydrogen will act as engine in destination.

Q.6 Metal Mining Pollution is release of harmful gases, toxins, etc during mining activities.

Impact of Metal Mining Pollution

1. Pollution of water, soil, air. Eg Release of Sulphides, etc

2. Human mining induced Earthquake
eg: fall of mining tunnel

3. Harmful effect on Biodiversity
Ex: encroachment in Hooblock Gibon Sanctuary in Assam due to mining

Health:

1. Death due to suffocation
eg: Rat Hole mining

2. Lifelong disease like Black lung disease due to coal mining.

3. Disability due to Radioactive exposure

Ex: Uranium mines in Jharkhand

Environmental

Measures to mitigate -

1. District Mineral Foundation for development and rehabilitation of people in mining area.
2. CSR activities under Companies Act, 2013 - Mining companies to share average 2.5% profit
3. Safety Measures and protective gear for mining like mask, helmet.
4. Wildlife protection - NH-7 corridor to safeguard wildlife
5. Use of technology for mining and emission control.

Mitigating mining hazard are necessary for 'Sabka Sath, Sabka Vikas'

Q-7 India is planning 'MATSYA-6000' as a mission for deep sea mining by 2026.

Deep sea mining refers to exploration and exploitation of minerals and resources located at deep sea bed.

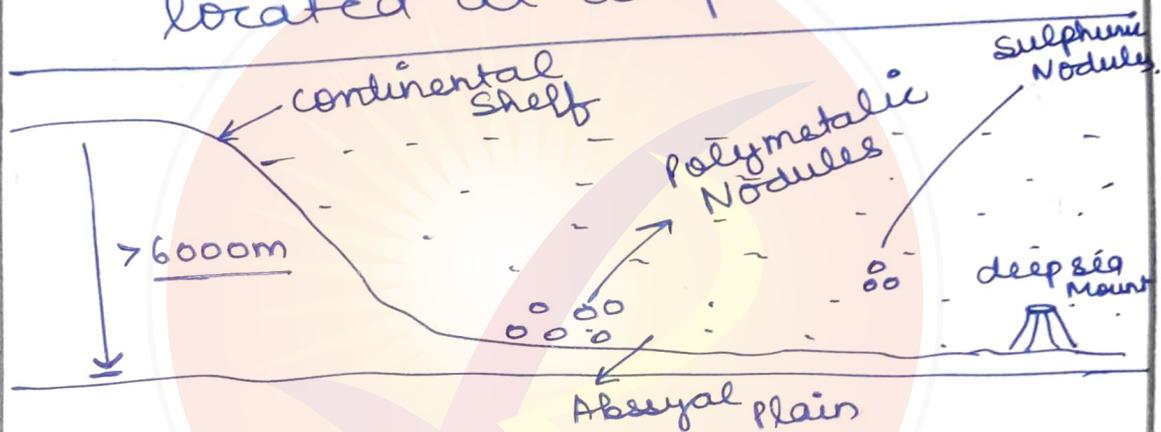


Fig : Deep Sea

Significance of Deep sea Mining -

1. Use of unexplored resources and minerals
2. Energy security for nation like India.
3. Use of exclusive economic zone for nation's use.
4. Exploration of rare earth metal needed most in disruptive technology.

Result in long-lasting changes

1. Disturb Marine flora and fauna

eg: Sounds of Machine can alter eco-location used by sharks.

2. Marine pollution - due to extraction of minerals. Ex: light pollution

3. Alter sea bed ecosystem due to human intervention.
Ex: leak of harmful sulphide gases.

Solutions

→ UNCLOS (Convention of Law of Sea) new treaty to govern deep sea mining

→ responsible mining balancing with safety of marine life.

↓
declaration of Marine sensitive areas with sensitive marine population

Responsible and Humane deep sea mining should be way (S D G 15)

Q.8 'Deepfakes' are real looking images, videos, audios developed using machine learning and large language models.

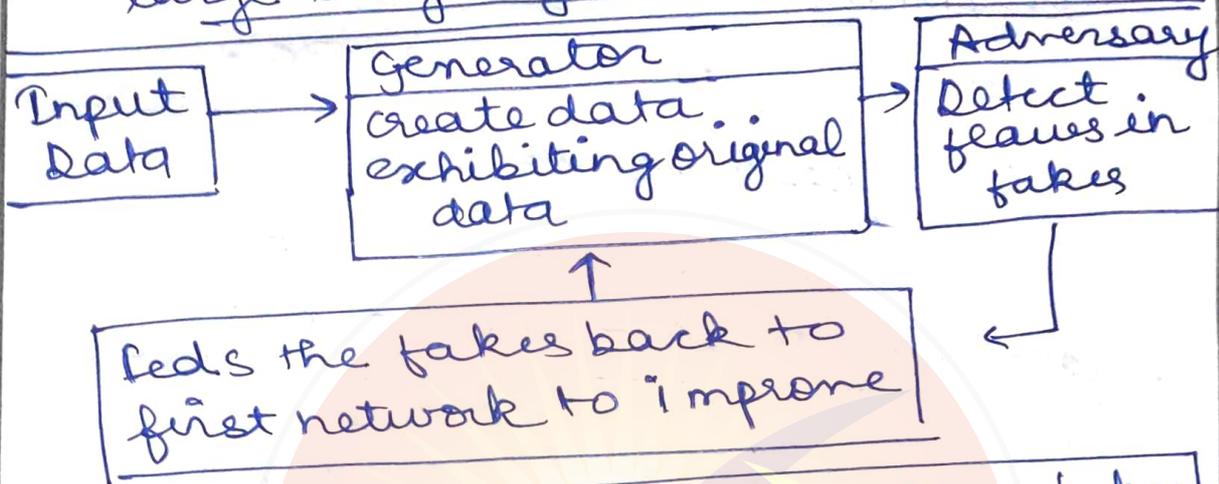
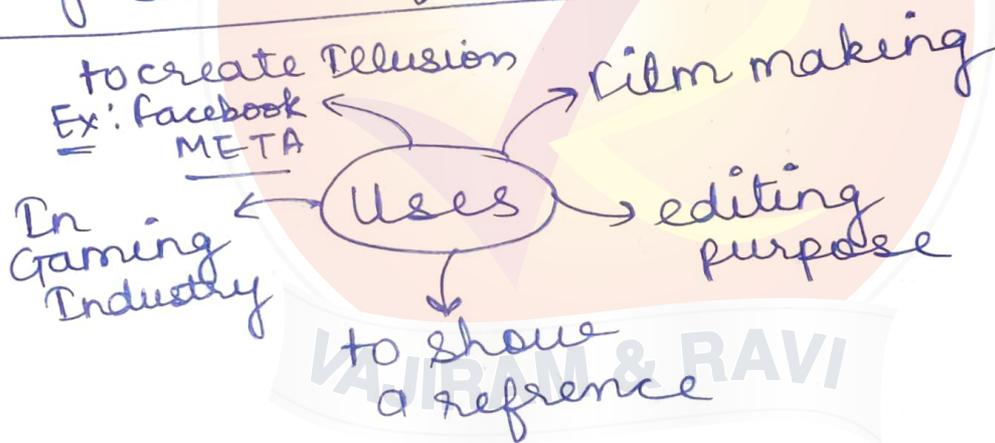


Fig: Process of generating deep fakes



Harmful challenges of Deepfakes

1. Victimising Women by cases of pornography, altered images. Ex: Rashmika Mandana = deep fake video.

2. Lack of awareness due to blurring of line between reality and illusion
3. National security risk - by spreading fake news etc.
Ex: excessive use of deepfakes during 2024 elections
4. Identity theft - by morphing voice and video. Ex: PM Modi videos of singing songs.
5. Speed - Speed by which they circulate is unimaginalbe
Ex: 886^{million} Active internet users in India

Way Ahead

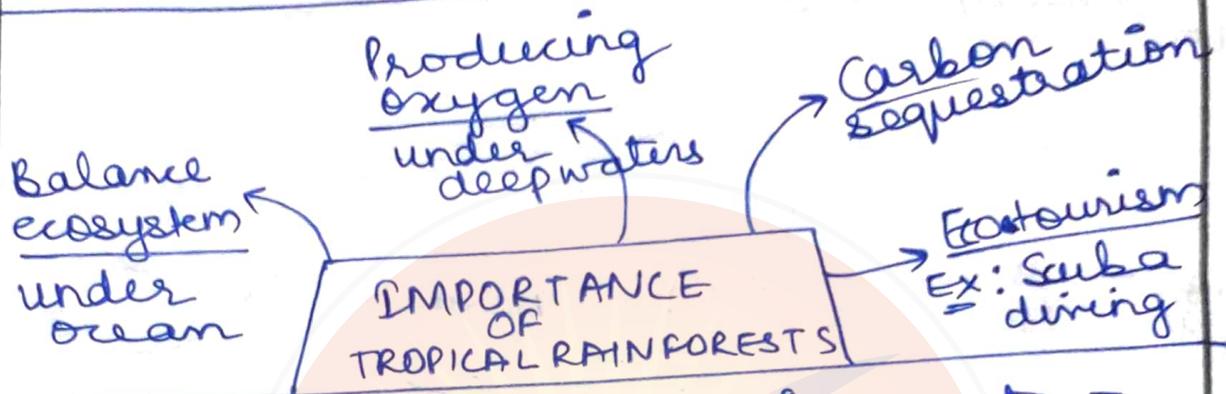
→ International best practices
Ex: USA enacted 'take it down Act'

→ Use of watermarks on AI generated images.

→ Strict implementation of Digital Personal Data Protection Act

As per K. Puttaswamy judgement
Right to privacy of individuals
with Right to be creative should
be balanced.

Q.9 Tropical rainforests of oceans are known as 'CORALS' and other biodiversity that lies between 20°N to 20°S



Threats to Tropical Rainforests -

1. Atmospheric and hydrological events - Ex: El-Niño and La-Niña
2. Rise in sea temperature - due to climate change. Ex: 2023-24 is being named as 4th global mass coral bleaching event
3. Ocean acidification - decrease in amount of calcium carbonates in ocean.
4. Spread of sea weeds like 'crown of thorns starfish' in Great Barrier reefs.

5. Unsustainable tourism and marine pollution by anthropogenic activities

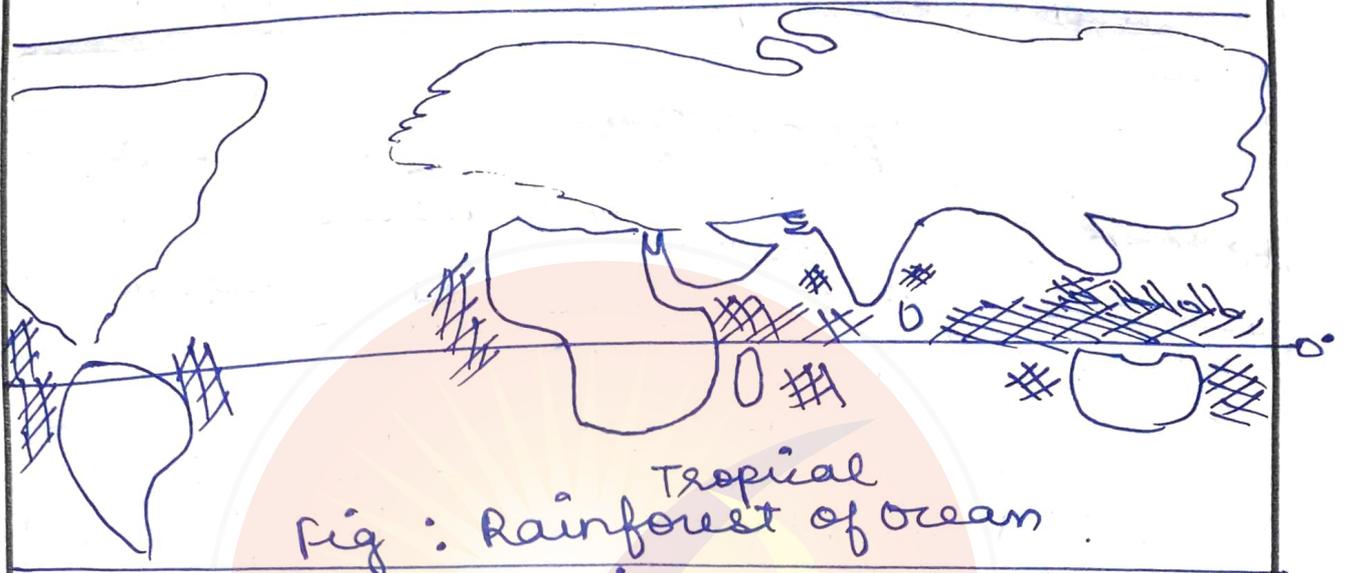


Fig : Rainforest of ocean

Measures to rejuvenate -

1. Use of Technology Ex: Bioreock technology for corals.
2. International collaboration like Global Mangrove Alliance.
3. Specific regulations - Ex: Indian Coastal regulation zone, 1991
4. Upholding 30X30 AIM of Global Biodiversity Framework.

Rejuvenating critical ecosystem is need of hour for 'Sahyjan Hitya, Sahyjan Sukhya'

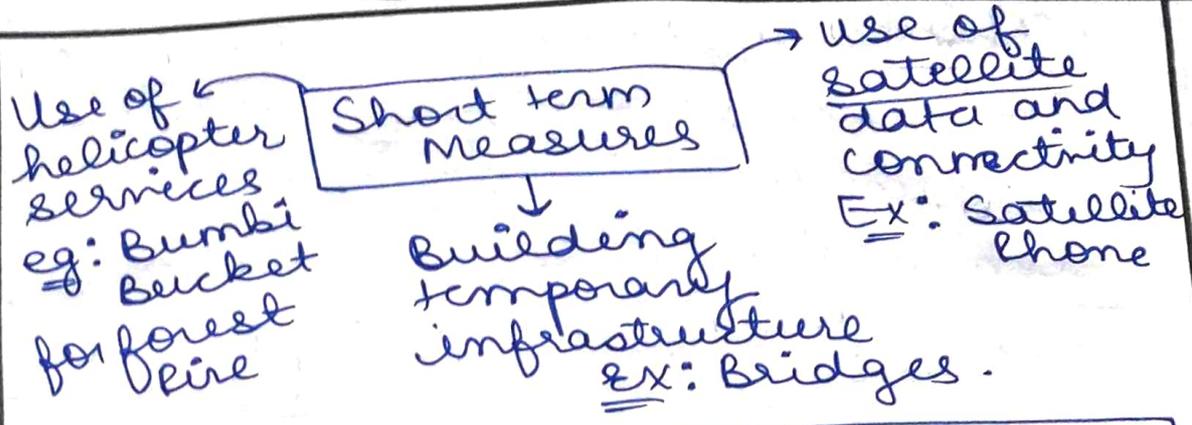
Q-10 Critical Infrastructure are those facilities, systems whose destruction would cause of debilitating impact on National Security, governance and economy.

Damage to critical infrastructure amplifies the impact of Natural Disasters -

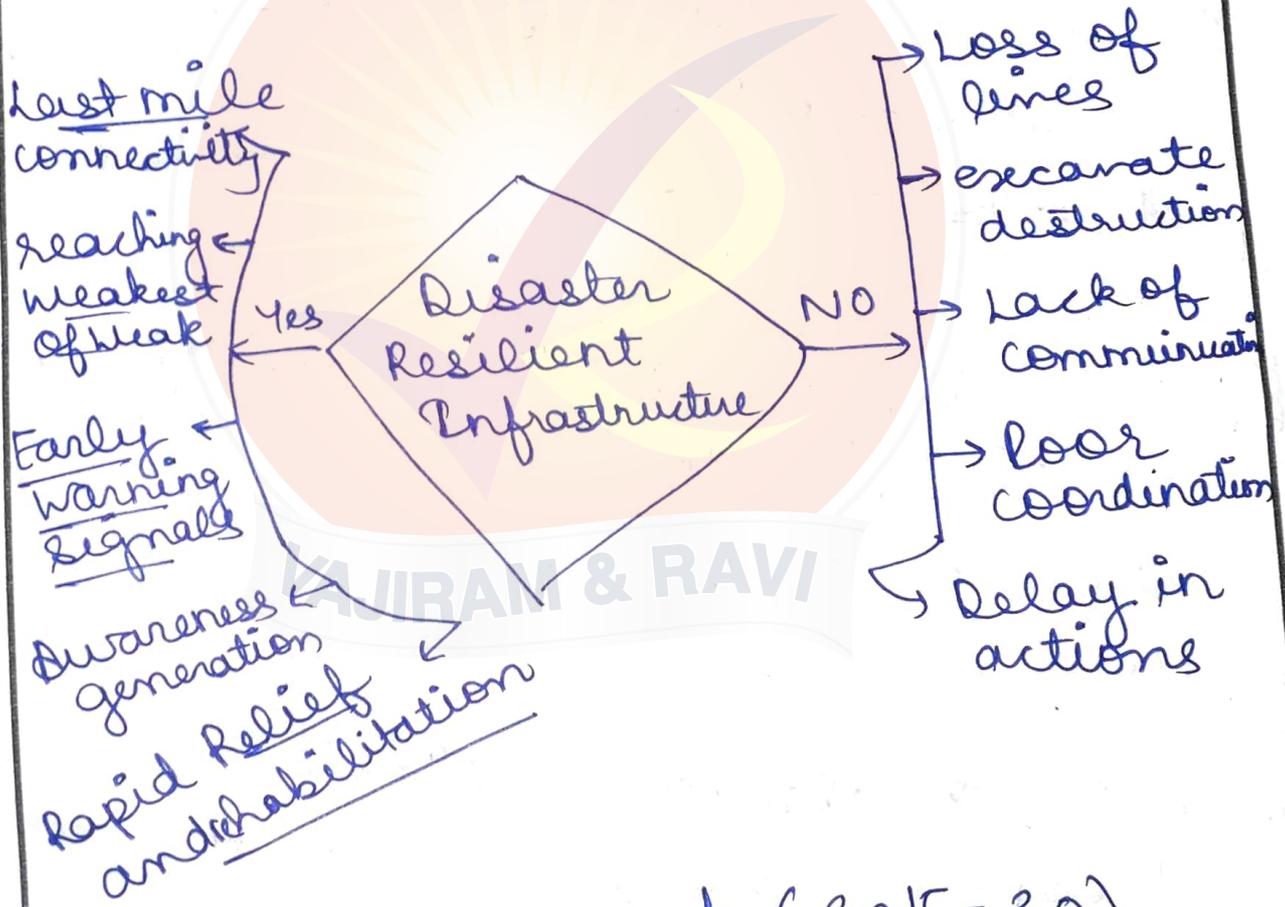
1. Loss of connectivity - due to destruction of roads, rails, etc.
Ex: Use of Drones during Nyanad landslide, 2024.
2. Loss of information dissemination - due to loss of telecom connectivity due to fall of Mobile towers, etc.
3. Loss to infrastructure like hospitals, etc further multiply the damage. Ex: flood water into hospital destroy machines like ICU.

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Significance of Building disaster resilient infrastructure

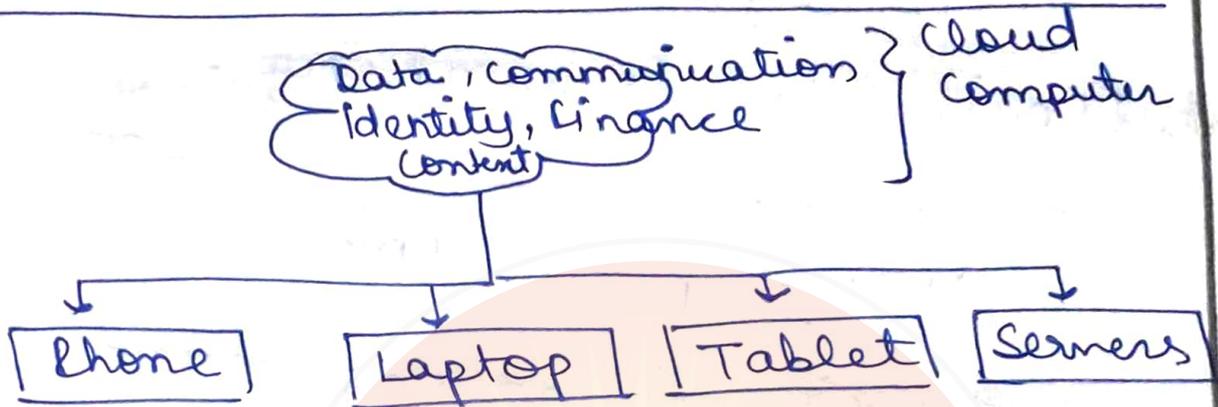


SENDAI Framework (2015-30) should be guiding light for Disaster risk reduction.

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Q-11 Cloud Computing is the delivery of 'computing as a service' rather than a product



Uses in Smart homes

→ Device and location independence Ex: Can set fridge temperature from office

→ Application programming interface (API) - software that enables machines to interact with cloud software

→ Automation of tasks

Eg: "Alexa, turn off the lights"

→ delegation of future task

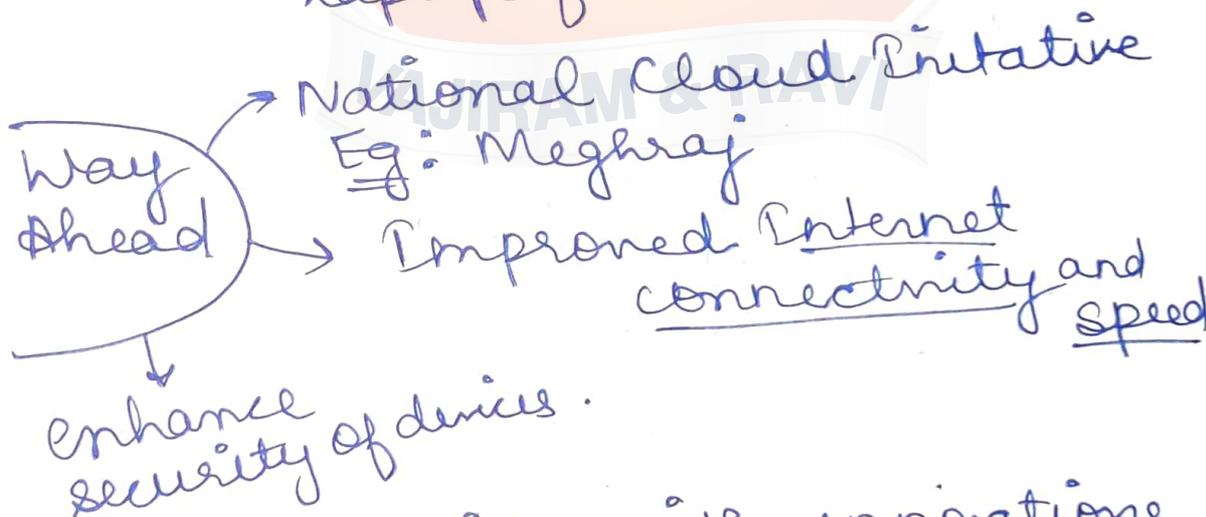
Eg: AC temperature for late night.

Benefits of Using Cloud Computing

1. Agility and Speed - by which tasks can be performed
2. Flexibility in working.
Eg: Using office server for 'work from home'
3. Scalability by adding more devices without actual increase on capital expenditure.
4. Artificial Intelligence - Integrating cloud computing with AI, can make 'Internet of things'
Ex: Smart curtains
5. Useful for Health monitoring - Pollution measurement by SMART air purifiers

Challenges of Using Cloud Computing

1. Privacy issues - incidents of devices listening to private conversations.
2. Cyber crime - like hacking of smart locks, etc.
3. Poor internet connectivity - in many parts of country.
4. Huge cost involved and create a divide between haves and have not's
5. Supply chain disruption - due to use of devices like semi conductor, Rare earth metals, etc
Ex: India import 9 out of 10 laptops from china.



Balancing risks with innovations
should be way forward.

Q.2 India spend 0.6% of GDP on research and development (R & D) as per Economic Survey 2025.

indigenous Technology to cater need of Indians
Ex: AI app.
Bashani

Need for R & D ecosystem

innovation and creativity
Ex: UPI

Representation of Global South
Ex: Digital Stack
DPI

to safeguard National Security
Ex: MIRV Technology

Major Challenges in R & D -

1. Lack of academia - Industry collaboration about need and supply of technology.

Ex: As per Narayan Murthy Institute, Only 20% IITians are employable.

2. Lack of representation -

gender divide Ex: Only 14% women in R & D

3. Lack of proper Infrastructure - for R&D
Ex: only 2.7% colleges run Ph-D programs.

4. Few researchers in India compared to global average
Ex: 1602 in China } per million
260 in India } as per
Budget 2024-25.

5. Brain-Drain - to developed countries. Examples like Sundar Pichai, Indira Nooyi, etc.

Key Refoms to make it globally competitive -

1. Government Initiatives like

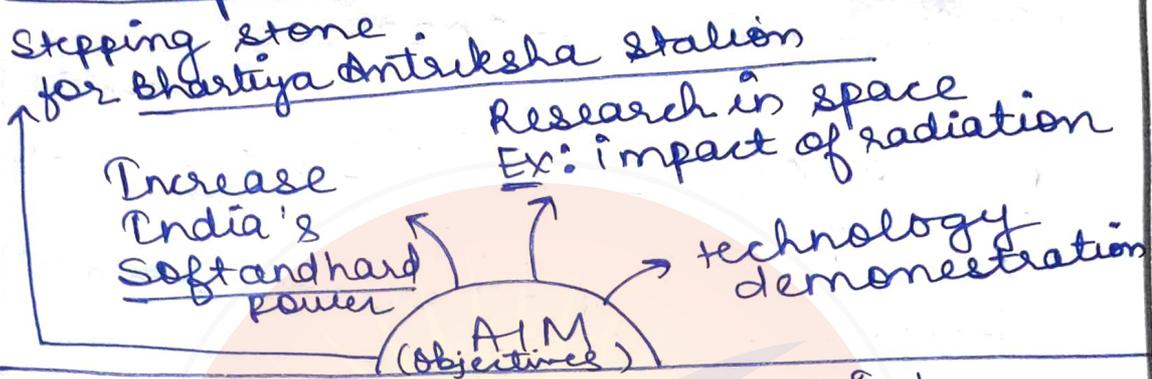
- Vigyan Shara Scheme
- National Amusandhan Foundation
- ADITI scheme for defense
- WISE - KIRAN scheme for women
- Atal innovation mission by NITI Aayog.

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2. International collaboration to share best practises - Ex: India - USA iCET initiative, INDUS-X
3. Increasing Investment on R&D reaching to global average
4. handholding: Ex: 49% Start-up in Tier II and Tier III cities. by schemes like MAAR6
5. Investing in Deep technologies
6. Change in Curriculum as per NEP, 2020 to inculcate culture of Research.

For India to be Viksit Bharat @2047 investment in R&D is the need of hour.

Q-13 India's Gaganyaan mission will be India's first human spaceflight into space.



Potential impact on India's space exploration and scientific capabilities -

1. 'Atma Nirbharta' in technology to send human to space.
Ex: India's Subhanakar Mishra send to space by USA Axiom mission.

2. Economic growth - in other sectors like health.
Ex: A dollar spend on space sector can bring revenue of \$2.57 to Indian economy (World Bank)

3. Service Provider - to other space agencies.
Ex: India generated \$ 279 million from launch of foreign satellite in 2022.

4. Research and Capacity building about space effects on human and other environment
Ex: India's CROPS mission.

5. Soft lower - India will be fourth nation to launch human spaceflight

Key Challenges associated with mission

1. Delay in project - this mission was projected to be launched earlier but now extended to end of 2026.

2. Crew safety and safe comeback

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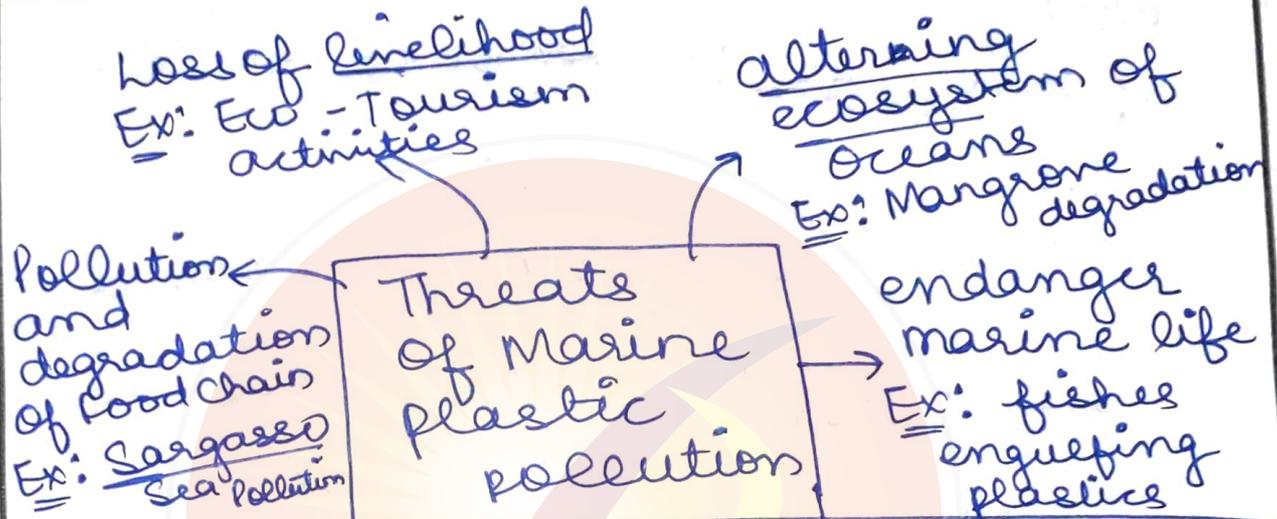
Recent case of Sunita Williams
stuck in space ^{for} more than 150 days.

3. Coordination with multiple Nations
Ex: Astronauts training in Russia,
Technology transfer from ISRO
4. Financial Issues - India global
space contribution is only 2%.

Learning from previous experience
and taking precautions ahead
in journey will led to successful
Gaganyaan mission.

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814 As per CACB Report, India generated 4200000 Tonnes of plastic waste per annum in 2021, which contributed to marine pollution as well.



Mitigation measures to deal with Marine plastic pollution -

- ① Extended Producer Responsibility to manage backward and forward supply chain of Plastics.
- ② Plastic Waste Management Rules strict enforcement. Ex: 120 micron carry bags.

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- ③ Awareness - about importance of marine life for ecosystem.
Ex: Beach clean drives.
- ④ Promotion of circular economy
i.e.; Reuse, Recycle and Reduce.
- ⑤ Alternative to plastics like Jute and paper bags.
- ⑥ Solid waste Management
proper collection and disposal
- ⑦ Enforcement of legislative measures - Ex: Water Pollution Act, Wildlife Protection Act

International Treaties to deal with Marine Pollution -

1. Kumming - Montreal global Biodiversity Framework
- 30x30 goal to safeguard land and sea.

2. UNCLOS treaty of Biodiversity Beyond National Jurisdiction (BBNJ) - to conserve and sustainably use marine diversity.
3. International Convention for Prevention of Pollution from Ship (MARPOL) by IMO to prevent marine pollution and protect marine environment.
4. BASEL Convention to prevent transboundary movement of waste.

Recent, talks at Busan, South Korea for Global Plastic Treaty should be way ahead.

Q-15 As per IQ Air Report, Delhi is the most polluted Capital city and 9 out of 10 most polluted cities are in India.

Causes of Air pollution in Urban India -

- ① Unplanned construction of buildings, road, etc.
- ② India-specific stubble burning in northern India (Punjab, Haryana and Western UP)
- ③ Vehicle pollution also known as 'tail pipe pollution'
Ex: Delhi average 424 vehicle per 1000 people compared to Indian average of 13 car per 1000 people
- ④ Climatic and atmospheric factors - like temperature temperature immersion during winters.

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Consequences of Urban air pollution -

1. Economical Consequences -
Rise in temperature due to pollution can cause 5-8% loss of working hours by 2030 (ILO)
2. Premature deaths and morbidity - Ex: more than 30000 deaths annually attributed to air pollution in Delhi
3. Destruction of National heritage - Ex: Taj Mahal turning yellow due to air pollution in Agra.
4. Decrease in quality of life from waste, water, health sanitation, etc.
5. Impact on vulnerable sectors like children and women.

Ex: closure of schools in Delhi every year due to air pollution.

Measures to Mitigate adverse impact

1. Inter-State coordination to manage menace of air pollution
Ex: for stubble burning.
2. Short term measures - like 'odd and Even' Rules, ban on construction sites, etc.
3. Green cities for sustainable development Ex: Smart Cities Mission
4. International Best Practices
Ex: Singapore ABC (Active, Beautiful and Clean) cities
5. enforcement of government initiatives like BSVI Norms, PAME-II, e-DRIVE, etc.

To achieve NCAP objective to reduce PM_{2.5} and PM₁₀ by 40%.
managing Urban pollution is necessary.

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Q-16 As per UN Office of Disaster Risk Reduction, India is 2nd most disaster prone country, where 85% of country is vulnerable to one or more disasters.

Urbanisation	climate induced hazards
1. Grey Infrastructure and <u>Urban Heat Island effect</u> .	1. Increasing temperature Ex: Rise in cyclones
2. Lack of <u>EQ resilient Buildings</u>	2. <u>Flash Flood and Drought</u>
3. <u>Urban flooding</u>	3. <u>glacial lake Outburst flood</u> Ex: Sikkim Lohonak lake

Increasing
Disaster
Risk

Leveraging Smart Cities Mission

1. Green Infrastructure Ex: Mujawar
-ki urban forestation

2. Planned Urbanisation and Disaster Resilient cities
Ex: Flood prevention Sea
Grayses in Mumbai

3. Proper Drainage in cities unlike Delhi Rajendra Nagar flood in 2024.
4. Smart Data Management - Use of satellite data to manage disaster in Urban cities
Ex: INSAT 3D, INSAT 3DR.
5. Innovative solutions to manage area specific issues. Ex: Tamil Nadu Government guidelines for compulsory Watershed Management in New Building
6. Long term planning based on Survey, data, etc about future population density, waste generation, etc.

India can also take inspiration from China Initiative of 'Sponge cities' and work on SDG 11

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Q-17 As per IMD data, between 2000 and 2020 more than 10000 people lost their lives due to Heat waves.



Significance of Heat Action plans-

- ① Managing Heat waves - like stay indoors, stay hydrated, etc
- ② Increase pre-heat wave Alerts effectiveness -

Ex: IMD colour codes
Green - Normal day
Yellow - Heat Alert
Orange - Severe Heat Alert
Red - Extreme Heat Alert

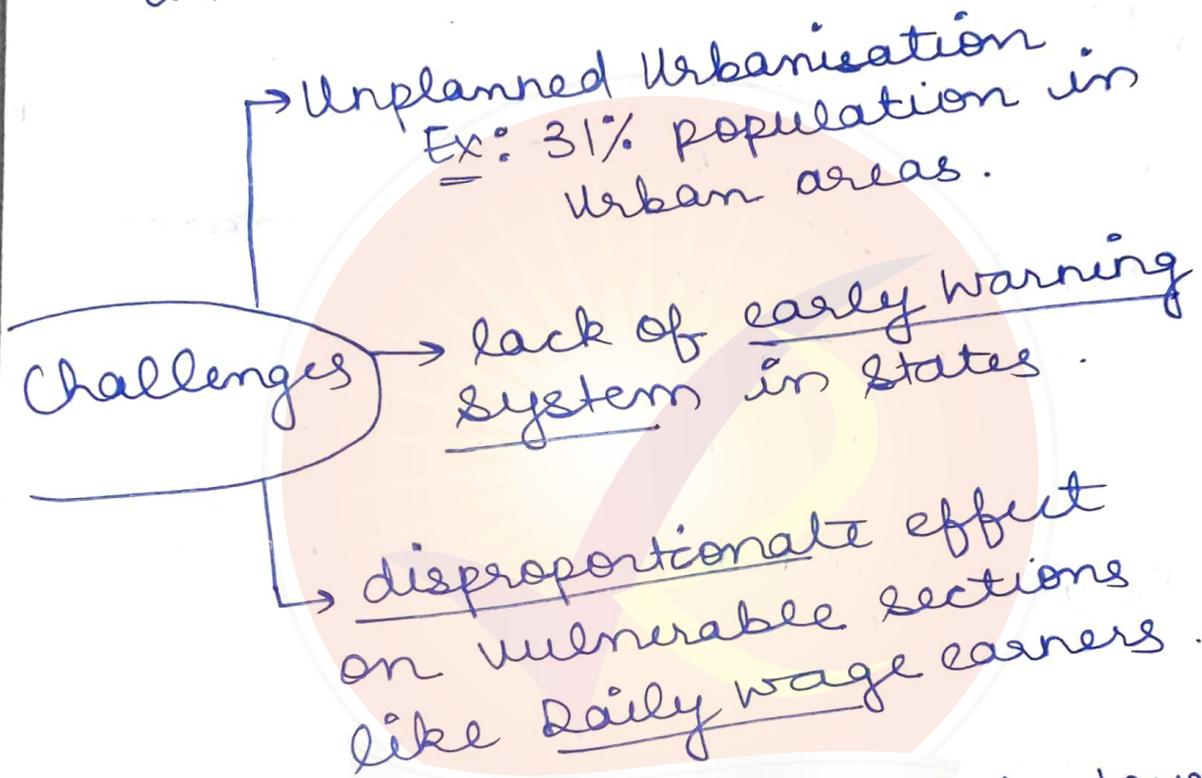
- ③ Enhance coordination - between different agencies due to pre planned handbook.
- ④ Adaptation initiatives like GRHA building rating inculcated in Heat Action Plans

Other Actionable Intervention to mitigate heatwave related fatalities -

- ① India cooling Action Plan to reduce cooling demand by 20-25% by 2038.
- ② Adoption of National Building code by BIS.
- ③ Green Infrastructure development

Ex: Miyawaki Urban forestry.

④ Proper planning while developing cities Ex: establishing shelters and rest places i.e; SARAI'S in ancient time



Place specific (state, district, town) strategies need to be made under Smart cities mission, AMRUT 2.0 to manage Heat wave.

Q-18 Japan Fukushima nuclear disaster highlights the need for mechanism to respond nuclear emergencies.

India Institutional Mechanism

1. Proper Nuclear Waste Management by disposing it after proper treatment.
2. Legislative Measure - Nuclear Civil Liability ^{for} Nuclear Damages Act, 2010, for post nuclear disaster.
3. Evacuation of affected population at the earliest.
4. Disaster Management Act, 2005 for SDMA and NDMA, NDRF and SDRF coordination
5. National Disaster Management Authority (NDMA) guidelines

for management of Nuclear emergencies

6. Supreme Court judgement in Bhopal gas tragedy for supplier liability.

7. Atomic energy Act, 1962 - state guidelines for radiation protection.

Strategic Framework for Disaster Risk Reduction

1. Protectionary measures beforehand
Ex: proper sealing of disaster site.

2. Regular auditory safety checkups
by experts and yearly checks
by IAEA exp experts.

3. Nuclear plant should be located away from people habitation

4. Security from cyber attacks

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Ex: cyber attack on Kudankulam
Nuclear power plant, 2019

5. Local people awareness and mock drills - to prepare for emergency of any kind.
6. Multi agency coordination and proper communication.

Nuclear disasters are act of man, hence can be prevented by proper planning and safeguards.

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Q-19 Wearable devices are small, compact devices that ^{are} multi-functional for human needs

Wearable devices - Reshaping future

1. Health Management - by counting calories, walking steps to lead a healthy life
2. 'SOS' Alerts - about any important health indicators
Ex: Oxygen level during covid 19
3. Improved Quality of life - by managing quality sleep, diseases, etc.
4. Personalised Data - about past health indicator to doctor and help in easy diagnosis.
5. Prevention > Cure - by monitoring health continuously

Challenges in integrating wearable technology -

1. High cost - which increase the gulf between poor and non poor. Ex: Apple watch
Cost > ₹30000
2. Privacy Issues - due to continuous monitoring and personalised data collection.
3. Risk of Inaccurate results - due to failure of sensor, etc.
4. Digital Divide in Indian population. Ex: Only 33% women ever used internet.

Measures to improve integration

1. Availability at Arogya Centres for quick health check ups
eg: for ECG of heart.

2. Reducing cost and increasing accessibility i.e; 'Health for all'
3. enforcement of Digital Personal Data Protection Act, 2023 for privacy issue and erasure of data.
4. Use of Machine Learning to further increase accuracy of result.

'Wearable devices' are the future of modern health and Universal accessibility of healthcare.

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Q.20 Recently, government have announced BioE3 Policy i.e.; Biotechnology for Economy, Environment and Employment.

Key Features of BioE3 Policy

- ① Aim for \$300 billion bioeconomy by 2030.
- ② Green growth by promoting circular economy.
- ③ Employment Generation in this sector

Alignment with Economy

- ① Use in Agriculture like
Eg: Biofertilizer Mycorrhizal
- ② Green Revolution 2.0
by use of GM crops and
resilient varieties like
PUSA - 2090

③ Sustainability - ethanol blending program of 20% by 2025.

③ Health - India produces 65% of global vaccines and help in treating sickle cell, etc.

④ Nutritional safety - by enhancing nutrition quantity
Ex: Vitamin A in Banana



This all will help India achieve 3 trillion economy and sustainability.

Major Implementation Challenges -

1. Low investment in R&D
i.e., 0.64% as per Budget 2025-26.

2. Skill Gaps - lack of

required number of trained
professional .

3. Bio-biracy - Ex: USA governm
-ent granted patent for
turmeric .

4. Regulatory Bottleneck -
Ex: Delay in introduction
of GM Mustard even after
GTEAC approval

WAY FORWARD

1. Industry - academia
collaboration
2. Amendment to IP Rights
3. Government handholding
eg: Vigyan Dhara scheme.
4. International Alliances
eg: global Biofuel Alliance.

Biotechnology contribute 4.25%
to GDP, hence needed for

Viksit Bharat 2047 .