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# Daily News Discussion (DND)

17th-19th April 2021

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### Note -

- The Newspaper clippings pasted in PDF are important from Mains point of view as it contains the fodder material for Mains Answer Writing.
- Also watch DND video lectures everyday @ 4 PM on Sleepy's YouTube channel in order to understand how to get the most out of everyday's Newspaper .

Click [here](#) to watch the following topics on YouTube

# 1. Science & Technology

## 1.1. Class effect

- Scientists at Johnson & Johnson refuted an assertion in a major medical journal that the design of their COVID-19 vaccine, which is **similar AstraZeneca's**, may explain why both have been linked to **very rare brain blood clots in some vaccine recipients**.
- The U.S. earlier this week paused distribution of the J&J vaccine to investigate six cases of a rare brain blood clot known as cerebral venous sinus thrombosis (CVST),

### Similarities

- The **blood clots in patients** who received the J&J vaccine bear **close resemblance to 169 cases in Europe reported with the AstraZeneca vaccine**, out of 34 million doses administered there.
- Both vaccines are based on a new technology that uses a **modified version of adenoviruses**, which cause the common cold, as vectors to ferry instructions to human cells

### Differences

- **J&J vaccine uses a human adenovirus** while the **AstraZeneca vaccine uses a chimpanzee adenovirus**.
- **The J&J shot also includes mutations to stabilise the so-called spike protein portion** of the coronavirus that the vaccine uses to produce an immune response, **while the AstraZeneca vaccine does not**.
- Class effect is usually taken to mean **similar therapeutic effects and similar adverse effects**, both in nature and extent. If such a class effect exists, then it makes decision-making easy: you choose the cheapest.
- Criteria for drugs to be grouped together as a class involve some or all of the following:
  - ✓ Drugs with **similar chemical structure**
  - ✓ Drugs with **similar mechanism of action**
  - ✓ Drugs with **similar pharmacological effects**

## 1.2. ARIES facility will host the support centre for Aditya-L1

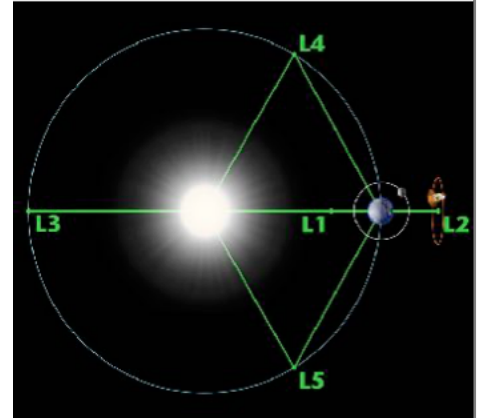
- The Indian programme to study the Sun and the region between the Sun and the Earth from space – Aditya-L1 – is due to be launched next year.
- It will carry seven payloads which have been developed by various institutions across the country.
- Once the mission is launched, there will be a need for a ground support centre to monitor and coordinate the work on its various payloads.
- **This role will be played by the ARIES facility** (short for Aryabhata Research Institute for observational Sciences) which is situated near **Nainital**.

## Guest users

- Researchers who may **not even be associated with core Aditya-L1 team** will be able to book a specific payload to conduct observations for a particular time.
- Any PhD student or postdoctoral fellow in a research institution can submit observing proposals through the online proposal submission system.
- The main aim of this centre is to let every researcher in India perform analysis over scientific data obtained from Aditya-L1.

## Aditya L1

- It will be launched using the **Polar Satellite Launch Vehicle (PSLV) in XL configuration**.
- study the **Sun's corona, solar emissions, solar winds and flares, and Coronal Mass Ejections (CMEs)**, and will carry out round-the-clock imaging of the Sun.
- **Aryabhata Research Institute of Observational Sciences (Estb 1954)**



✓ ARIES is a leading research institute which specializes in **Astronomy, Astrophysics and Atmospheric Sciences**.

✓ It is an autonomous body under the Department of Science and Technology (DST), Government of India.

✓ It is situated at **Manora Peak, in Nainital, Uttarakhand**.

## 1.3. The 'whitest ever' paint that can reflect 99% of sunlight

- Engineers from Purdue University in the US have created what they are calling the **whitest paint yet**.
- Buildings coated with this paint may be able to **cool them off enough to reduce the need for air conditioning**, the researchers have said

### What is the whitest paint?

- The team of researchers at the university created an ultra-white paint in October pushing the limits of how white paint can be. This **older formulation was made of calcium carbonate, while the new one is made up of barium sulphate, which makes it more white**
- The team has also claimed that this paint may be the closest equivalent to **the blackest black paint called "Vantablack"** that is able to absorb up to 99.9 per cent of visible light.

### How do we see colours and what determines if a colour absorbs or reflects light?

- **Whenever an object is seen by the eye**, it is either because of sunlight or the artificial light in the room.
- This light is made up of seven different colours (Violet, Indigo, Blue, Green, Yellow, Orange and Red or **VIBGYOR**).
- Specifically, **light is made up of wavelengths of different colours**.

## Green colour of Sofa

- If an individual is **looking at a sofa that is green**, this is because the fabric or **material it is made up of is able to absorb all the colours except green**.
- This means that the molecules of the **fabric reflect the green coloured** wavelengths, which is what the eye sees.
- Therefore, the **colour of any object or thing is determined by the wavelength the molecules are not able to absorb**.

## White Colour

- For instance, if a person is looking at a bowl of vanilla ice cream or a plain white wall, it is because the molecules that make up these two **are absorbing none of the wavelengths of light**.
- This means, the **entire spectrum of these coloured wavelengths if reflected from the surface**, results in the white colour that the eye notices.

## Black colour

- In contrast, if an object is black, it is because it has **absorbed all the wavelengths** and therefore no light is reflected from them.
- This is the **reason that darker objects, as a result absorbing all wavelengths tend to heat up faster** (during absorption the light energy is converted into heat energy).

## What determines which wavelength of light will be reflected and absorbed?

- This is dependent on **how electrons are arranged in an atom** (the building block of life, an atom is made up of electrons, protons and neutrons).
- These **three particles make up everything** in the known universe from mountains, planets, humans to pizza and cake).

## what makes the paint so white?

- There are two features, one is the **paint's high concentration of a chemical compound called barium sulfate**, which is also used to make photo paper and cosmetics white.
- The second feature is that the team has used **different sized particles of this chemical compound**, which means **different sizes scatter different amounts of light**.
- In this way, a varying size of particles of the compound **make sure that the paint can scatter more of the light spectrum from the sun**.
- The paint can **keep surfaces 19 degrees Fahrenheit cooler than their ambient surroundings** at night.

## 2. Environment

### 2.1. Bat with sticky discs found in Meghalaya

- Meghalaya has yielded India's first bamboo-dwelling bat with sticky discs, taking the species count of the flying mammal in the country to 130.
- The **disc-footed bat (Eudiscopus denticulus)** was recorded in the northeastern State's Lailad area near the **Nongkhylllem Wildlife Sanctuary**, about 1,000 km west of its nearest known habitat in Myanmar.
- There are a **couple of other bamboo-dwelling bats in India. But the extent of adaptation for bamboo habitat in this species is not seen in the others.**
- The newly recorded bat was presumed to be a bamboo-dwelling species, but its **flattened skull and adhesive pads helped in identifying it as the disc-footed** known from specific localities in **southern China, Vietnam, Thailand and Myanmar.**
- Scientists **analysed the very high frequency echolocation** calls of the disc-footed bat, which was suitable for orientation in a cluttered environment such as inside bamboo groves.
- The **disc-footed bat has raised Meghalaya's bat count to 66, the most for any State in India.**

#### Wildlife Sanctuaries in Meghalaya

##### Nongkhylllem Wildlife Sanctuary

- Location: Ri-Bhoi District, about 53 km distance from Shillong and about 51 km distance from Dispur.
- The Sanctuary falls in the Eastern Himalayan Global bio-diversity hot spot.
- Narpuh Wildlife Sanctuary
  - ✓ East Jaintia Hills District,
- Siju Wildlife Sanctuary
  - ✓ South Garo Hills District
- Baghmara Pitcher Plant Sanctuary
  - ✓ South Garo Hills District,

##### National Park

- **Balpakram National Park – Resting place of Spirits of dead**
- **Location:** Located in **South Garo Hills,**

##### Nokrek Biosphere Reserve (UNESCO)

- **Location:** Nokrek Biosphere Reserve extends to three districts namely **West Garo Hills, East Garo Hills and South Garo Hills District.**

## 3. Economy

### 3.1.U.S. Treasury keeps India on currency watch list

- India is one of the 11 countries on the U.S. Treasury's 'Monitoring List' with regard to their currency practices, according to the April 2021 edition of the semi-annual report
- Key points
  - ✓ It reviews currency practices of the U.S.'s 20 biggest trading partners.

#### Criteria to review trading partners

- A **significant bilateral trade surplus with the US** -at least USD 20 billion over a 12-month period.
- A **material current account surplus equivalent to at least 2%** of Gross Domestic Product (GDP) over a 12-month period.
- **Persistent one-sided intervention** – when net purchases of foreign currency totalling at least 2% of the country's GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months
- India met two of the three criteria
  - ✓ The trade surplus criterion and
  - ✓ The "persistent, one-sided intervention" criterion.

#### Currency Manipulators:

- Label given by the US government to countries it feels are engaging in unfair currency practices by deliberately devaluing their currency against the dollar.

### 3.2.Eat Smart Cities & T4All Challenge

- Recently **Housing & Urban Affairs Ministry** launched Eat Smart Cities Challenge and Transport 4 All (T4All) Challenge

#### Eat Smart Cities Challenge

- Will create an environment of right food practices and habits, **strengthen the food safety and regulatory environment, build awareness among the consumers** and urge them to make better food choices in India's major cities.
- **Open to all Smart Cities, capital cities of States/UTs, and cities with a population of more than 5 lakh.**

#### Transport 4 All (T4All) Challenge

- It will bring **together cities, citizen groups, and start-ups to develop solutions that improve public transport** to better serve the needs of all citizens.
- **All the Smart Cities Mission cities, capitals of states and union territories (UTs), and all cities with a population of over 5 lakhs are eligible for the Challenge.**

### 3.3.U.K. approves Nirav Modi's extradition in PNB fraud case

- The U.K.'s Home Department has approved the extradition of diamond merchant Nirav Modi to India in connection with the ₹13,758-crore Punjab National Bank (PNB) fraud

#### Extradition

- The term "extradition" refers to the **sending back of a person to his home country or state upon the discovery that he has committed a crime**
- The extradition of a fugitive from India to a foreign country or vice-versa is governed by the provisions of the **Indian Extradition Act, 1962**.

#### Nodal Authority

- **CPV(Consular, Passport and Visa Division) Division, of the Ministry of External Affairs**, administers the Extradition Act and it processes incoming and outgoing Extradition Requests

#### Extradition Treaty

- Section 2(d) of The **Indian Extradition Act 1962** defines an 'Extradition Treaty' as a **Treaty, Agreement or Arrangement made by India with a Foreign State**, relating to the extradition of fugitive criminals which extends to and is binding on, India.
- Principles followed under the treaty
  - ✓ The extradition applies **only to such offences which are mentioned in the treaty**
  - ✓ It applies the principle of **dual criminality** which means that the offence sought to be an offence in the national laws of requesting as well as requested country
  - ✓ The **requested country must be satisfied** that there is a prima facie case made against the offender,
  - ✓ The extradition should be made **only for the offence for which extradition was requested**
  - ✓ The accused must be provided with a **fair trial**.

#### Bars on Extradition

- Failure to fulfill dual criminality
  - ✓ If the act for which extradition is sought is **not a crime in the requested state** then the requested state can refuse to extradite the person
- Political nature of the alleged crime
  - ✓ Most countries **refuse to extradite suspects of political crimes**.
- Possibility of certain forms of punishment
  - ✓ If the person may receive **capital punishment or face torture in the requesting state**, then the **requested state can refuse extradition**.



## 4. Polity

### 4.1.FASTag does not violate right to free movement: Centre

- The Union government recently told the Bombay High Court that making FASTag (electronic toll collection system) mandatory for all vehicles plying on the national highways does not breach a citizen's fundamental right to freedom of movement in any way

#### FASTag

- FASTag is an **electronic toll collection** system in India, operated by the **National Highway Authority of India (NHAI)**.
- It employs **Radio Frequency Identification (RFID) technology** for making toll payments directly from the prepaid or savings account linked to it or directly toll owner.

#### EPC in FASTag

- It uses an **Electronic Produce Code (EPC)** through which every vehicle can be uniquely identified.
- This code is **different from the vehicle's registration number**.
- Each **EPC code, which is a 13-digit number**, in the RFID- FASTag is issued by **GS1 India, a standards body**, which ensures that each code is unique

#### RFID Vs Barcoding

- However, unlike barcoding, which uses a pattern of black bars and white spaces, in which the information is coded, an **RFID tag uses a small electronic chip** for the same which is surrounded by an antenna.
- Also, unlike the barcode, an **RFID tag does not need to be very close to the reader or**, even in the line of sight of the same. One just simply has to be within a reading distance from the scanner.
- Though the **RFID technology is superior to that of barcoding**, one cannot be substituted with the other. "There is a **finite cost that is associated with the RFID** technology. It would not make sense to put a Rs 150 RFID tag on a packet of bread which cost Rs 30

#### Working

- A FASTag has what is called a passive RFID chip as it **does not contain its own battery**.
- It is **energized only when the beam from the scanner strikes it**.
- At a toll plaza, when a **vehicle comes within a certain radius, the scanner** is able to send out the signals and read the tag which means, the identification code of the vehicle.
- Since a FASTag is **pre-charged with money**, it hits the payment that is inside the tag and deducts the toll amount.
- All of this is done in an automated way, without the vehicle stopping, or the toll operator touching the tag itself.
- National Payment Corporation of India (**NPCI**) ensures the **data security** in the case of RFID-FASTag.
- **Section 136A of Motor Vehicles Amendment Act 2019** puts the **responsibility on the Central Government** to make rules for the electronic monitoring and enforcement of road safety.

## National Payments Corporation of India (NPCI)

- an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of **Reserve Bank of India (RBI)** and **Indian Banks' Association (IBA)** under the provisions of the **Payment and Settlement Systems Act, 2007**, for creating a robust Payment & Settlement Infrastructure in India.
- It has been incorporated as a **"Not for Profit" Company under the provisions of Section 25 of Companies Act 1956** (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.
- The Company is **focused on bringing innovations in the retail payment systems** through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems

## Freedom to move freely (Article 19)

- A citizen of India can move freely throughout the territory of India. But this right can also be **restricted on the grounds of security, public order or for protecting the interests of the Scheduled Tribes.**
- The freedom of movement has **two dimensions**
  - ✓ Internal -right to move inside the country (**Article 19**)
  - ✓ External -right to move out of the country and right to come back to the country (**Article 21**).

## 4.2.NRI Vs OCI

- The eligibility criteria for NRI status is that the person should be an Indian citizen with a valid Indian Passport and should reside outside of India for at least 183 days or more in a financial year (April 1st – March 31st).

### Benefits of being an NRI

- Being an NRI is only a residential status classified by the **Income- Tax of India.**
- Banks offer special overseas accounts like FCNR/NRE/NRO accounts.
- The education system in India allows special reservation quota for NRIs.
- You can **vote for elections** but you have to be physically present in the polling booth.
- Your **income earned abroad will not be taxed** by the Income-Tax Dept of India

### Limitations of being an NRI

- You cannot purchase agricultural land.
- You are taxed for the income you earn in India
- OCI is an **immigration status given to a foreign citizen of Indian origin as an alternative for dual-citizenship** which is not allowed by the Indian Constitution.

## Eligibility for OCI card

- A person who is a citizen of India or eligible to become a citizen of India on or after the commencement of the Constitution i.e. 26.01.1950; or who belonged to a territory that became part of India after 15.08.1947; or who is a child(either minor or major) or grandchild or great-grandchild of such a citizen
- A person, who or whose parents, grandparents, great grandparents were born in India and were/are citizen or eligible to become citizen of India at any time on or after commencement of the Constitution i.e. 26.01.1950; or belong to territories that became part of India after 15.08.1947 is eligible for holding an OCI card.
- Spouse of OCI cardholder is eligible to apply for OCI card only after completion of two years of registered and subsisted marriage, provided that the person had not been a citizen of Pakistan, Bangladesh or such country listed by the Central Government.
- However, a person isn't entitled to apply for any of these cards, if the person or their ancestors at any time was a citizen of Pakistan, Bangladesh, and others as specified by the rules laid by the Government of India.

## Benefits of being an OCI cardholder

- Multiple entries to visit India for lifelong for multi- purposes.
- You need NOT register with FRRO or local police authorities even after a continuous stay of 180 days.
- You can work/study in India without any special permission just like Indian nationals.
- Special counters for fast immigration clearance at all international airports
- Financial/economic/educational benefits are on par with NRIs.
- Parity with Resident Indians in charges for Domestic Airfares/National Parks/Wild Life Sanctuaries/Museums/ Historical sites etc

## Disadvantages of being an OCI cardholder

- You cannot purchase agricultural land.
- You may not hold a government job. (but can work for a private concern without conditions)
- You cannot vote or hold government jobs.
- You need special permission to do research work in India

## NRI Vs OCI (Source Min of Home Affairs)

NRI	NRI	OCI
Who ?	An Indian citizen who is ordinarily residing outside India and holds an Indian Passport	A person registered as Overseas Citizen of India (OCI) Cardholder under section 7A of the Citizenship Act, 1955
What benefits one is entitled to?	All benefits as available to Indian citizens subject to notifications issued by the Government from time to time	Multiple entry lifelong visa for visiting India for any purpose (However OCI Cardholders will require a special permission to undertake research work in India for which they may submit the application to the Indian Mission/ Post/ FRRO concerned).
Does he/she require visa for visiting India	No	Can visit India without visa for life long
Is he/she required to register with the local police authorities in India?	No	No
What activities can be undertaken in India?	All activities	All activities except research work for which special permission is required from the Indian Mission/Post/FRRO concerned.
How can one acquire Indian citizenship?	He/she is an Indian citizen	As per section 5(1)(g) of the Citizenship Act, 1955, a person registered as an OCI cardholder for 5 years and who is ordinarily resident in India for twelve months before making an application for registration is eligible for grant of Indian citizenship. Central Government, if it is satisfied that special circumstances exist, may after recording the circumstances in writing, relax the period of twelve months, up to a maximum of thirty days which may be in different breaks

## Parity with NRI

- Parity with Non-Resident Indians (NRIs) in respect of all facilities available to them in economic, financial, and educational fields except in matters relating to the acquisition of agricultural or plantation properties.
- Registered Overseas Citizen of India Cardholder shall be treated at par with Non-Resident-Indians in the matter of inter-country adoption of Indian children

## Other Parity with Non-Resident Indians(NRI) in respect of:-

- Entry fees to be charged for visiting the national monuments, historical sites and museums in India;
- Pursuing the following professions in India, in pursuance of the provisions contained in the relevant Acts, namely:
  - ✓ doctors, dentists, nurses and pharmacists;
  - ✓ advocates
  - ✓ architects
  - ✓ chartered accountants
- To appear for the All India Pre-Medical Test or such other tests to make them eligible for admission in pursuance of the provisions contained in the relevant Acts

## Parity with Indian resident

- Registered Overseas Citizen of India Cardholder shall be treated at par with resident Indian nationals in the matter of tariffs in air fares in domestic sectors in India.
- Registered Overseas Citizen of India Cardholder shall be charged the same entry fee as domestic Indian visitors to visit national parks and wildlife sanctuaries in India.
- Any other benefits to an OCI Cardholder will be notified by the Ministry of ExternalAffairs (MEA)under section 7B(1) of the Citizenship Act, 1955.

## Current affairs Worksheet (17-19th April 2021)

### Factual sheet for Quick revision

Topic	Description	Update
Environment	Eudiscolopus denticulus	
	Nongkhylllem Wildlife Sanctuary	
	Narpuh Wildlife Sanctuary	
	Siju Wildlife Sanctuary	
	Baghmara Pitcher Plant Sanctuary	
	Balpakram National Park	
	Nokrek Biosphere Reserve	
SnT	Class effect	
	Aditya L1	
	ARIES	
	Science behind colour visibility	
	FASTag	
Economy	RFID Vs Barcoding	
	Currency watch list	
	Eat Smart Cities Challenge	
	Transport 4 All (T4All) Challenge	
Polity	Extradition Treaty	
	NRI Vs OCI	