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Daily News Discussion (DND)

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1. Polity

1.1. Vaccine passports, and why you may need one soon

- Last month, Israel became the first country to introduce a certification system that allows those who have been vaccinated against Covid-19 to access certain facilities and events
- Israel's "vaccine passport" is meant for public facilities such as restaurants, gyms, and hotels in the country – but certification of this kind has a bearing on the full resumption of international air travel as well.

What are vaccine passports?

- The idea is modelled on the proof of vaccination that several countries required even before the pandemic.
- Travellers from many African countries to the US or India are required to submit proof that they have been vaccinated against diseases such as yellow fever.
- Even though the nomenclature comes from passports, most vaccine passports have been envisaged as digital documents. They are supposed to function as proof that the holder has been vaccinated against Covid-19 and is, therefore, "safe".

Other Initiatives

- The International Air Transport Association – the global trade body representing airlines – is developing an app called IATA Travel Pass that will provide airlines and other aviation industry stakeholders with a common platform to check for the proof of vaccination and its validity.
- Non-profit Commons Project has been trying out an app called CommonPass, which contains a passenger's vaccination record

Whom will vaccine passports help?

- The primary benefit will be to the tourism and the hospitality industries, which are both seen as being at the heart of Covid-19 spread and are the worst hit by the pandemic.
- This includes international air travel, which suffered massively because of the outbreak. However, a major difficulty in implementation will be the lack of uniformity across jurisdictions in requirement and issuance of proofs of vaccination.
- Another key function that vaccine passports will perform is that of digitising vaccination records across countries.

Concerns

- World Health Organisation (WHO) last month batted against the introduction of Covid-19 vaccination proofs as a requirement for international travel as unknowns regarding the efficacy of vaccination in reducing transmission.
- limited availability of vaccines, preferential vaccination of travellers could result in inadequate supplies of vaccines for priority populations considered at high risk of severe Covid-19 disease.

- In addition, several experts have raised privacy concerns. Given that these are mainly digital certificates that are accessed by a particular service provider to check for proof of vaccination, there is a possibility that they would be used by authorities to track the movement of their holders.

1.2. After Mizoram, Manipur offers help to Myanmar refugees

- Manipur Chief minister N. Biren Singh said on Wednesday that schools may be arranged by the State government for “refugees from Myanmar,” but since it was a bilateral issue, they were awaiting directions from the Ministry of Home Affairs (MHA)
- MHA has refused to comment on the future course of action pertaining to the refugees from Myanmar

Basics

- Migrant: Migrants are people who move to another place or country attracted by better life prospects.
- Asylum Seeker: Persons who seek the protection of the government however the claim of refugee is not yet determined. The government is therefore not obligatory to provide rights enjoyed by refugees.
- Illegal Migrant: Illegal migrants are those people who have either entered the country with fake passports, or have stayed after the expiration of their visa

United Nations High Commissioner for Refugees (UNHCR)

- UNHCR, the UN Refugee Agency, is an international organisation working to saving lives, safeguarding the rights and providing a better future for refugees, forcibly displaced communities and stateless people.
- The organisation’s target audience includes refugees, people who are forcibly displaced from their homes, asylum seekers, internally displaced persons and stateless people.
- The UNHCR was established in 1950 in the wake of the mass displacements caused due to the Second World War in Europe.
- The chief legal document that governs the work of the UNHCR is the 1951 Refugee Convention.

UN Convention Relating to the Status of Refugee, 1951

- Defines what the term ‘refugee’ means
- Refugee- A person who is outside his/her country of nationality or habitual residence; fears persecution because of his/her race, religion, nationality, membership in a particular social group or political opinion; and is unable or unwilling to avail himself/herself of the protection of that country, or to return there, for fear of persecution.

Fundamental principles

- Non-discrimination
- Non-penalization
- Non-refoulement.

UN Convention Relating to the Status of Refugee, 1951

- Non-refoulement is a fundamental principle of international law that forbids a country receiving asylum seekers from returning them to a country in which they would be in likely danger of persecution based on “race, religion, nationality, membership of a particular social group or political opinion”
- India is not a signatory to the 1951 Refugee Convention.

1967 Protocol

- The Protocol Relating to the Status of Refugees, alternatively known as the 1967 Protocol, is a major international document for refugee rights.
- The protocol expands the definition of a refugee given in the Convention.
- It also removes the Euro-centricity of the Convention.
- India is not a signatory to the 1967 Protocol

1.3.TV channels warned against violating code

- Acting on the directions of the Karnataka High Court, Bengaluru Police Commissioner Kamal Pant has issued a general order prohibiting all television channels from airing programmes that are not in conformity with the “Programme Code” notified under the Cable Television Networks (Regulation) Act, 1995.
- The order, passed by Mr. Pant on March 9, under Section 19 of the Cable CTN (Regulation) Act, also states that any violation of the order is liable for prosecution under Section 16 of the Act.
- The law prescribes imprisonment up to two years or fine up to ₹1,000 or both for the first offence, and imprisonment up to five years and with fine up to ₹5,000 if any media governed under the CTN Act violates the provisions and the “Programme Code”.
- The code, which contains an elaborate list of don’ts for cable TV channels, states that no programme should be aired that contains anything obscene, defamatory, false, and suggests innuendos and half-truths

Cable Television Networks (Regulation) Act, 1995.

- Object of the Act
- The object of the Act was to regulate the ‘haphazard mushrooming of cable television networks’. Due to the lack of licensing mechanism for cable operators
- The Act aimed at regulating content and operation of cable networks.

Sec 19

- It prohibit any cable operator from transmitting or re-transmitting any programme or channel if, it is not in conformity with the prescribed programme code likely to promote, on grounds of religion, race, language, caste or community or any other ground whatsoever, disharmony or feelings of enmity, hatred or ill-will between different religious, racial, linguistic or regional groups or castes or communities etc.

Sec 16 (Punishment)

- For the first offence, with imprisonment for a term which may extend to two years or with fine which may extend to one thousand rupees or with both;
- For every subsequent offence, with imprisonment for a term which may extend to five years and with fine which may extend to five thousand rupees

Related News

- The Sudarshan News episode came to light after the channel released a promotional trailer, terming the alleged conspiracy “bureaucracy jihad” and “UPSC jihad”.
- Information & Broadcasting (I&B) Ministry has said it cannot pre-censor a programme, or stop it from being telecast

Sec 20

- Section 20 of the Cable TV Networks (Regulation) Act, 1995, states that the government can regulate or prohibit the transmission or retransmission of any programme that it feels is not in conformity with the Programme and Advertising Code, which oversees television content in India
- It also stated that the government was empowered to withdraw licence under Rule 6 of the Cable Television Networks Rules, 1994, framed under the Cable Television Networks (Regulation) Act, 1995, if its directive was violated by the channel.

2. Economy

2.1. Govt. to telcos: buy only from 'trusted sources'

- Telecom service providers will be able to procure equipment only from 'trusted sources' as defined by the government
- The notification, seen as a step towards excluding Chinese telecom equipment makers such as Huawei and ZTE, will come into effect from June 15.
- Service providers have to take permission from the National Cyber Security Coordinator (NCSC) for upgradation of existing networks utilising equipment not designated as trusted products. “
- The government, through the Designated Authority [the NCSC], will have the right to impose conditions for procurement of telecommunication equipment on grounds of defence of India, or matters directly or indirectly related thereto, for national security,” according to the DoT.
- Designated authority shall notify the categories of equipment for which the security related to Trusted sources are applicable.
- For the said categories of equipment designated authority shall notify the trusted sources along with the associated telecommunication equipment (trusted products),” according to the amendment.
- However, these directions will not affect ongoing annual maintenance contracts or updates to existing equipment already induced in the network as on date of effect.
- While the government has not barred procurement of equipment from Chinese companies, it amended the general financial rules (GFR) 2017 to enable the imposition of restrictions on bidders in public procurement from countries that share a land border with India on grounds of defence of India, or matters directly or indirectly related thereto, including national security
- Public companies need to scrap tenders if a qualified bidder is from a country that shares a land border with India, which includes China.

National Cyber Security Coordinator

- In 2014, the Prime Minister's Office created the position of the National Cyber Security Coordinator.
- The NCSC office coordinates with different agencies at the national level for cyber security matters.

Past News

Tech Sagar (an online portal of India's technological capability)

- By National Cyber Security Coordinator's office in partnership with the Data Security Council of India (DSCI)
- It provides actionable insights about capabilities of the Indian Industry, academia and research across 25 technology areas like Internet of Things (IoT), Artificial Intelligence (AI), etc.

Data Security Council of India

- DSCI is a not-for-profit premier industry body on data protection in India, setup by NASSCOM,
- It works in making cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy.

NASSCOM

- is a not-for-profit trade body and chamber of commerce of the Tech industry in India.

3. Environment

3.1. Odisha has most contaminated sites in India: CPCB data

- Odisha topped the list of states and Union territories with the maximum number of contaminated sites, according to the Central Pollution Control Board (CPCB) data

Key Findings

- Of the 112 sites in India contaminated by toxic and hazardous substances, 23 were in Odisha followed by Uttar Pradesh (21) and Delhi (11), the CPCB data released March 7, 2021 said.

Contaminated sites

- are delineated areas in which constituents and characteristics of the toxic and hazardous substances, caused by humans, exist at levels and in conditions which pose existing or imminent threats to human health and the environment
- Contaminated sites often pose multi-faceted health and environmental problems. Dumping or spillage of hazardous wastes or chemicals would adversely impact / affect the surrounding environment, particularly soil, surface water and groundwater and subsequently the people in impact zones.
- CPCB had in 2017 identified Paradip port as one of the most polluted areas of the state
- Black layers formed in fields owing to air pollution and cause damage to crops.
- The groundwater and surface water are equally contaminated, and several people suffer from skin diseases, kidney ailments, cancer and other diseases
- The coal dust generated at Paradip port was not just confined to the port and its nearby areas. Fanned by the winds, the dust spreads to distant areas causing respiratory, skin, kidney diseases and cancer in the populace. The chemical wastes released by plants pollute the air, water and soil.
- The presence of high alkalinity, high ammonia, heavy organic load and a high presence of Biological Oxygen Demand contributed to the death of fish in Paradip

3.2. Planet greening negated global warming, show NASA maps

- The greening of the planet changed the movement of air near the land surface between 2000 and 2014 in ways that offset some warming, the United States National Aeronautics and Space Administration (NASA) has shown in its latest maps.

Key Findings

- Remote sensing scientists from at the Boston University had found in 2019 that vegetation cover increased globally by five per cent since the early 2000s
- The planet has been getting greener in the last 40 years.
- Until now, scientists believed vegetation could alter temperatures at the surface by the way the leaf area changed how much sunlight it absorbed or reflected.
- More greenery can also change how well water can penetrate and be retained by soil and leaves

- In the latest research, however, scientists found that the strongest cooling effect was how the increasing leaf cover led to increased or decreased drag and turbulence in the air above. This meant that the aerodynamic resistance was less with more vegetation
- Extra leaves may also increase the amount of water transpired by plants, thereby allowing even more water to be transferred. The moisture helps carry away a significant amount of heat from the ground level and lead to cooler surfaces

Way forward

- In the fight against climate change, plants are the lonely-only defenders. Stopping deforestation and ecologically sensible large-scale tree-planting could be one simple, but not sufficient, defense against climate change.

4. Science and technology

4.1. How scientists found rare fireball meteorite pieces on a driveway – and what they could teach us

- It was February 28 when a meteorite fell on a driveway in the UK. This meteorite is being described as extremely rare by scientists and will be the target of research to get new insights into the early history of our solar system and life on Earth

Types of Meteorites

Primitive

- The primitive ones come from the solar nebula that gave birth to the Solar System, preserving the composition of this original material.

Processed

- Samples have been altered by heat. They are from larger bodies and contain information about planetary surfaces and interiors.
- The stones that fell over Winchcombe are from the former group – and not only that, they are of a sub-category, known as carbonaceous chondrites – the most pristine (or unchanged) of all meteorites, carrying records of the earliest stages of Solar System history.
- They are rich in organic compounds: the molecules that form the building blocks of life. They also contain tiny specs of dust from stars that have died and are older than the Sun

Traditional classification of Meteorites

- Divided into three broad categories, depending on their structure, chemical and isotopic composition and mineralogy.
 - ✓ Stony meteorites are rocks, mainly composed of silicate minerals
 - ✓ Iron meteorites that are largely composed of metallic iron-nickel
 - ✓ Stony-iron meteorites that contain large amounts of both metallic and rocky material.
- Carbonaceous chondrite is divisions of stony meteorites)

The difference between asteroids and meteorites

- While these rocks originate from space, they have different names depending their location—i.e. whether they are hurtling through space or hurtling through the atmosphere and impacting Earth's surface.
 - ✓ Asteroid: a large rocky body in space, in orbit around the Sun.
 - ✓ Meteoroid: much smaller rocks or particles in orbit around the Sun.
 - ✓ Meteor: If a meteoroid enters the Earth's atmosphere and vaporizes, it becomes a meteor, which is often called a shooting star.
 - ✓ Meteorite: If a small asteroid or large meteoroid survives its fiery passage through the Earth's atmosphere and lands on Earth's surface, it is then called a meteorite.

Asteroids

- Asteroids are found mainly in the asteroid belt, between Mars and Jupiter. Sometimes their orbits get perturbed or altered and some asteroids end up coming closer to the Sun, and therefore closer to Earth. In addition to the asteroid belt, however, there have been recent discussions among astronomers about the potential existence of large number asteroids in the Kuiper Belt and Oort Cloud.
- Asteroids are sometimes referred to as minor planets or planetoids, but in general, they are rocky bodies that do not have an atmosphere. However, a few have their own moons. Our solar system contains millions of asteroids, many of which are thought to be the shattered remnants of planetesimals – bodies within the young Sun's solar nebula that never grew large enough to become planets.
- The size of what classifies as an asteroid is not extremely well defined, as an asteroid can range from a few meters wide – like a boulder—to objects that are hundreds of kilometers in diameter. The largest asteroid is asteroid Ceres at about 952 km (592 miles) in diameter, and Ceres is so large that it is also categorized as a dwarf planet.
- Most asteroids are made of rock, but as we explore and learn more about them we know that some are composed of metal, mostly nickel and iron. According to NASA, a small portion of the asteroid population may be burned-out comets whose ices have evaporated away and been blown off into space. Recently, astronomers have discovered some asteroids that mimic comets in that gas and dust are emanating from them, and as we mentioned earlier, there appears to be a large number of bodies with asteroid-like compositions but comet-like orbits.

Meteors, Meteoroids and Bolides

- Space debris smaller than an asteroid are called meteoroids. A meteoroid is a piece of interplanetary matter that is smaller than an asteroid and frequently are only millimeters in size. Most meteoroids that enter the Earth's atmosphere are so small that they vaporize completely and never reach the planet's surface. When they burn up during their descent, they create a beautiful trail of light known as a meteor, sometimes called a shooting star.
- Mostly these are harmless, but larger meteors that explode in the atmosphere – sometimes called bolides—can create shockwaves, which can cause problems. In February 2013 a meteor that exploded over Chelyabinsk, Russia shattered windows with its air blast. This meteoroid or bolide was estimated to be 18 meters (59 feet) in diameter. In 1908, a rocky meteoroid less than 100 meters in diameter is believed to have entered the atmosphere over the Tunguska region of Siberia in 1908 and the resulting shockwave knocked down trees for hundreds of square kilometers.

Meteorite

- If any part of a meteoroid survives the fall through the atmosphere and lands on Earth, it is called a meteorite. Although the vast majority of meteorites are very small, their size can range from about a fraction of a gram (the size of a pebble) to 100 kilograms (220 lbs) or more (the size of a huge, life-destroying boulder). Meteorites smaller than 2mm are classified as micrometeorites.
- Meteorites have traditionally been divided into three broad categories, depending on their structure, chemical and isotopic composition and mineralogy. Stony meteorites are rocks, mainly composed of silicate minerals; iron meteorites that are largely composed of metallic iron-nickel; and, stony-iron meteorites that contain large amounts of both metallic and rocky material.

- Meteorites have also been found on the moon and Mars and conversely, scientists have traced the origination of the meteorites found here on Earth to four other bodies: the moon, Mars, the asteroid 4 Vesta, and the comet Wild 2. Meteorites are the source of a great deal of the knowledge that we have about the composition of other celestial bodies.

How Often Do Meteorites Hit Earth?

- According to the Planetary Science Institute, it is estimated that probably 500 meteorites reach the surface of the Earth each year, but less than 10 are recovered. This is because most fall into water (oceans, seas or lakes) or land in remote areas of the Earth that are not accessible, or are just not seen to fall.

Summary

- In short, the difference between asteroids and meteors all comes down to a question of location. Asteroids are always found in space. Once it enters an atmosphere, it becomes a meteor, and then a meteorite after it hits the ground. Each are made of the same basic materials – minerals and rock – and each originated in space. The main difference is where they are when they are being observed.

4.2. Fukushima decontamination (For more information DNA)

- Just 15 per cent of the Fukushima Daiichi Nuclear Plant's core area in Japan has been decontaminated a decade after it suffered a catastrophic triple reactor meltdown March 11, 2011, according to a report by non-profit Greenpeace International.

Lesson for India

- India's nuclear establishment had not learnt any lessons from Fukushima or from Three Mile Island and Chernobyl for that matter.
- Newer units are being added to Kudankulam, Jaitapur, Kaiga, Tarapur and Kalpakkam without popular debate or public consultation. The more units we have, the more possibility of accidents like Fukushima.
- India's ability to handle such situations was really bad. If Japan, a scientifically advanced and politically stable country could struggle, one could hardly fathom what the situation would be like in India if something happened here

4.3. Seven new cases of Kala-azar reported in one week in Bihar's Muzaffarpur

- Seven new cases of Kala-azar or Visceral Leishmaniasis have been reported in the last one week in Bihar's Muzaffarpur district, casting serious doubt on the state government's efforts to eradicate the disease in the state by 2022.
- Bihar has already missed the Kala-azar elimination target four times since 2010. The first deadline was 2010, under the National Health Programme, followed by 2015. It was later extended to 2017 and 2020 due to the government's failure to eliminate Kala-azar.
- This is a disturbing development as the spraying of insecticides (for killing sand flies) is going in about 380 villages spread across all blocks of the district under the Kala-azar elimination plan.

About Leishmaniasis

- Leishmaniasis is caused by the protozoan Leishmania parasites which are transmitted by the bite of infected female phlebotomine sandflies.

Transmission

- Leishmania parasites are transmitted through the bites of infected female phlebotomine sandflies, which feed on blood to produce eggs.

Types of leishmaniasis

- Visceral leishmaniasis (also known as kala-azar, black fever, and Dumdum fever) which affects multiple organs and is the most serious form of the disease.
- Cutaneous leishmaniasis, which causes skin sores and is the most common form.
- Mucocutaneous leishmaniasis, which causes skin and mucosal lesions.
- Signs and symptoms include fever, weight loss, fatigue, anemia, and substantial swelling of the liver and spleen

Affects

- The disease affects some of the poorest people on earth, and is associated with malnutrition, population displacement, poor housing, a weak immune system and lack of financial resources.
- Leishmaniasis is linked to environmental changes such as deforestation, building of dams, irrigation schemes, and urbanization

Past news

- The only drug available against leishmaniasis, miltefosine, is rapidly losing its effectiveness because of emerging resistance to this drug due to a decrease in its accumulation inside the parasite, which is necessary for the drug to kill the parasite.
- Specific types of protein molecules, called transporter proteins, play a major role in carrying miltefosine into and out of the parasite's body, which comprises a single cell.
- A protein called 'P4ATPase-CDC50', is responsible for intake of the drug by the parasite, and another protein, called 'P-glycoprotein', is responsible for throwing this drug out from within the parasite's body.
- A decrease in the activity of the former protein, and an increase in the activity of the latter results in less amounts of miltefosine being accumulated inside the parasite's body, thus causing it to become resistant to the drug.
- The research group used computational methods to design small molecules, called peptides.
- The peptides were designed to modulate the transporter proteins "allosterically", i.e. by interacting with the protein molecule at a location other than the specific location where miltefosine binds to it.

Current affairs Worksheet (11 March 2021)

Factual sheet for Quick revision

Topic	Description	Update
Env	Contamination site BOD CPCB Forest and Global warming	
SnT	Comet Asteroid Meteoroid Meteor Meteorite Nuclear disaster Fission vs Fusion Kala Azar	
Polity	Vaccine Passport Refugee convention 1951 & Protocol 1967 Cable Television Networks (Regulation) Act, 1995.	
Economy	National Cyber Security Coordinator Tech Sagar Data Security Council of India NASSCOM	