

357 Hurricane Day21 26/07/2022 Env, DM

Q1 'The development of a resilient ecosystem depends on many factors, including many limiting factors'. Substantiate with examples. (10)

Q2 What is the meaning of vulnerability in disaster management? Assess India's vulnerability and preparedness for Heat waves and Cyclones (10)

Q3 'Environmental Protection Act, 1986 was a very significant step in India's environmental conservation journey. However, the time has come to review this Act'. Do you agree? Examine. (10)

Q4 What is light pollution? Why is it emerging as a significant concern in recent times? (3+7)

Q5 Bring out the interlinkages between Environmental conservation and Disaster management. Do you think an integrated approach in handling both the issues can help in better tackling of both? (15)

Q6 'Preparedness of communities can significantly lessen disaster impact, especially in terms of the loss of lives'. In light of this, bring out the importance of community-based disaster management in India and India's progress on that front. (15)

Q7 Assess the contribution of vehicles in air pollution in India. What are the emerging Greener alternatives? Are they really 'Green'? (15)

Que 1

Zoonotic diseases are the diseases caused and spread from animals to humans through pathogens like virus, bacteria, etc.
Some of the examples - COVID-19, Monkeypox.

Yes, the risk of zoonotic diseases is increasing.

Reasons :

- o) Increased human travel.
- o) Increased animal trade and trafficking
- o) High demand of pet animals.
- o) Poultry farms at houses → Potroflu
- o) Lack of awareness regarding the diseases.
- o) Hygiene and sanitation issues among people.

Steps that can be taken)

1) Proper sanitation and cleanliness
Eg: Promoted during covid-19.

2) Distance from the risky
animals especially unvaccinated
dogs → that can cause Rabies.

3) Regular washing off hands when
visit outside.

4) Use of Masks around animals
like swine flu cases through pigs

5) Regular testing and prevention.

With increasing cases of monkey
fox around the world, high
time that we follow these steps
and provide the concept of WASH.

Ans 2

National Science Congress has been a significant event in India's past especially when IISc were set up.

Significance

- o) They highlight the importance of scientific research and development
- o) Motivates the youth to take up future in science.
- o) Promotes scientific temperament, one of the fundamental duty as well.
- o) Shows the achievements and prospects of country in space, defence, technology
- o) Improve scientific culture of the country

Losing Significance

- However, the congress seems losing its importance due to:
 - Irregular summits
 - lack of research and development
 - inability to ensure gender-neutral development in science, space.
 - lack of motivation among the stakeholders
 - Brain-drain forcing people to move abroad.

Despite this, it's not merely ornamental, there are still continued relevance. Infact ISRO promoting courses and promotion of STEM in our country.

Ans-3

Indigenous Technologies are the native technology built by local people, communities, citizens -

Contribution of Indigenous Technology

① Medical sector

It has been known for its use of Indigenous technology.

AYUSH → especially during covid-19 → various kaadha techniques. Unani Medicines, ayurveda has been the important contribution.

② Mithicool fridge

Developed by Mansukh who was addressing problem of water in hot summers, developed this concept so as to ensure cool drinking water to the village people. That matka is known for keeping water clean.

③ Agni Missile and Tejas

They have been the innovation of India in defense sector → by DRDO.

④ INS Vikrant

India's own independently developed submarine helpful in defense sector is another example.

However, there is much more to go as only 5% is spent on ~~the~~ research and development but India is promoting Indegization of technology.

Ans. 4

Hydrogen energy is the energy derived from the hydrogen gas as it is considered highly potential.

It is produced by one help of Hydrogen fuel cells by coupling hydrogen and oxygen so as to produce electricity, heat, power.

It is used in petroleum, fertilization and new energy as a concept in transportation and other utilities.

Reasons of emerging Hydrogen Energy!

- 1) high energy density even more than coal and petroleum.
- 2) can decrease import bill of India because of oil dependency reduction.

- o) Environment friendly → help in achieving net zero target of 2070
- o) No vehicle emissions as compared to conventional fuels.
- o) Fuel economy is more than petrol, diesel.
- o) Renewable source of energy and is abundantly available

However it has a problem of storage and transportation but can be solved with proper drafting of Hydrogen Policy.

Hydrogen holds a strong potential for change in energy hence needs to be promoted so as to achieve the visions of Paris Agreement.

Ans. 5 Augmented reality is the technique in which a person remains connected to physical world whereas Virtual reality is a technique in which a person delves into the virtual world losing connection with the original surroundings.

Virtual space has been expanding its horizon :-

- o) Increased digital revolution.
- o) More involvement in games like Blue whale.
- o) Increased sphere of Metaverse especially in facebook and Instagram.
- o) Due to Increased smartphones users and digital penetration.
- o) To hide ~~anonymous~~ real identity and build up unique avatars.
- o) To make new connections in outside world especially during Pandemic.

~~However, there have~~
*) Promotion by Great Businessmen
like Mark Zuckerberg, Elon Musk
so as to expand its scope.

*) Useful in medical sector to
diagnose diseases

*) Used by scientists for research,
development, in order to understand
space phenomenon.

*) A tool for increased off awareness
especially in environment sector.

However, along with its use, it
pose various challenges.

Challenges

*) ethical concerns because of
privacy issues and other immoral
acts. Example: killing in Peru
whale game.

- o) Destruction to demographic dividend
by diversion of youth minds to
other areas like criminal acts.
- o) Cross-border terrorism, money-
laundering through virtual space.
- o) Obsenity and sexual abuse. There
was an incident of virtual rape.
- o) Child Pornography o
- o) issue of anonymity

Hence every technology comes
with its pros and cons which
need to be used judiciously.

U.P.S.C.

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Ans. 6

Non-Fungible Tokens are the cryptographic entities built using blockchain technology with unique numbers so as to distinguish from others.

With the increasing use of block chain-technology, there has been growing significance of NFTs.

Importance of NFTs

- 1) Market efficiency : These are efficient while transactions because of removal of physical assets.
- 2) Commercial transactions like other related currency in real-estate, etc.
- 3) Investment . NFTs can be used in Investment.

- 4) Increase GDP as are helpful in increasing investment.
- 5) Decentralization as these are used in this concept like real-estate, buying land.

Issues in N F T

- 1) Anonymous about who owns the token.
- 2) Misuse for moneylaundering, trafficking, criminal purposes.
- 3) Security whether its safe from hacking or not is unsure yet.
- 4) Scams there are chances of increased scams.
- 5) Volatility in nature and hence

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prone to economic shocks.

However, it can be used through various measures:-

- 1) Proper legislative framework at global and national level
- 2) ethical guidelines regarding use of NFTs.
- 3) legalisation of NFTs for transactions with specific considerations.

Therefore, NFTs do hold an important value, however it comes with own issues which need to be solved.

Ans. 7

The Digital revolution taking place in the millennium generation has brought out the importance of Data Analytics, big Data. It has been compared with one 'oil' which used to be the main feature of globalised world.

Potential of Big Data

- ① Governance : it helps in easy governance with citizen-centric services. for eg. Crisp M, DBT etc.
- ② Digital India : The vision of digital India can be reached through it. as India - 2nd largest smartphones users.
- ③ Equity : It can actually improve accessibility, affordability of a poor, vulnerable person.

④ Infrastructure : can be improved, like health care more preventive, improved medical services.
Eg: e-Sanjeevani

⑤ Advancements with the AI-powered cars, AI devices, etc. like Siri of Apple.

Progress of India

*) Health sector : e-Sanjeevani, ~~Pradhan~~ Ayushman Bharat, Robotics use during covid times.

*) Education sector : digital university (Budget 2022), Smart content,

*) Governance sector : Bhoomi Project of Karnataka

*) Agriculture : drone, PM-Kishti Surachayee Yojana, Smart apps, GI-based mapping

o) Welfare schemes : Direct Benefit transfer, AADHAR, Jan Dhan Yojana, JAM Trinity

However, India lacks due to

- o) Lack of technical manpower.
- o) Informalisation of economy
- o) Lack of research and development
- o) 70% → unskilled people.
- o) digital illiteracy and digital divide

Hence, there is a need to improve. Sri Krishna committee has suggested for Personal Data Protection Bill for meeting ethical and privacy concerns.