

# **GS SCORE**

**An Institute for Civil Services**

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**AIR 208** CSE  
2023

## **GS PAPER III**

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# GS SCORE

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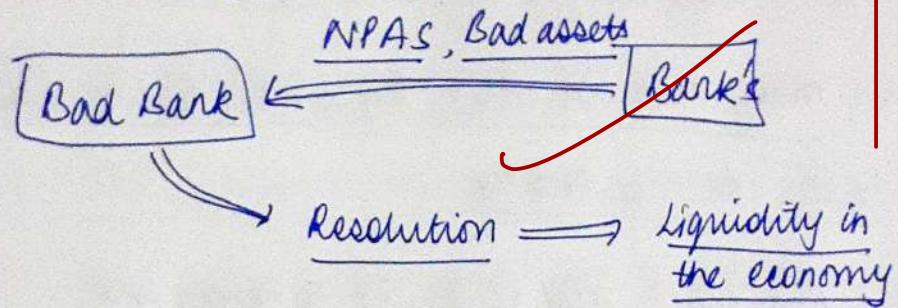


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Q1.

Recently govt has decided to setup a Bad Bank (Budget 2020-21) to deal with Twin balance sheet crisis, given rise in NPA worsened by pandemic

used that you began with mentioning 'Bad Bank' in the end.



Advantages

1. Eases NPA problem (in short term) by overtaking bad loans
2. Raises liquidity by allowing banks to create fresh loans
3. Better management of NPAs by concentrating them in a central hand
4. Eases balance sheet issue as quick resolution

(By specialists)

It can also free up money for the parent firm.  
privatisation





## Not a panacea

1. Total supply of NPA remains same  
only change of ownership -
2. Doesn't deal with corporate fraud → if  
it continues, NPAs ~~will~~ continue

3. may worsen crisis by concentrating all  
risk in one entity -

4. Experience globally not encouraging -

Under effective norms for corporate governance,  
strict reporting framework are instilled in  
corporate tradition, NPA problems shall not  
ease in long run.

4  $\frac{1}{2}$

Good understanding,  
just bring more  
points -

It  
can  
also  
demonstrate  
Banks' +  
no addition  
of  
new  
professionals





Q2.

Drone management & licensing policy has  
long been released by govt, however the  
Jammu attack reveals severe loopholes.

### Need for betterment

1. lax implementation of law is an issue  
→ openly flouted in case of wedding  
photography etc

2. Lack of anti-drone shields in usage

→ procurement has been slow

(ex Russia's \$400)

3. No specific criteria to manage weaponised  
drones → only civilian drones considered

4. unnecessary classification based on  
weight has only made it complex to  
administer the rules

+ Also  
once  
it's  
needs  
with  
increased  
security  
threats





5. Vulnerable nature of technology — any  
such tech in wrong hands can be misused  
without much ado

→ ex easy to fit a bomb on a drone

6. No clauses to deal with trackability in case  
drones drop objects and escape

hood,  
but also

suggest ~~some~~  
additional

safeguards  
in rules →

much more stringency is needed in framing  
policies, keeping in mind potential for drones  
to be weaponised.

Better air space  
mapping and

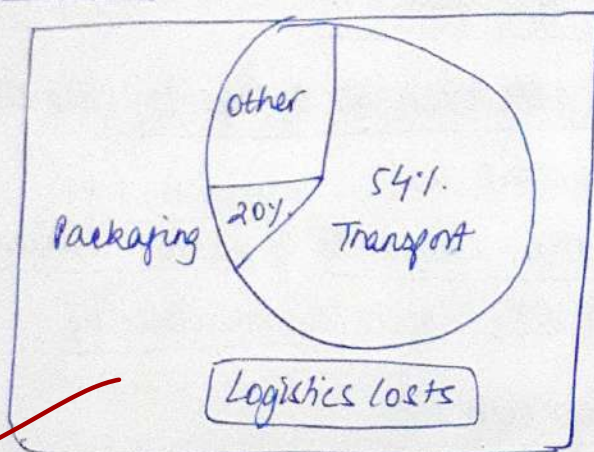
air traffic  
control management  
etc

④





Q3. India spends as much as 14-15% of its GDP on logistics costs acc. to logistics Performance Index (World Bank). This significantly reduces competence.



used that you quoted data to introduce it.

### challenges

1. Lack of infrastructure — low permeability of roads, multi modal terminals
2. No economies of scale in sector due to large number of small firms
3. Lack of human resources trained in logistics



+ जी संख्या  
वीजिए  
Question  
over  
dependency  
on roads.

poor  
warehousing  
infra etc.

4. Barrier to inter-state movt. due to permits systems in place

5. Lack of tech usage - ex. No use of drones

6. Delivery (ex Amazon USA)

### Significance of Logistics

1. Raises competitiveness of Exports due to Cheaper transport costs
2. Serves urban demands of faster delivery  
↳ ex Blinkit, Grofers 10 mins delivery
3. Raises employment
4. Forward, Backward linkages are high
5. Raises rate of growth by ensuring faster delivery, safer delivery of materials

Good points.

Covid19 showed the importance of a robust logistics sector in keeping a work from home, lockdown economy on its feet.

Overall  
Good  
attempt

Adequate investment must be made, given such changes in work structures may be here to stay.

Don't  
waste in  
this part.

5





Q4.

Agricultural subsidies comprise nearly  
40% to total agricultural GVA, acc- to  
Budget 2020-21, having several ramifications

### Issues

1. High burden on exchequer due to farm  
loan waivers, PSL targets, MSP

2. Skewed pattern of agriculture - bias  
towards Rice-wheat

↳ over-exploitation of groundwater  
(90% withdrawal for agri.)

3. Stagnation of drought resistant crops  
like millet as subsidies not there

↳ imparts nutritional security

↳ raises vulnerability to drought

(67% India is drought vulnerable)

quote some  
examples of  
such subsidies  
as well.

quote  
some data  
and  
reference  
to  
carbon  
etc  
it  
further.



Link it with Subsidy on Power.

4. Water subsidy encourages over-use,  
water use inefficiency → depletion of  
17.5% water blocks (6)

5. Higher use of electricity due to subsidy  
causes coal usage → pollution

6. Subsidised MVI seeds need higher  
water, fertiliser usage → depletion + Soil degradation

However, few positives

1. Supports 40% employment
2. Food security ~~and~~
3. Exports are largest in Rice, Bananas etc.

India's subsidy policy must support farmer  
but must be tempered with concerns for  
social responsibility (FRBMA) and etc

Need to incorporate

more specific



suggestions →

DBT based  
subsidy, linking

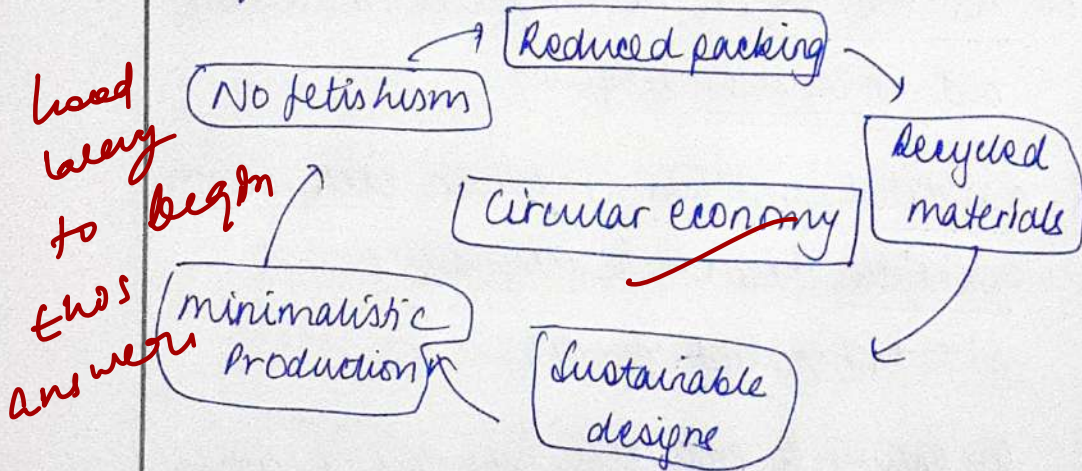
subsidy with  
farm holding  
size etc

(4)



Q5.

"Circular economy" refers to an economy based on "reduce, reuse and recycle" of materials such that no excess waste is generated.



### Role of Circular economy

1. Allows meeting NDC commitments via reduced overall emissions
2. Employment generation of recycled, designed
3. Boost to public health by reducing wastes
4. Minimalistic production → low cost → competitive exports

Also

fulfill need for raw materials





5. meets growing demand for "conscious consumption" (~~Plastic~~ ~~fact~~ etc.)

### Vehicle Scropage Policy

1. Tax Rebates on new vehicles on scropping old incentiuses recycling

mandated timelines for when each category of vehicle needs to be recycled

→ structured approach

3. Incentives to producers by way of credits for recycling old vehicles

4. Addresses big source of e-waste - given growing urban affluence and demand for personal vehicles

→ culcating wisdom of maratma gandhi

→ "usage for needs, not wants" is the way forward to trip shift circular economy

all features can be highlighted in very short and then discuss its advantages and certain challenges.





Q6.

The National Green Tribunal was set up under  
Article 323-B, part XIV-A of the constitution's  
provisions under NGT Act to ensure  
ecological justice and has come a long way

Environmental

### Significance

1. Experts advice is inculcated into judicial  
process by way of membership to policy  
makers
2. Final and Binding provisions reduce time  
loss in appeals and ensure justice
3. Raises ability to meet NSCC at COP21  
for India by way of judicial activism
4. Grounds for shaping legislation which is  
ecologically sensitive  
ex ICZM Rules, CRZ rules

+  
Based  
on the  
Principal  
of  
Natural  
Justice,





## Issues

1. Environment in concurrent list, 7<sup>th</sup> schedule creates centre-state tussle
2. Allegations of judicial over-reach
3. Slows down pace of reforms — stays on POCsopant, odisha etc.
4. Vacancies reduce speed of justice delivery
5. Lack of real time ecological data — Forest surveys etc. are done with time lags  
→ hampers decision making

Recent rulings on Anney colony trees, Kerala housing society in Vembanad Kol, CR2

notifications, Shutting of Faridabad brick kiln

show the rising importance of NW7. effective

Good data availability and cooperative federalism  
are needed to further boost NW7.  
a few corrective measures to conclude  
better.

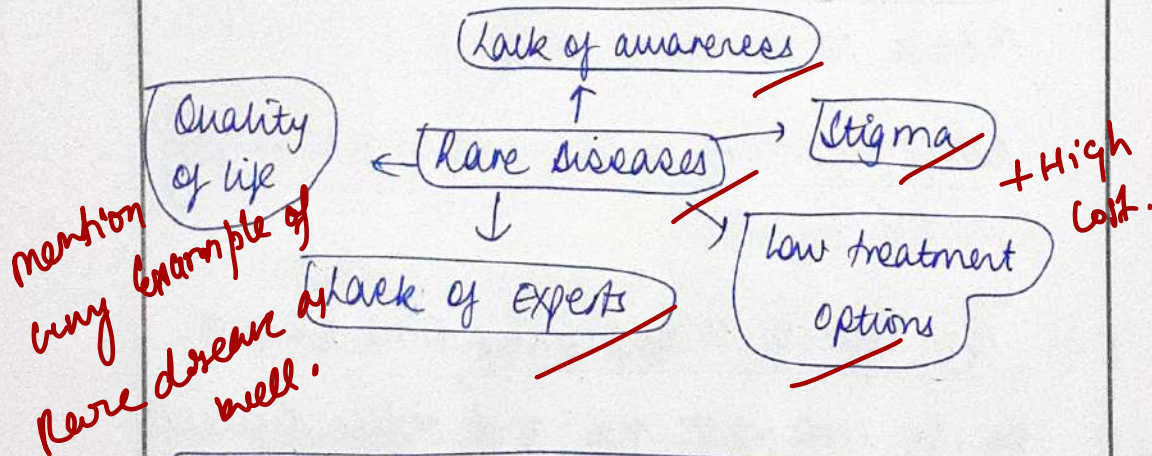
4 1/2

Also add  
→  
WPA  
1972,  
FRA  
not  
covered  
under  
the  
act  
(limited  
jurisdiction)



07.

Rare diseases are defined by USFDA as diseases whose incidence is nearly 1/1,00,000 individuals.



### National Policy for Rare diseases, 2021

1. NISAAAN Kendras set up to monitor and counsel people

2. One time grant for treatment of rare diseases which are treatable + crowd funding also provided.

3. Psychological counselling to people with rare diseases

4. R&D support to super speciality hospitals

for orphan rare diseases

under the policy  
R. Dincan

identified into 3 categories



## Issues

1. No provisions for diseases which require  
chronic treatment ex Alzheimer's
2. Lack of separate funding — Rashtriya  
Arogya Nidhi grants used
3. Ree expenditure is low — only 0.67% GDP  
(VS 3% Israel)
4. No awareness campaigns planned — this  
causes lifelong stigma and reduced quality  
of life

Rare diseases must be treated holistically  
and with empathy to ensure health for  
all (SS4 3).

you should have  
also covered Indian  
scenarios both date  
in beginning to make it  
more comprehensive

4



Q8.

A "notified disaster" is one which is declared by centre or state under Disaster management Act, 2005 to ensure urgency of response and priority of relief

### Mechanisms

1. Ensures release of National Disaster Response funds to centre, states to respond
2. Necessary powers to notify "Essential commodities" under ESMA for public relief
3. NDRF forces may be used for civilian aid
4. Imposition of curfews etc becomes easier

### COVID 19

1. Funds released helped ease demand-supply mismatch for medical O<sub>2</sub> etc.





Also enabled  
states to  
use SDR  
fund.

2. Imposition of curfews and social distancing in public places
3. Reduced inter-state movement of people — helped reduce spread of disease

### Issues

1. Non-coordinated approach of states — each dealt in own way, at diff pts of time
2. Non release of funds in time — large no. of deaths  
 ↳ PM CARES funds had to be put in to augment efforts
3. Non humanitarian approach — public beatings in Bihar ⇒ police state approach
4. Could not deal with migrant labour exodus

overall  
you attempted  
well, also covered  
issues.

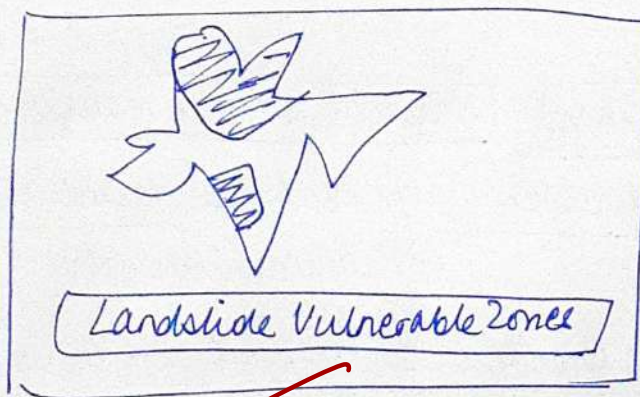
Humanitarian approach along with coordination are lessons to be learnt for the future use of the act.

5



Q4.

Landslides are caused by sudden movt.  
of land under force of gravity causing  
loss of public property and lives



Good  
description  
to  
improve  
such questions

### Reasons

1. Tectonic activity in Himalayan region causes  
instability and crust faulting  
→ Sudden movt are common
2. loose debris, glacial till → easier to move
3. steep slopes of Himalayas, western ghats  
→ Higher pressure of gravity

Need to  
describe  
some  
anthropogenic  
factors as  
well.

Flash rains in w. ghats → gravity  
movt of land aided by soil erosion



5. Glacial lake outbursts in Himalayas ~~cause~~  
land move.

6. Climate change aided glacial melt  
→ flash floods (Chamoli 2021)  
causes landslides

### Measures

### National Disaster management policy

(A) Pre disaster

(1) Landslide Hazard mapping

(2) Community drills

(B) During Disaster

(1) Targetted aid to vulnerable

(2) Shelters

(C) Post disaster

(1) Satellite data analysis

(2) Build back better infra

### Others

(D) Glacial lake damming

→ community afforestation → erosion →  
landslides

→ No construction zones in hazardous areas

→ land embankments to reduce land from

NLRMP  
Developing  
Early  
warning  
system.

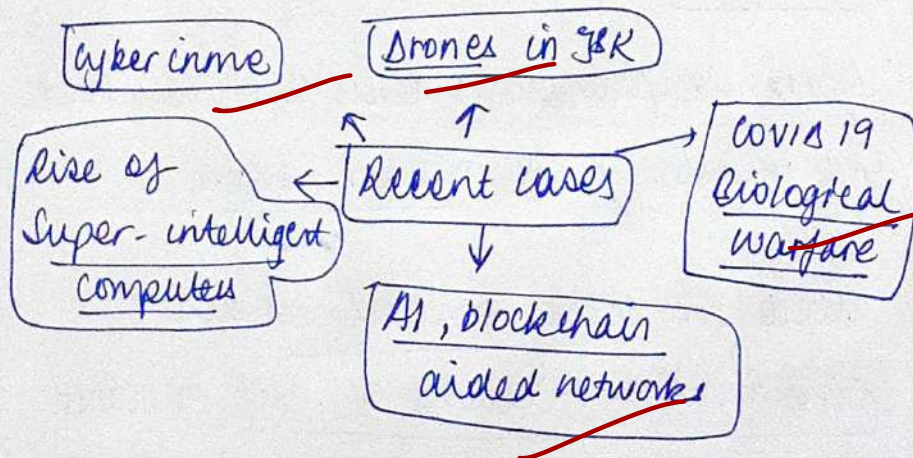
13.5

Anthropogenic  
factors are  
min ed.





Q10. Security is no longer just about armed  
forces → it has turned into a highly  
technology intensive, competitive and lethal  
field creating several asymmetries



Used.  
But  
Include more  
aspects of  
security  
↳  
climate  
change,  
migration,  
Disasters  
etc.

### Need for Reforms

1. Weaponisation of subline entities ex  
Biological agents
2. Trans-national nature of threats - need for  
globally coordinated approach
3. Cyber-physical systems investment  
needed to keep data grids safe



1. Adequate data privacy needed in era  
of data colonialism

1. Re-calibration of old weapons systems  
for new threats ex Airforce needs drone  
interceptors

6. Space weaponisation needs to be countered  
and invested in ex mission shakti

7. Need for inter-connectedness across  
crime monitoring sections of govt ex citrus

to deal with connected nature of crime

cyber infused warfare is reality of today

need to amp up from current 0.67%

gov expenditure

"survival of fittest" theory beckons

us to invest into security for the future

to ensure the sovereignty and integrity of our  
nation

Argue for  
a national  
intelligence  
co-ordination,  
skilled  
workforce  
direct  
recruitment to  
hill  
sharhugie

2.5



## SECTION B

Q11.

"Dark web" and "Dark Net" are referred to the part of internet which is not searchable with usual servers, and is used as a platform for crime, trafficking, terror finance and international smuggling.

Surface web 20%.	→ google <u>searchable</u>
Dark web 60%.	→ cash receipts, <u>hospital records</u>
Deep web 20%.	→ <u>illegal transaction</u> <u>Pornography</u>

Can also  
be used  
for  
positive  
purposes

### Existing framework

1. IT Act, 2000 and IT Rules, 2021
2. POCSO Act - against child pornography
3. CrPC, 1973 - against trafficking, pornographic representation

as it  
provides  
anonymity

### New challenges thrown open

1. Trans-National flow of data - difficult to administer one area's norms on content from elsewhere





Good  
Coverage  
of  
issues.

2. Cryptocurrency - enables anonymous  
transactions online : ~~difficult to track~~

3. Lack of Human Resources - to deal with  
specialised servers used in dark net trans-  
actions ~~ex~~ The Onion Ring

4. Obsolete Criminal tracking networks which  
is un-integrated across multiple agencies

5. new grounds for trafficking - done via  
informal networks which are invisible to  
traditional surveillance

6. Rise of Supra-national organisations like  
ISIS → cross country buying/selling of  
sex slaves for sustaining and attracting  
young men into their fold

Way forward — Holistic Legislation

1. Drafting a basic minimum law based on  
international consensus to deal

↳ as Dark web is a globally operating  
entity





2. Information tech should be fused into traditional policing

→ ex A1 for hotspot mapping of illegal trade

3. Regulating crypto currencies to ensure it doesn't fund illegal activities

4. Use of social media to track and trace criminals and runners of criminal nexuses

5. Community and child awareness to guard against the lure of entering deep web  
ex Shark games which caused child deaths globally

6. Personal data protection bill should have

*Argue for a more comprehensive law well informed by*  
more clarity in definition to deal with deep fakes, phishing attacks

Enhanced cybersecurity via HR development as and effective legislation.

With 600 million internet users and 54%

population below 25, Indian youth must

not be allowed to be taken advantage of

by anti-social elements on dark net



Q12.

"Fintech firms" are a fast-rising type of businesses which leverage technology to offer various financial services to its buyers. PayTM, GPay, CashKaro are examples.

Need short  
you mentioned  
examples.

Fintech firms	Traditional firms
1. massive <u>use of Tech</u> to offer <u>solutions</u>	1. <del>Bank</del> use <u>traditional banking methods</u>
2. mostly use <u>internet</u> and <u>mobile apps</u>	2. usage of <u>brick and mortar</u> offices
3. <u>Easily scalable globally</u> on <u>click of a button</u>	3. Requires <u>user to be physically present at location</u>
4. Being <u>promoted</u> by govt for <u>Financial inclusion</u> and <u>digital literacy</u>	4. Witnessed promotion in <u>1970s</u> ( <u>Bank Nationalisation</u> )
5. Issue of <u>digital divide</u> in access	5. Issue of <u>literacy divide</u> — as requires <u>basic use of numeracy, writing</u>

you  
highlighted  
differences  
well.



## Opportunities

1. Cashless economy after 2017 demonetisation  
is pushing more people to fintech
2. High data usage — at 10gb per capita  
per month → easily accessible
3. Complements financial inclusion — as solutions  
available even while at home  
→ women, elderly included
4. Leverages Industrial Revolution 4.0 — via  
use of tech to give Speed of financial  
transactions

5. Removes middlemen like brokers, cashiers  
also dealing with fiscal products

6. Promotes rural savings via ease of  
access — higher savings available to  
rural

7. Use of technology is boosted → creates  
digital literacy

8. Remote places are no longer excluded  
in case of bank-era (underserved areas)  
balanced growth  
etc

Lead,  
can also  
work  
opportunities  
with  
facilitating  
loans to

more  
financial  
inclusion  
etc



## Challenges

1. Digital divide - only 20% rural houses have computer, and only 7% have net  
→ access is an issue

2. Asymmetry in device ownership - like women don't own mobiles as much → asymmetric access

3. Low internet penetration due to slow pace of BharatNet project

4. Phishing, cyber attacks - India is 2nd most vulnerable to these → reduces public trust

5. Low human interface creates trust deficit

which hinders adoption of tech

→ vs personal contact with bank agents  
→ lifelong bond

Fintech firms are here to stay and may well become a force of financial inclusion, but with adequate internet penetration, data protection and trust.

lawfully, good attempts

7





Q13.

Organic farming in India makes up 8% land area, 2% farm output, with world's largest number of organic farms in India.

### (Advantages of organic farming)

1. Environmental sustainability due to reliance on bio-organic pesticides etc.
2. Reduces land degradation (30% India's land is degraded, UNCCD) by maintaining soil moisture (mulching etc.)
3. Groundwater usage is minimal
4. Addresses rising global demand for healthy food
5. Health outcomes are better due to non use of chemicals for ripening etc. (carbamides)

Good, but  
you focused

largely  
upon



Environmental  
and health

benefits

Also, discuss how  
it may also lead  
to more  
productivity?



### \* Recent Steps

1. Paramparagat Kishi Vikas Yojana
2. Mission organic Value chain developed
3. Participatory certification scheme
4. 2BNF push (budget, 2019)

### Issues with Andaman & Nicobar LAC scheme

1. Threat to fragile ecosystem based on mangrove forests, near coastal zone
2. Reduces biodiversity by converting land into agricultural land ex Palm oil cultivation (Indonesia)
3. Declining yields have been experienced in Sikkim
4. Threat of Bio-pesticides going wrong - Rise of incidents of murder hornets (VSA) used as bio pesticides ~~as~~ have raised alarm bells  
→ threat to Wildlife
5. Presence of indigenous tribes - Jarawas, Oronge, Chongens have only 80-240 people left → introduction of large scale farming may interfere with way of life





Want part has covered  
also been  
white organic farming may help replenish  
soils overused by traditional farming (10615)  
it must be applied intelligently to ensure  
biodiversity is not endangered

6  $\frac{1}{2}$

but like 1st part  
better with agricultural  
productivity on small.





Q14.

It is estimated that by 2050, 21 of Indian  
megacities will run out of ground water which  
has fallen by 60% b/w 2007-17, and with  
17.5% blocks as 'critical', India's water stress  
is imminent

Good use of data.

### Causes

1. overuse of groundwater - 90% is used  
by agri sector → inefficiency in water use  
planning
2. Non use of traditional knowledge ex Bunds,  
Baolis for water harvesting
3. Untreated wastewater from industrial  
discharges causes further pollution  
ex Rishikesh polluted due to pharma sector

Use of well Lack of water harvesting - only 7% water  
is harvested in India





5. over-reliance on water intensive exports -  
Rice exports use 6-7 times more water

6. Global warming has raised droughts in  
west India  $\Rightarrow$  water scarcity

7. Sam mismanagement causes floods and  
droughts alternately  
 $\hookrightarrow$  Chennai floods, 2019

8. Urban flooding due to urban heat island  
causes polluted sewage water to mix  
with other water  $\Rightarrow$  non-harmtable

9. Double-burden of water stress on women  
due to child care responsibilities, duty to fill  
water tanks for home

10. Regional inequality in water availability  
is being exacerbated

$\hookrightarrow$  Rajasthan, Marathwada : Farmer  
Suicides due to droughts

Also  
relate  
with  
population  
growth





## ★ Govt. Efforts

1. Atal Bhujal Yojana
2. National water policy, 2000
3. Water Information System
4. River Interlinking Scheme
5. Har Ahar Jal Yojana
6. Swachh Bharat Mission

Can mention purpose of a few schemes.

## Issues

Despite best efforts, situation needs further improvement due to issues like:

1. Lack of behavioural change - affluent families often misuse water
2. Skewed cropping pattern due to MSPs doesn't favour drought resistant millets
3. Lack of investment in micro irrigation causes reliance on water intensive techniques
4. Centre-State disputes causes River-water tribunals being ineffective (Cauvery dispute)
5. Competitive Federalism reduces scope for cooperation via River interlinking





6. Lack of R&D into drought resilient seeds,  
new flushing methods, water desalination  
as India spends only 0.67% on R&D vs  
USA, China (3-6%)

While govt. has tried to overcome the issue,  
having tech-driven, cooperative and  
holistic approach ~~alone~~ will ensure

Overall  
good.

Sufficient water availability and associated  
good health (SDG 3), sanitation (SDG 6)

But ~~bring~~ gender equality (SDG 10)

to describe  
state of water  
security in India  
in more detail -

6½





Q15) E-waste refers to end-of-life waste electric  
and electronic equipments like used computers  
etc. which remain un-recycled.

★ Scenario

- in 2018-19, only 10% of E-waste are collected.
1. 2<sup>nd</sup> largest e-waste generator - 3<sup>rd</sup> behind U.S and China.
  2. only 20-25% waste recycled
  3. 85% recycling by informal units
  4. Large scale groundwater leaching of toxins like mercury lead from waste

E-waste management Rules, 2016

1. Extended producer liability to collect back waste equipment for recycling
2. E-waste recycling plan at district-level
3. E-waste segregation and recycling units
4. Buyback / deposit scheme for customers when they return waste equipment for recycling

+ PRO  
Phase wise  
Collection  
Targets were also introduced.





## Performance

1. limited effect due to non-maintenance of e-waste plans at each level  
↳ diets. planning committees donot meet
2. Lack of awareness among youth and letishism → not addressed by policy  
↳ People buy new smartphones, even if no need → new waste
3. Informal value chain causes poor recycling methods → hazard to waste workers ex Silicosis
4. No funds for setup of ewaste plants — creates kunden on companies  
↳ Raises costs / disincentivises recycling
5. Usage of non recyclable materials causes limitations in re-use
6. No insurance policy for waste workers (ex Safai Karmachari insurance)  
↳ hazard to life

ed  
Coverage  
of  
inves.





With a population of 600 million internet  
and smartphone users, India has the  
potential to turn e-waste into e-gold  
if tenets of circular economy and  
responsible production & consumption  
(SDG12) are followed.

Good  
understanding.

7

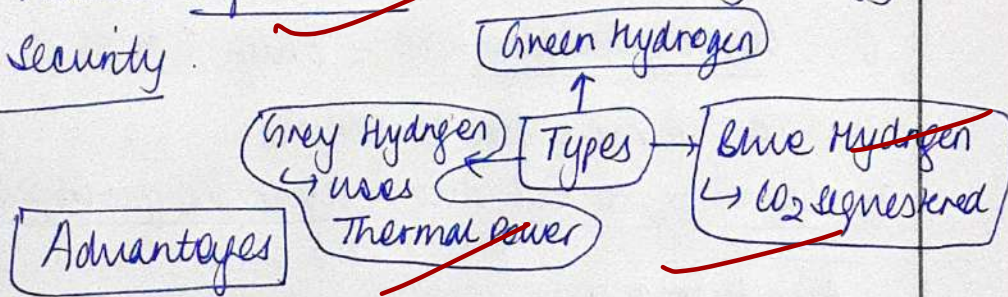




Q16.

India is tented to double her energy  
needs by 2050. Given our import  
dependance of 85% on oil and 60% for gas,  
hydrogen fuel is an opt choice to  
reduce import bill while ensuring energy  
Security.

Introduced  
very  
well



1. Abundantly available - Hydrogen is  
most widely available element.
2. Green energy - usage of Green hydrogen  
uses electrolysis of water via renewable  
energy.
3. No emissions - hydrogen fuel only  
creates water as byproduct

Good → Health benefits, no easier to  
meet CO2 NSCs





4. Use in defense tech — as hydrogen  
fuel equipment is lighter → can be used  
for faster mobility.

5. Multiple usages — is Both as fuel cell  
as well as internal combustion

*Better efficiency well.*  
6. Lesser charging time — only 5 mins vs  
25-30 mins for e-vehicles.

7. Lower import bill due to lower oil, gas imports

### Disadvantages

1. Highly combustible — accident-prone

2. Requires cryogenic compression — to  
reduce its volatility

→ higher tech used

3. Needs more investment

4. Grey and Blue Hydrogen (uses thermal  
power for generation) is not "green" as

*Expensive, produces combustible fumes  
it also depends on fossil fuels*



### measures by govt.

1. Hydrogen fuel policy, 2000 - first step towards hydrogen energy
2. H-CNG buses in Delhi, using Hydrogen blended CNG
3. Hydrogen fuel cells PLI scheme
4. PSL target in clean energy
5. FAME II scheme for Hydrogen fuel vehicles
6. Delhi - Delhi bus route to have 8 hydrogen buses fueled buses.

In order to fulfill its commitment of reducing energy intensity of GDP by 33-33% by 2030 and meet SDG goal 13 (climate change), govt. is taking necessary steps for all needed development of this new technology

By and you  
large  
attempted  
this answer very  
well.

7 1/2





Q17.

AI and related technologies like Deep learning, machine learning etc. are expected to usher in Industrial Revolution 4.0, and India with a large, young and skilled population is posited to be benefited from it.

### Strengths and Opportunities

1. Greater user experience - via recommendation for songs, products using AI algorithms  
↳ Businesses, Startups can grow
2. Disaster management is easier by identification of hotspots, prediction of cyclones
3. "Complementary labour" in form of Robots ease workload in hazardous situations  
ex Sandvikot Robot for waste cleaning





4. Faster development of new tech like vaccines, frontier tech devices etc. has shortened testing time ~~on~~ COVID 19 vaccine

5. medical usage - like prediction of rare diseases using genetic ~~sequence~~ analysis

6. Terrorism can be handled better alongwith trafficking, money laundering & analysis of transactions data of tax returns etc.

7. Emotional and Psychological support can be extended via humanoid AI based bots for the elderly, depressed

However, without large scale adoption strategies AI may be a force of greater social divide :

1. Digital divide may be widened as people without access fall behind

2. Global North vs. South divide between

Good,  
can  
also  
mention  
its  
usage  
in

Agriculture,  
transport  
section.



rich and poor may deepen as more AI-  
based systems are used due to costly  
tech.

3. Privacy concerns can give ~~rise~~ to AI-  
hesitancy and cybercrime

↳ Deep fakes

4. Criminal networks may easily hack onto  
virtual network based governance systems

+ Jurisdiction  
issues,  
5. Rise of 'Superhumans' - are feared for the  
consequences on human race's survival

more  
consumption  
of  
energy etc.  
6. Data Colonialism - may happen due to  
lack of effective data legislation

↳ large data generating countries may lose  
(like India) for the benefit of users in USA

"Data is the new gold" in an AI based  
economy, which is soon approaching. The  
benefic side of AI can surely be enhanced  
by use for the greater good, possible  
only if effective national, transnational policies  
are in place.

6  $\frac{1}{2}$

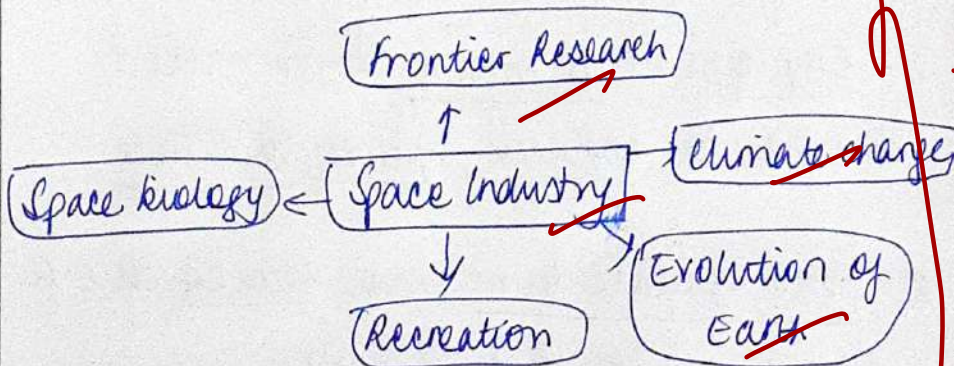




Q18.

The recent manned space flight by Virgin Atlantic, a private aerospace firm, has ushered in a new era of growing footsteps of private capital into space industry

Good that you linked info with recent examples



### Impact of Private participation

1. Raises investments into the area  
 ↳ earlier, only national govt had ones  
 ↳ fiscal burden
2. Encouragement to new R&D — as more and more firms enter, seeing profits
3. Boost to competition — govt-backed enterprises like ISRO will have to stand up to enhanced





## competition

4. New domain of recreation - as private firms will like to encash upon human flights for profits

→ enhances quality of life

5. Employment generation from raised demand for engineers, pilots, scientists

6. Issue of space debris may worsen due to

increase in no. of missions

Concerns  
can be  
mentioned  
separately.

→ Space debris is already a threat to existent space assets

7. New space divide as already developed countries like USA are likely to have more firms investing in the area

ex Elon Musk's SpaceX, Virgin Atlantic are both USA based

+ security  
concerns for  
countries due  
to data  
leakage





## Steps in India

India has 2% share of global space industry with USD 1.3 billion invested (1/20<sup>th</sup> of USA).

1. New Space India Ltd. — new entity to allow transfer of tech to pvt firms
2. InSpace — for info sharing and joint development
3. Antrix — private wing of ISRO for commercial development in space industry
4. Space business incubators encouraged in IITs and IIITs to raise space startups

Govt steps  
are  
described  
well

5. PRARAMBH — Startup India Summit —  
platform for show casing

6. New Science, Tech and Innovation Policy,  
2021 — encourages space education.

With highly skilled labour and zeal for space dominance, India is bound to do well if the private sector's finance, professionalism and zeal is effectively harnessed.



Q19.

With roughly 85% of Indian landmass  
prone to some type of disaster, disaster risk  
insurance takes centre-stage.

### ★ Disaster Risk in India

1. 67% land prone to drought
2. 56% land prone to earthquakes
3. 12% prone to flooding

Good that  
you highlighted  
India's  
vulnerability.

### Need For Disaster Insurance

1. Growing volatility and uncertainty of  
disaster due to climate change  
ex cyclones in Arabian Sea

2. New disasters like nuclear leakage,  
Cyber threats / hacking of govt networks  
→ not adequately covered under  
Disaster Management Act, 2005

3. Vulnerability of the poor is high as agriculture  
(employs 42.5%) most vulnerable  
→ locust attacks, only 50% area irrigated





4. Trans-national nature which cannot be  
effectively managed within national Jurisdiction

5. Low insurance penetration at only 1.4% GDP

6. Double burden on women, elderly due to  
Social hierarchy

7. Resilience in supply chains is needed,  
risk management is crucial to ensure

8. Effective food security to feed 1.3 billion  
people

9. Lessen gap between haves—have nots which  
is exacerbated on disaster occurrence

### Significance of the program

1. Vulnerable Sections have special provisions  
to mitigate double burden

2. Raises resilience of agriculture by ensuring  
income of farmers

3. Ensures basic min. std. of living by  
people even on occurrence of disaster

Need to  
come in  
with  
significance

4  
already  
mentioned  
under  
the  
programme



I. Humanitarian approach

6. Timely disbursement to avoid penalty

risk finance,

The Sendai framework for disaster risk

reduction and charter of coalition for

disaster resilient infrastructure must be kept

in mind when furthering cause of disaster  
insurance

5

you have  
general  
understanding,  
But specifics  
have been  
mined in  
part.





Q20 - Recent allegations post COVID-19 pandemic outbreak on China having used SarsCoV-2 to break the back of competition has raised concerns on the issue of Bioterrorism or, usage of biological agents to destroy the enemy ex Anthrax scare, 1970s USA

used  
beginning

Issues and concerns

1. Ethical concerns - biologically sublime species being used to kill the other is against law of nature

2. misuse - can not be easily traceable

3. Trans-national spread is easy, given era of globalisation

→ difficult to control spread

4. Genetic mutations may occur which may destroy species for ever

5. Zoonosis may lead to culling of animals large scale ex Wombats, bats killed in Denmark

Need  
to highlight  
more issues  
for India

India sharing  
boundary with  
neighboring countries

inadequate  
laboratories in India





6. Food security may be compromised by  
use of ~~seeds~~ terminator seeds, toxic  
fertilisers

### measures to tackle

1. Effective legislation to define biological  
disaster

2. SOP must be fixed to ensure proper  
line of command

3. Use of technology to predict attacks  
using AI and deep learning.

Resilience should be built via surveillance  
in health systems and R&D in ~~rese~~

farming sector to develop resilient produce

5. Global consensus and provisions for fixing  
liability via International court of Justice  
must be developed

"Prevention is better than cure." India must  
take cue from COVID 19 and prepare for the  
future.

Argue to  
build  
infrastructure,

Developing

Common

reporting  
standards etc

6 1/2

