

CURRENT AFFAIRS

WEEKLY

WEEK: 4
APRIL
2021

MAINS

GS-I

International Day of Monuments of Sites

GS-II

Section 124A against Patna groups for CAA, NRC lessons to street kids

GS-III

Central Bank Digital Currency: Where are digital currencies headed?

GS-III

The launch of Crew-2 mission

GS-IV

Why human cells grown in monkey embryos sparked ethics debate

PRELIMS

HISTORY & CULTURE • International Day of Peasant's Struggle

INTERNATIONAL RELATIONS • EU's Indo-Pacific strategy

POLITY & GOVERNANCE • 12th National Panchayati Raj Day

- e-Property cards under SWAMITVA scheme

- India retains 142 of 180 spot in World Press Freedom index

ECONOMY • Startup India Seed Fund Scheme

ENVIRONMENT • Eight eastern states identified as highly vulnerable by National climate vulnerability assessment

SCIENCE & TECHNOLOGY • Bhutan's vaccination plan and its world's fastest immunization drive

- DRDO launched SpO2 based Supplemental Oxygen Delivery System

- 'Whitest ever' paint which can reflect 99% of sunlight

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— **Disclaimer** —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 4 (APRIL, 2021)

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IAS 2022
GS FOUNDATION
1 Year & 2 Year PROGRAMME



01 JUNE
2021

PATHWAYS
for UNDER GRADUATES
3 & 2 Year IAS FOUNDATION
PROGRAMME



12 APRIL
2021

OPTIONAL FOUNDATION 2022

HISTORY
FOUNDATION 2022

By: PIYUSH KUMAR



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MAY, 2021

GEOGRAPHY
FOUNDATION 2022

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FOUNDATION 2022

By: ASHUTOSH PANDEY



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SECTION: A

(MAINS)

CURRENT AFFAIRS

INTERNATIONAL DAY OF MONUMENTS OF SITES

CONTEXT

April 18th was celebrated as World Heritage Day (UN's International Day for Monuments and Sites). This year's theme was "Complex Pasts: Diverse Futures".

◎ BACKGROUND

- The day has been promoted by the International Council on Monuments and Sites (ICOMOS) globally and is recognised by UNESCO.
- The aim of celebrating this day is to raise awareness about our Cultural heritage.
- It also aims to promote historical monuments and sites, which will help in preserving them through community efforts.
- Due to COVID-19, this year's celebration is being done by **visiting UNESCO World Heritage sites virtually** through the online exhibits on Google Arts & Culture.
- Out of 1121 UNESCO World Heritage sites in the World, India is home to **38**.

List of UNESCO World Heritage Sites in India

• Cultural (30)

- Agra Fort (1983)
- Ajanta Caves (1983)
- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar (2016)
- Buddhist Monuments at Sanchi (1989)
- Champaner-Pavagadh Archaeological Park (2004)
- Chhatrapati Shivaji Terminus (formerly Victoria Terminus) (2004)
- Churches and Convents of Goa (1986)
- Elephanta Caves (1987)
- Ellora Caves (1983)
- Fatehpur Sikri (1986)
- Great Living Chola Temples (1987,2004)
- Group of Monuments at Hampi (1986)
- Group of Monuments at Mahabalipuram (1984)
- Group of Monuments at Pattadakal (1987)
- Hill Forts of Rajasthan (2013)
- Historic City of Ahmedabad (2017)

- Humayun's Tomb, Delhi (1993)
- Jaipur City, Rajasthan (2019)
- Khajuraho Group of Monuments (1986)
- Mahabodhi Temple Complex at Bodhi Gaya (2002)
- Mountain Railways of India (1999,2005,2008)
- Qutb Minar and its Monuments, Delhi (1993)
- Rani-ki-Vav (the Queen's Stepwell) at Patan, Gujarat (2014)
- Red Fort Complex (2007)
- Rock Shelters of Bhimbetka (2003)
- Sun Temple, Konârak (1984)
- Taj Mahal (1983)
- The Architectural Work of Le Corbusier (2016)
- The Jantar Mantar, Jaipur (2010)
- Victorian Gothic and Art Deco Ensembles, Mumbai (2018)

• Natural (7)

- Great Himalayan National Park Conservation Area (2014)
- Kaziranga National Park (1985)
- Keoladeo National Park (1985)
- Manas Wildlife Sanctuary (1985)
- Sundarbans National Park (1987)
- Nanda Devi and Valley of Flowers National Parks (2005)
- Western Ghats (2012)

• Mixed

- Khangchendzonga National Park (2016)

◎ ANALYSIS

Why is World Heritage Day celebrated?

- ICOMOS, in 1982, suggested to UNESCO that April 18 should be celebrated as the International Day of Monument and Sites.
- UNESCO approved the day in 1983.

- Since then the day is dedicated to recognise sites of historical importance, raising awareness about them and emphasizing on the need to preserve and restore them.

Why should Monuments and Sites be protected?

- **Provide information about the country's past:** Historical places give a holistic picture of a country's socio-economic, political and religious status of a country.
 - They throw a light on the way of life, skills, knowledge etc. of our ancestors.
- **Give identity to present and direction of future:**
 - Historical establishments serve as reminders of the past and thus help people in understanding where they are coming from.
 - This understanding of people and community about their past, helps them in connecting more with the place.
 - The understanding of the past and present provides people a hope for their future.
- **Duty of citizens to protect Monuments in India:** Article 51(f) puts a duty upon the people to preserve the rich heritage and composite culture.

Constitutional Provisions for Protection of Monuments in India

- The Constitution of India has conferred various rights and duties on Indian citizens to protect and preserve our Historical heritage.
 - **Article 49:** The DPSP puts responsibility for protection of monuments of national importance on the State.
 - **Article 51(f)** puts a Fundamental duty on citizens of India to value and preserve the rich heritage of our composite culture of the country.
- Further it has put responsibility on the Union and State to protect and preserve the Historical Monuments of India.
 - **Entry 67 of the Union List** puts under protection any Ancient and Historical monuments declared of National Importance by a law made by Parliament.
 - **Entry 12 of State List:**
 - Libraries, museums and other similar institutions controlled or financed by the State
 - ancient and historical monuments and records, other than those declared by or under law made by Parliament to be of national importance

- **Entry 40 of Concurrent List:** Archaeological sites and remains other than those declared by or under law made by Parliament to be of national importance.

- **The Section 30 of Indian Penal code (IPC)** also punishes anyone who destroys, removes, inquires, alters, defaces, imperils, or misuse a protected monument with imprisonment or fine.

Steps taken by Government to preserve Monuments of India

- **The Archaeological Survey of India (ASI)**
 - The organisation is aimed for the archaeological research and protection of the cultural heritage of the nation.

About Archaeological Survey of India

- Alexander Cunningham is attributed to be the founder of Archaeological Survey of India in 1861.
- It is an attached office under the Department of Culture, Ministry of Tourism and Culture.
- It has been established as a premier organization for the archaeological research and protection of the cultural heritage in the country.
- The ASI is primarily concerned with maintenance of ancient monuments and archaeological sites of national importance.
- The ASI regulates archaeological activities and functions under provisions of Acts:
 - Ancient Monuments and Archaeological Sites and Remains Act, 1958.
 - Antiquities and Art Treasure Act, 1972.

Heritage City Development and Augmentation Yojana (HRIDAY)

- The scheme has been launched by the Ministry of Housing and Urban Affairs, with a focus on holistic development of heritage cities.
- The scheme is aimed to revitalise heritage sites and preserve their unique character. It will be done by making them aesthetically appealing, accessible and providing a safe and informative environment.

Adopt a Heritage: Apni Dharohar, Apni Pehchaan

- This scheme is a collaborative effort of the Ministry of Tourism, the Archaeological Survey of India and the Ministry of Culture.
- Under the scheme, the government invites entities, including individuals, public sector companies and private sector firms, to adopt a heritage across India and develop it.

Challenges in preservation and conservation of Monuments and Sites

- **Lack of Master Plan:** Many sites of national importance face negligence of local or state administrations. The lack of a proper master plan leads to haphazard growth around the sites. This results in sites losing their charm and significance.
- **Pollution:** There are several types of environmental pollution such as air pollution, water pollution etc which become a cause of degradation of heritage properties. e.g. Even Taj Mahal, one of the seven wonders of World, was affected badly by Sulphur dioxide pollution. The gases were emitted by oil refineries at Mathura and more than 200 furnaces used in Taj ganj area.
- **Tourism and irresponsible Behaviour of Visitors:** Increasing tourism and lack of civic sense among the majority of tourists have caused large damages to monuments degrading their aesthetic value. Criminal damage such as defacement of monuments and graffiti on monuments have also been a major concern.

- **Encroachments/illegal occupation:** Encroachments done by local shopkeepers, souvenir sellers or local residents are also a cause of concern. For eg. A 2013 CAG Report highlighted encroachment within the premises of the Taj Mahal near Khan-i-Alam's Bagh.
- **Degradation and lack of conservation:** Conservation practices have been primarily directed towards World Heritage sites, while other monuments of national importance have been largely neglected and thus degraded over time.

◎ CONCLUSION

Historical monuments and sites provide a sense of identity to communities and become a source of pride for India's past, but that is not all. Conservation of the historical monuments and sites also provides the country an opportunity for generating employment and income through heritage tourism and development of ancillary local industries. Thus, we should Value, Protect, Conserve, interpret and Foster India's unique and diverse monuments.

SECTION 124A AGAINST PATNA GROUPS FOR CAA, NRC LESSONS TO STREET KIDS

CONTEXT

The Patna Police has lodged a case against two voluntary city groups on the charge of “provocative and anti-national” lessons on the CAA/NRC to street girls at a Danapur residential school invoking Section 124A of IPC i.e., sedition.

◎ BACKGROUND

- The case was registered after the National Commission for Protection of Child Rights took suo motu cognizance of the matter, dating back to the passage of the CAA in Parliament in December 2019.
- Following a letter from NCPCR, the police registered a case against the Umbrella Foundation and KDDC at the Danapur Police Station.
- However after the enactment of CAA, 2019 there has been massive protest against the government and many people were arrested under the charges of sedition.

◎ ANALYSIS

What is the Sedition law?

- The primary legislation criminalising sedition in India is the Indian Penal Code, 1860. Section 124A of the Code defines sedition, and also mentions the punishment.
- The core elements of sedition are bringing or attempting to bring hatred, contempt or disaffection towards the government.
- Further, the explanations to this section also clarify that mere disapprobation of measures or actions of government, intended to bring a constructive change by lawful means, without arising feelings of hatred, contempt or dissatisfaction does not amount to sedition.

How did Section 124A find its mention in Indian statute?

- The original draft of the Indian Penal Code was drawn up in 1837 by the Indian Law Commission headed by T.B. Macaulay whose Draft Penal Code 1837 consisted of section 113 that corresponded to section 124-A IPC.
- Section 113 of this draft made “excite feelings of disaffection against the government” an offence under IPC.
- However, this section was not included in the IPC when it was enacted in 1860. This omission was attributed to a clerical error.

- An amendment was introduced to the Indian Penal Code in 1870, and Section 113 of Macaulay’s draft was inserted into the IPC as Section 124-A.
- There is some evidence to suggest that sedition was finally made an offence during British Raj because the colonial government feared a Wahabi uprising.
- The history of enactment of Sedition shows that it was clearly meant to suppress the voices of freedom fighters and anyone who dared raise their voice against the inhumane, exploitative and structurally discriminatory practices against Indian people

Trials related to Section 124A before independence

• Emperor vs Bal Gangadhar Tilak

- ▶ Tilak faced three sedition trials, one in 1897 and the other in 1908 and was convicted in both, but acquitted in 1916 trial.
- ▶ In 1897 he was charged of inflammatory speech against state, popularly related to “Shivaji’s Utterances” published in Kesari, which lead to the murder of Plague Relief Committee WC Rand
- ▶ In 1909, he was again charged with sedition and intensifying racial animosity between Indians and the British

• Mahatma Gandhi’s trial for sedition

- ▶ Mahatma Gandhi was arrested by the British police in 1922 for writing three ‘politically sensitive’ articles between 1919-1932 in his weekly journal Young India. Gandhi was sentenced to a six-year jail term

Trials related to Section 124A post-independence

• Kedar Nath Singh vs State of Bihar, 1962

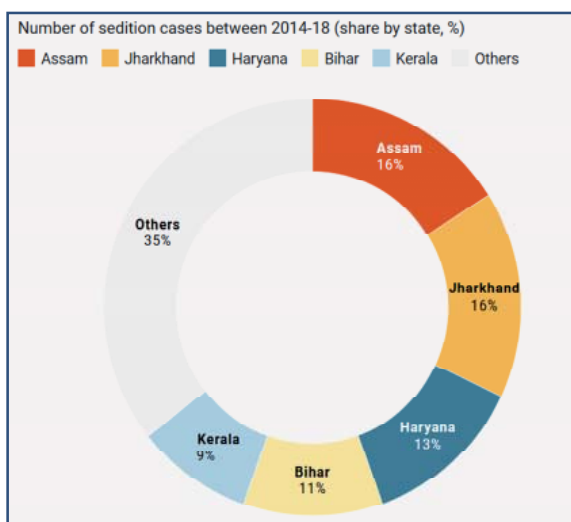
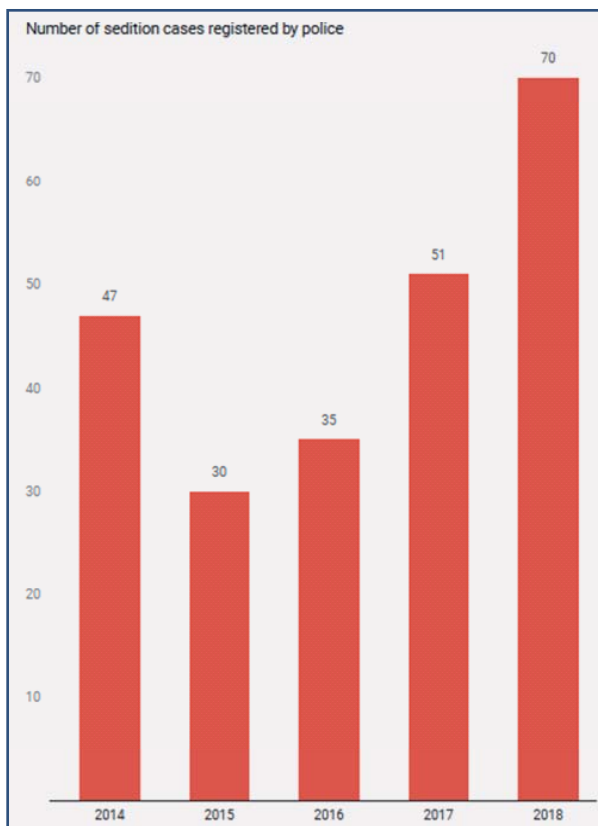
- ▶ Supreme Court held that Section 124A is constitutionally valid and the restrictions are in the interest of public order and are within the ambit of permissible legislative interference with the fundamental right

• **Balwant Singh and Ors. vs State of Punjab, 1995**

- SC held that mere raising of slogans which neither evoked any response nor any reaction from anyone in the public can not attract the provisions of Section 124A.

Facts related to cases filed under sedition

- Cases have increased in recent years
- Jharkhand, Assam, Haryana and Bihar account for more than half of all sedition cases between 2018-18
- The conviction rate is very poor



Number and status of sedition cases			
	2016	2017	2018
Cases reported during year	35	51	70
Total cases for investigation (including pending cases)	86	156	190
Cases sent for trial that year	16	27	38
Cases convicted in the year	1	1	2

Strong case to revisit Section 124A

• **Constitutional Assembly debate**

- There has been serious opposition to include sedition as restriction on freedom of speech and expression. The Constituent Assembly was unanimous in getting the word 'sedition' deleted from Article 13 of the draft Constitution.
- M. Ananthasayanam Ayyangar argued that it must be the fundamental right of every citizen in the country to overthrow that government without violence.
- However, a restriction was also discussed to be enacted in cases where the entire state itself is sought to be overthrown or undermined by force or otherwise, leading to public disorder.

• **Stifles constructive criticism weakening democracy**

- S.124-A violates one of the basic facets of a democracy i.e., holding the government accountable. In a country where citizens cannot voice the criticism of their government's actions, demand accountability, raise questions and point at wrongdoings cannot, be a functional democracy.
- S.124A does not only violate freedom of speech but also aids the government in nakedly disenfranchising its political rivals and critics.

• **Poor conviction rate**

- Between 2014-16, 179 people were arrested and 112 sedition cases filed with only two of the cases resulting in conviction.
- The point of the matter is that when a law instead of being constructively used is being misused by the authorities to marginalize their critics, such law should be deleted before it becomes a potent weapon of oppression.
- Most of the cases of Sedition do not make it to court, let alone result in conviction.

• **Presence of ample safeguards against the culprits**

- Reasonable restrictions provided under Article 19(2), Unlawful Activities (Prevention) Act, 1967, Sections 121,122,123,131,141,143,153-A, Contempt of Court Act, 1971 and Prevention of

Insults to National Honour Act, 1971, provide more than enough safeguards for acts likely to come under Sedition

- **Sedition repealed by England**

- It is ironic that the country, England, which planted the seeds of Section 124A on Indian soil, has since long repealed the same out of the fear of being associated to draconian laws.

◎ **CONCLUSION**

- It is necessary to bring reforms in Section 124A in such a fashion that its misuse is checked. It has been suggested that section 108 of CrPC 1973 is a good answer to the issue of misuse of section 124A. The State governments should issue a direction to

all Police stations to consider section 108 of CrPC 1973 before registering an FIR under section 124A of IPC and arresting a person. Section 124A can also be amended to make it non cognizable and bailable, if the case is registered by one individual complaint.

- This will also check misuse of the law, thereby preventing unnecessary arrests and other infringements of individual dignity and freedom of speech and expression. The Law Commission had also suggested that a healthy debate should take place among the legal luminaries, lawmakers, Government and non-Government agencies, academia, students and above all, the general public, on the above issues, so that a public friendly amendment could be brought about, hence substantiating the need for the cause to revisit Section 124A.

CENTRAL BANK DIGITAL CURRENCY: WHERE ARE DIGITAL CURRENCIES HEADED?

CONTEXT

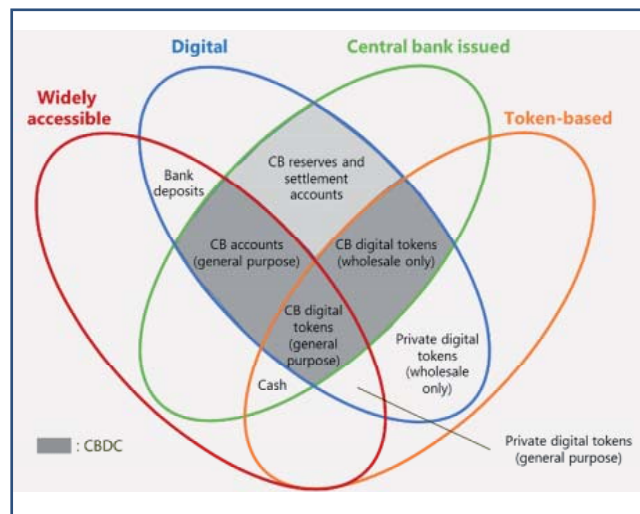
RBI Governor Shaktikanta Das has recently said that RBI is charting out the technology and procedure to roll out Central Bank Digital Currency in near future.

◎ BACKGROUND

- In April 2018, the RBI had banned banks and other regulated entities from facilitating crypto transactions after digital currencies were used for fraudulent and criminal activities. But in March 2020, the Supreme Court struck down the RBI's ban on crypto, terming its circular unconstitutional.
- The Cryptocurrency and Regulation of Official Digital Currency Bill, 2021, which aims to put an embargo on all private cryptocurrencies and lays the regulatory framework for the launch of an "official digital currency" was set to be introduced in Parliament during the Budget session of 2021, but was not taken up.
- The proposed legislation on cryptocurrencies was expected to provide an exit window to the existing cryptocurrency holders of private entities.

assumptions paying a rate that would be different to the rate on reserves

- Can be accessed more broadly than reserves under bank



◎ ANALYSIS

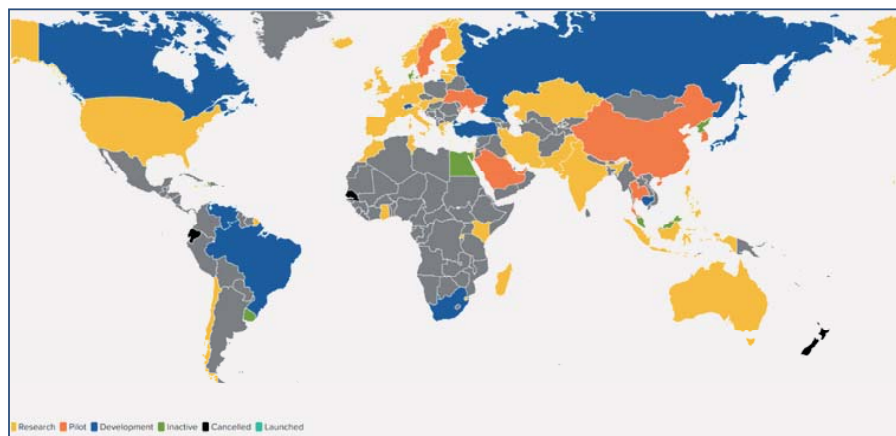
What is Central Bank Digital Currency (CBDC)?

- A **Central Bank Digital Currency (CBDC)** is the digital form of a central bank's fiat currency that is also a claim on the central bank.
- Instead of printing money, the central bank issues electronic coins backed by the full faith and credit of the government.
- The Bank of England have described a CBDC as electronic Central Bank's money that:
 - Potentially has much greater functionality for retail transactions than cash
 - Has a separate operational structure to other forms of Central Bank money, allowing it to potentially serve a different core purpose, and
 - Can be interest bearing, under realistic

The money flower

How many central banks/countries have started exploring CBDC?

- Bank of Thailand
- Bank of Lithuania
- The Riksbank, Sweden's Central Bank
- Central Bank of Bahamas launched 'Sand Dollar'
- Central Bank of Venezuela launched Petro



How is it similar or different to crypto-currency?

Characteristics	Crypto-currency	CBDC
Issued by	Private entities	Central Bank
Backed by	NA	Assets such as government securities
Legal medium of exchange	No	Yes
A store of value	Yes	Yes
Determination and fluctuation of value	Only market	Monetary policy, trade and market
Intermediary institutions	Not required	Not required
Cost of money	Mining cost — very high	Low
Security and maintenance	Low	Low
Traceability	High	High
Payments and settlement system	Near universal acceptability	Universal acceptability
Monetary policy	NA	Possibility of near-real time transmission
Financial stability	Very unstable	Difficult to answer with existing empirical evidence
Scalability	High	High
Privacy	Not a major concern	Normative, but can be a major concern

Why is the government not in favour of crypto currency?

Generally, cryptocurrencies generate a negative sentiment amongst government, with the following key arguments:

- Most of the countries deny them the definition of currency and argues that they do not meet the functions of money.
- They are a highly volatile, speculative, medium that distorts the market, pulling away investment from the real economy and innovation into the bubble.
- They are vulnerable to crime and expose consumers and investors to high risks of loss.
- Despite the decentralisation claims of the underlying technology, they are prone to 51% attack.
- The technology is not scalable, is inefficient due to its slow speed of transactions, and has a high environmental impact due to miners' energy use for computing power.

What are the advantages of CBDC?

- Practically costless medium of exchange:** If CBDC were account-based, the accounts (like bank accounts) could be held directly at the central bank itself or made available via public-private partnerships with commercial banks, hence the transaction will reflect in the books of Central Bank which would eliminate the intermediaries and hence the cost of transaction will reduce drastically
- Secure storage of value useful for investment:** Interest-bearing CBDC could have a rate of return in line with risk-free assets such as short-term government securities. The CBDC interest rate would serve as the main tool to attract investment
- Gradual obsolescence of paper currency:** CBDC can be made widely available to the public, which will improve our cash to GDP ratio and boost digital payments and reduce tax evasion.
- True price stability:** An effective monetary policy is possible if the real value of CBDC would remain stable over time. Such framework would encourage the systematic and transparent conduct and better transmission of monetary policy.

What are the concerns surrounding CBDC?

- Privacy issues:** Central banks may have increased control over money issuance and greater insight into how the people spend their money, potentially depriving citizens of their privacy.
- Disintermediation of commercial banks:** If citizens move their money from bank accounts into CBDC, this could start a vicious cycle as banks

raise deposit rates to attract more money. In turn, this means less bank credit extended at higher interest rates

- **Reputational risk for a central bank:** Since CBDC involves a huge infrastructure, and if any citizen suffers glitches, cyber-attacks or human error, it could reflect poorly on the central bank's reputation.
- **Bank runs to CBDC:** An oft-cited risk to introducing CBDC is the risk of a bank run as depositors would easily be able to transfer bank deposits to the Central Bank this would create a concept of flight of capital within banking system as well.

◎ CONCLUSION

With a changing payments landscape, Central Banks have recognised that they too need to develop to aid this transition and incorporate new technology. If a private e-money issuer was to control the majority of payments in a country and there was a clear move away from the fiat currency, the CB would lose its ability to implement monetary policy. Against this backdrop, Central Banks are trying to understand the financial and economic impact of introducing their own digital currency, and we may expect our own CBDC in near future tweaked according to Indian financial system.

THE LAUNCH OF CREW-2 MISSION

CONTEXT

Four astronauts are sent to the International Space Station (ISS) from Florida through a collaboration program of NASA and SpaceX under the Commercial Crew Program.

◎ BACKGROUND

- The Crew-2 mission is the second of six crewed missions NASA and SpaceX will fly as part of the agency's Commercial Crew Program. This mission has several firsts, including:
 - First commercial crew mission to fly two international partners
 - First commercial crew handover between astronauts on the space station as Crew-1 and Crew-2 astronauts will spend about five days together on station before Crew-1 returns to Earth
 - First reuse of the Crew Dragon spacecraft and Falcon 9 rocket on a crew mission – Crew Dragon Endeavour flew the historic Demo-2 mission and the Falcon 9 flew astronauts on the Crew-1 mission
 - First time two commercial crew spacecraft will be docked to station at the same time

◎ ANALYSIS

What is the Crew-2 mission?

- The mission is second crew rotation of the SpaceX Crew Dragon and is first with international partners.
 - ▶ It is a six-month science mission.
 - ▶ Astronauts include two from NASA and two are from the Japan Aerospace Exploration Agency (JAXA) and the European Space Agency (ESA).
- NASA's SpaceX Crew-2 mission consist a rocket booster that is recycled from a previous spaceflight.
 - ▶ The Falcon 9 rocket used in the Crew-2 mission was used to launch the Crew-1 into orbit five months ago. This marks the first time a previously flown rocket booster is re-used in a crewed launch.
- The latest mission is the second "operational" space station team that was launched by NASA aboard a Dragon Crew capsule.
- It is also the third crewed flight which is launched into lower Earth orbit under NASA's fledgling public-private partnership with SpaceX.

What will Crew-2 do at ISS?

- Crew-2 astronauts will join the members of Expedition 65.
- They will stay aboard the ISS for six months and will conduct science experiments in low-Earth orbit.
- Their central focus will be to continue a series of Tissue Chips in Space studies.
 - ▶ Tissue Chips are small models of human organs that contain multiple cell types that behave similarly to the human body.
 - ▶ These chips can speed up the process of identifying safe and effective drugs and vaccines.
 - ▶ Scientists will use these tissue chips in space to study diseases that affect specific human organs.
 - ▶ The main advantage is that experiments in space takes lesser times in comparison to earth.

What is the Commercial Crew Program?

- The main objective of the program is to make access to space easier in terms of its cost to carry the cargo and crew transportation easier.
- NASA also plans to lower its costs by sharing them with commercial partners by building Commercial Orbital Transportation Services (COTS).

Space Station

- A **space station**, also known as an **orbital station** or an **orbital space station**, is a spacecraft capable of supporting a human crew in orbit for an extended period of time, and is therefore a type of space habitat.
- It **lacks major propulsion or landing systems**.
- Stations must have docking ports to allow other spacecraft to dock to transfer crew and supplies.
- As of 2021, one fully operational and permanently inhabited space station is in low Earth orbit: the International Space Station (ISS).
- **China, India, Russia, and the U.S., as well as Bigelow Aerospace and Axiom Space**, are all planning other stations for the coming decades.

Lunar Space Station

- The **Lunar Gateway**, or simply **Gateway**, is a planned small space station in lunar orbit intended to serve as a solar-powered communication hub, science laboratory, short-term habitation module, and holding area for rovers and other robots.
- Gateway development includes four of the International Space Station partner agencies: **NASA, ESA, JAXA, and CSA.**

- Its construction is planned to take place in the **2020s.**

© CONCLUSION

NASA's Commercial Crew Program would open access to low-Earth orbit and the International Space Station to more people, science sector, thus increasing the scope of commercial opportunities.

WHY HUMAN CELLS GROWN IN MONKEY EMBRYOS SPARKED ETHICS DEBATE

CONTEXT

Recently, scientists and researchers at Salk Institute of Biological Studies, USA for the first time grew human cells in monkey embryos.

◎ BACKGROUND

- The study was conducted by the Scientists with an aim to study how the two types of cells develop with each other.
- The research has a potential to progress in what has been termed as 'chimeric research', but it has also ignited an ethical debate on such studies.
- Though Chimeras had been created using different techniques that involve fusing of embryos of two different animals for over 20 years now, it has never been done on humans.

◎ ANALYSIS

What have the researchers done?

- The embryos were derived from Macaques and then were injected with human stem cells.
- This mixture was then allowed to grow for 20 days before being destroyed.
- The chimera, if implanted into a monkey uterus, could theoretically develop into a live-born animal, which will have cells from both a human and a monkey.
- This type of life form is termed as an 'Chimera'. Chimera is a hypothetical organism from Greek mythology, which was part lion, part goat and part snake. In this case, a part-human chimera.
- Scientists have created, what can be called as a 'Chimeric tool', by integrating human cells into embryos of macaque monkeys.

Stem Cells

Definition:

- ▶ Stem cell is a premature unspecialized cell which can -
 - Split and create more stem cells
 - Develop into specialized cells like Brain cells, Muscle cells etc.

Types:

- ▶ They are of three types:

- Embryonic Stem Cells: These exist only during embryonic or early stages of development.
- Adult Stem Cells: They are found in almost all tissues and organs of the body and are used to repair damaged organs.
- Induced pluripotent stem cells or iPSC's: They are made in laboratories and are not found naturally in the human body. They have properties similar to embryonic stem cells.

Stem Cell Therapy:

- ▶ It is a **regenerative medicine**, which promotes repair of dysfunctional, diseased or damaged tissue.

Stem Cell Therapy in India:

- ▶ Currently, India does not have any laws or regulations with regard to Stem cell therapy.
- ▶ "**National Guidelines for Stem Cell Research**" jointly formulated by the Department of Biotechnology and the Indian Council of Medical Research.
- ▶ As per the National Guidelines for Stem Cell Research (2017), at present, there are no approved indications for stem cell therapy other than the hematopoietic stem cell transplantation (HSCT) for hematological disorders.
- ▶ Accordingly, all stem cell therapy other than the above shall be treated as investigational and conducted only in the form of a **clinical trial after obtaining necessary regulatory approvals**.
- ▶ Use of stem cells for any other purpose outside the domain of clinical trials will be considered unethical and hence is not permissible.

What's the purpose of chimeric study?

- It has been argued that this ability to grow cells of two different species together, can have following uses,

- research and medicine,
- advancing current understanding about embryonic development,
- Understanding disease onset and progression
- Understanding ageing
- Drug evaluation and
- Address the critical need for organ transplantation
- This research can be used to build new animal models to study human diseases like Alzheimers and develop new treatments.
- Researchers also argue that chimeric tools provide a new method which can help in studying how certain diseases originate.
 - Eg. A particular gene causing a certain type of cancer can be engineered in a human cell. This cell can then be inserted in a chimeric model. This chimeric model can be then used to study the disease progression. It will help us in understanding the disease better and obtaining better results than an animal model.

What are the Ethical Concerns regarding the study?

- The study starts an ethical conundrum, on how a life- form should be treated.
- **Moral Status:**
 - Moral Status is a concept which states that life forms should be treated based on interest and capabilities.
 - According to this, humans have a higher moral status than monkeys.
 - But the moral status, the rights and obligations of human-non-human Chimera is not defined.

● Hybrid Futures:

- It is also a possibility that human chimeras could give humans capabilities that exist in the animal kingdom, like bat's sonar.
- Such enhanced capabilities can make these lab-grown life-forms superior to humans in future.

● Increasing injustice against animals:

- Chimera research has a potential to increase injustice against animals, by using more and more animals in labs.
- It will also justify using part-human animals as research subjects in labs.
- Though the topic faces many ethical conundrums, its utility particularly in organ transplantation has been a major factor to push this research forward.

◎ WAY FORWARD

- **Proper regulations and global and national level:** There is a need to have proper regulations for stem-cell research, so that researchers can follow a proper guideline.
- **Opinion of Public:** Scientists have advised to open ethical debate regarding Chimeras for general public for their opinion.

◎ CONCLUSION

Genetic research has opened new avenues for understanding of human beings. But on the other hand, it has been surrounded by ethical debates. Chimeric studies are of major concern as they have a potential to change how humans interact with life-forms around it. Thus, it becomes important that comprehensive guidelines are developed keeping in mind the ethical and scientific concerns.



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INTERNATIONAL DAY OF PEASANT'S STRUGGLE

© **CONTEXT:** April 17, every year is celebrated as the International Day of Peasant's Struggle by La Via Campesina ("the peasant way"), an international organization.

Why the day is celebrated as International Day of Peasant's Struggle?

- **Symbolic representation:** The day commemorates the massacre of the landless peasants who were agitating for comprehensive agrarian reform in Eldorado dos Carajás, Brazil in 1996.
 - The Brazilian military police in the Amazonian State of Pará attacked the members of the Landless Workers Movement (MST), during the protest. They blockaded the highway, killed 19 and injured hundreds of peasants.

Significance of the movement

- **Common vision:** The day is the reflection of the common vision of food sovereignty and strengthening solidarity against the increased criminalization of struggles.
- **Global struggle:** This year agrarian struggles all over the world including the ongoing farmer's protests in India were remembered during the COVID-19 pandemic.
 - These movements have highlighted the issues of food deprivation, hunger and agrarian practices all over the world.
 - The movement has acquired international significance due to its resemblance of the issues in developing world where agriculture still plays an important role in sustaining livelihoods and ensuring food sovereignty.

La Via Campesina

- It is an international movement which brings millions of peasants, small and medium size farmers, landless people, rural women and youth, indigenous people, migrants and agricultural workers from around the world together.
- It came up in 1993.
- It has been developing and promoting the vision of food sovereignty as an alternative to the dominant capitalist relations of production, particularly in agriculture.
- It aimed to show that the agricultural economy and food sectors are not isolated, but they are linked deeply with the environmental, economic, democratic and health crises which culminated in the COVID-19 pandemic.
- La Via Campesina highlights the need for public health systems, food sovereignty, peasant agroecology and strengthened localised food systems to fight against hunger and to cool the planet, preserve biodiversity, and respect peasants' and workers' rights.
- La Via Campesina's campaigns and builds alliances for significant UN initiatives such as
 - the appointment of a UN Special Rapporteur for the right to food
 - the establishment of the Committee on World Food Security (CFS)
 - the Civil Society and Indigenous Peoples' Mechanism (CSM) processes
 - UN declaration of the Rights of Peasants and Other People Working in Rural Areas (UNDROP)

EU'S INDO-PACIFIC STRATEGY

◎ **CONTEXT:** The Council of the European Union approved the conclusions on a European Union strategy for cooperation in the Indo-Pacific.

- ◎ **CONCLUSIONS**
- **Regional Cooperation:** It aims to reinforce the strategic focus, presence and actions of EU in this region.
 - It will contribute towards the regional stability, security, prosperity and sustainable development of the region.
 - It will tackle the rising challenges and tensions in the region.
 - EU will work towards upholding democracy, human rights, the rule of law and respect for international law in the region.
 - **Rule based order:** The EU will aim for the promotion of effective rules-based multilateralism.
 - The EU's will approach towards a rules-based international order, a level playing field, as well as an open and fair environment for trade and investment, reciprocity, the strengthening of resilience, tackling climate change and supporting connectivity with the EU.
 - It will try to form a free and open maritime supply routes that will comply fully with international law remain crucial.
 - **Trade partnership:** The EU will aim to conclude free trade agreements with Australia, Indonesia and New Zealand.
 - It will also take further steps towards the Comprehensive Agreement on Investment with China.
 - The EU will continue to explore deeper economic relations with India.
 - **Security cooperation:** The EU will cooperate in security and defence front which will include the maritime security, cyber activities, disinformation, terrorism, and organized crime.
 - EU has also taken decision to extend the geographic scope of CRIMARIO (Critical Maritime Routes) II activities from the Indian Ocean into South and Southeast Asia.

European Union (EU)

- It is a political and Economic Union (EU) of 27 member states which are located primarily in Europe.
- EU policies aim to ensure the free movement of people, goods, services and capital within the internal market.
- It enacts legislation in justice and home affairs.
- EU maintains common policies on trade, agriculture, fisheries and regional development.
- Passport controls have also been abolished for travel within the Schengen Area.
- A monetary union was established in 1999 that came in full force in 2002.
 - It is composed of 19 EU member states which use the euro currency.

12th NATIONAL PANCHAYATI RAJ DAY

◎ **CONTEXT:** Ministry of Panchayati Raj commemorates 24th April of every year as the National Panchayati Raj Day (NPRD). The National Panchayat Awards 2021 will also be conferred on the occasion of National Panchayati Raj day.

- ◎ **ABOUT:** **Panchayati Raj Day**
- On this day, the 73rd Constitutional Amendment, 1992 came into force.
 - 24th April, 1993 marks a defining moment in the history of decentralization of power to the grassroots with the institutionalization of Panchayati Raj.
 - **Significance:** It provides an opportunity for the direct dialogue between the Panchayat representatives from all over the country.
 - It also helps recognizing their achievements to empower and motivate them further.
 - **Recognition:** Ministry of Panchayati Raj has been awarding the best performing Panchayats/States/UTs across the country every year.
 - It is done under the Incentivization of Panchayats to recognize good work for improving delivery of services and public goods.

National Panchayat Awards

- National Panchayat Awards have become a medium for creating awareness and sharing of knowledge across the country about the achievements of Panchayats.
- The National Panchayat Awards 2021 are being conferred under the following categories:
 - Deen Dayal Upadhyay Panchayat Sashaktikaran Puraskar
 - Nanaji Deshmukh Rashtriya Gaurav Gram Sabha Puraskar
 - Gram Panchayat Development Plan Award
 - Child-friendly Gram Panchayat Award
 - e-Panchayat Puraskar
- **Amount:** The awards will carry money ranges from Rs.5 lakh to Rs.50 lakh.
- **Real time:** The amount will be transferred directly to the bank account of the Panchayats concerned in real time.
 - This time it is being done for the first time.

e-PROPERTY CARDS UNDER SWAMITVA SCHEME

◎ **CONTEXT:** Around 4.09 lakh property owners will be given e-property cards under the SWAMITVA scheme. The Property Cards/ Title deeds (Sampatti Patrak) will be distributed electronically under the SVAMITVA Scheme

- ◎ **ABOUT:** **SWAMITVA Scheme**
- **Central Sector Scheme:** SVAMITVA (Survey of Villages and Mapping with Improved Technology in Village Areas) is a Central Sector Scheme.
 - **Ministry:** The Scheme was launched by the Ministry of Panchayati Raj.
 - It was launched on 24th April 2020.

- **Aim:** It aims to promote a socio-economically empowered and self-reliant rural India.
 - **Record of rights:** The scheme aims to provide the 'record of rights' to village household owners in rural abadi areas and issuance of Property cards.
 - **Technology:** The Scheme has the potential to transform rural India using modern technical tools of mapping and surveying.

Drones are being used for the purpose of survey

- **Significance:** It will give the way for using the property as a financial asset to villagers for availing loans and other financial benefits.
- **Time Period:** The Scheme will cover around 6.62 Lakh villages of the entire country for five years during 2021-2025.
 - The pilot phase of the Scheme was implemented during 2020-2021 in the States of Maharashtra, Karnataka, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh and select villages of Punjab and Rajasthan.

Nomenclature of the property cards

Different States have different names used for the Property Cards

- 'Title deed' in Haryana
- 'Rural Property Ownership Records (RPOR)' in Karnataka
- 'Adhikar Abhilekh' in Madhya Pradesh
- 'Sannad' in Maharashtra
- 'Patta' in Rajasthan
- 'Svavitva Abhilekh' in Uttarakhand
- 'Gharauni' in Uttar Pradesh

INDIA RETAINS 142 OF 180 SPOT IN WORLD PRESS FREEDOM INDEX

◎ **CONTEXT:** India continues to be counted among the countries classified as "bad" for journalism and is also termed as one of the most dangerous countries for journalists.

◎ **ABOUT:** World Press Freedom index 2021

- **Report:** World Press Freedom Index 2021 is published by the international journalism, a not-for profit body, Reporters Without Borders (RSF).
 - The index ranks 180 countries.
- **Rankings:** The list is topped by Norway followed by Finland and Denmark.
 - Eritrea came at the bottom.
 - China is ranked 177, and is only above North Korea at 179 and Turkmenistan at 178.
 - In the South Asian neighbourhood, Nepal is at 106, Sri Lanka at 127, Myanmar (before the coup) at 140, Pakistan at 145 and Bangladesh at 152.
- **India's ranking:** India is ranked 142 which is same as last year.

- The report stated that India shares the "bad" classification with Brazil, Mexico and Russia.
- For India, the latest report blames an environment of intimidation created by BJP supporters for any critical journalist, who, is marked as "anti-state" or "anti-national".

World Press Freedom Index

- It is published every year since 2002 by Reporters Without Borders (RSF).
- It is an important advocacy tool which is based on the principle of emulation between states.
- The Index ranks 180 countries and regions according to their level of freedom available to journalists.
- It evaluates the media freedom situation on the basis of pluralism, independence of the media, safety of journalists and quality of legislative framework in each country and region.

Reporters Without Borders

- It is an international non-profit and non-governmental organization.
 - ▶ RSF was founded in 1985.
- It aims for safeguarding the right to freedom of information.
- RSF has consultative status at the United Nations, the Council of Europe, UNESCO, and the International Organisation of the Francophonie.

STARTUP INDIA SEED FUND SCHEME

- ◎ **CONTEXT:** The Ministry of Food & Public Distribution launched the Startup India Seed Fund Scheme (SISFS).
- ◎ **ABOUT:**
 - The Scheme aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry, and commercialization.
 - The Seed Fund Scheme also envisage for the promotion of virtual incubation for startups by enabling 300 incubators to support startups from all corners of the country.
 - The scheme will create a robust startup ecosystem.
 - This will impact the innovations in tier 2 and tier 3 regions of India.
 - It will encourage innovators from rural areas also.
 - The Startup India Seed Fund Scheme will act as a bridge between ideas and their implementation.
 - SISFS will **S**ecure seed funding, **I**nspire innovation, **S**upport transformative ideas, **F**acilitate implementation, and **S**tart startup revolution.
 - **Online portal:** Under the scheme, an online portal has also been opened up, which is created by DPIIT.
 - It will allow incubators to apply for funds under this.
 - **Execution:** An Experts Advisory Committee (EAC) has also been created by DPIIT for the execution and monitoring of the Startup India Seed Fund Scheme.

- **Grants:** Grants of upto Rs 5 Crores shall be provided to the eligible incubators which would be selected by the EAC.
 - Under the scheme Rs. 945 Crore corpus will be divided over the next 4 years to provide seed funding for eligible startups through eligible incubators across India.

Other similar initiatives

The Government has introduced initiatives with the motto of Connect, Collaborate & Catalyse such as:

- Startup Innovation Challenges
- National Startup Awards
- Ranking of States
- SCO Startup Forum
- Prarambh

EIGHT EASTERN STATES IDENTIFIED AS HIGHLY VULNERABLE BY NATIONAL CLIMATE VULNERABILITY ASSESSMENT

◎ **CONTEXT:** The National climate vulnerability assessment report is released by Department of Science and Technology under Ministry of Science and Technology.

◎ **ABOUT THE REPORT**

- The report is titled as 'Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework'.
- **Objective:** The report identifies the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.
- **Foundation:** The report is based on the vulnerability assessment of the climate impact.
- **Significance:** The mapping the parts of India which are vulnerable for climate changes will help initiating climate actions at the ground level.
 - The report will help the states for initiating climate action.
 - The assessments will contribute towards the development of more targeted climate change projects.
 - It will support the implementation of the State Action Plans on Climate Change.
 - It will also support the Nationally Determined Contributions under the Paris Agreement.
 - The assessments under the report will also support India's National Action Plan on Climate Change.
- **Conduction of Study:** The nation-wide exercise was jointly supported by the DST and the Swiss Agency for Development & Cooperation (SDC).

What are the key findings?

- The report has identified Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh, and West Bengal as the states which are highly vulnerable to climate change.

- These states lie mostly in the eastern part of the country and require prioritization of adaptation and interventions.

BHUTAN'S VACCINATION PLAN AND ITS WORLD'S FASTEST IMMUNIZATION DRIVE

◎ **CONTEXT:**

The vast majority of Bhutan's first doses were administered at about 1,200 vaccination centers over a weeklong period in late March and early April. That rate was ahead of those of the United Kingdom and the United States more than seven times that of neighboring India and nearly six times the global average.

◎ **ABOUT :**

Successful Bhutan's Vaccine Model

- **Pre-planned:** It started its vaccination drive with registration and planning the drive.
- **Vaccination centers:** Around 1,200 vaccination centers were set up for inoculating over 64% of the country's adult population with the first shot of a Covid-19 vaccine.
- **Commitment at higher level:** The leader such as PM and Health Minister themselves showed social isolation behaviour.
- **Lower case load:** A low Covid-19 caseload has also helped the country fast-track its inoculation process.
- **Lockdown:** Bhutan has recorded only 934 cases and just one death, which was aided by two carefully managed lockdowns.
- **Sealed Border:** It has kept its borders closed for over a year, with a few exceptions, and anyone who entered the country has to go into mandatory quarantine for 21 days.
- **India's contribution:** India has also played a crucial role in the rapid program of the vaccine in Bhutan.
 - Bhutan received testing kits, personal protective equipment, N95 masks and essential medicines like paracetamol from India.
- **Free of Cost Service:** Primary healthcare in Bhutan is free of cost.
- **Immunisation programmes:** Bhutan's prized possession is its established "cold chain" vaccination programme which is behind its present success.
 - The country had also achieved universal immunisation earlier in the 1990s, the current immunisation is riding on the existing programmes.
- **Skilled health Workers:** The vaccine outreach also depended on the health workers who had completed the Expanded Programme on Immunisation (EPI).
 - It set the tone for a holistic public healthcare system in Bhutan and readied a cold-chain infrastructure for Covid-19 vaccines.
 - These healthcare workers were the ones who went around the country to administer the vaccines.

DRDO LAUNCHED SPO2 BASED SUPPLEMENTAL OXYGEN DELIVERY SYSTEM

◎ **CONTEXT:**

Defence Research and Development Organisation (DRDO) developed SpO₂ (Blood Oxygen Saturation) supplemental Oxygen Delivery System for the soldiers who are posted at extreme high-altitude areas.

◎ ABOUT THE DEVISE

- **Developed by:** It is developed by Defence Bio-Engineering & Electro Medical Laboratory (DEBEL), Bengaluru.
- **Functioning:** It is an automatic system that delivers supplemental oxygen on the basis of SpO2 levels.
- It prevents the state of Hypoxia in person, which is fatal in most cases.
- This system can also prove crucial during the current Covid-19 situation.

Hypoxia

- It is a situation in which the amount of oxygen which reached the tissues is inadequate to fulfill the energy requirements of the body.
- This situation also gets replicated in a Covid patient due to the virus infection.

- **Suitability:** The system is designed to function at extreme altitudes which have low barometric pressures, low temperatures and humidity.
- It is a simple to use facility by a common person.
- It will reduce the workload and exposure time of doctors and paramedics to monitor the SpO2 levels of the patient.

Oxygen levels

- A pulse oximeter is used to measure the amount of oxygen present in blood.
- The "SpO2" reading on a pulse oximeter shows the percentage of oxygen in blood.
 - **SpO2** is known as Blood oxygen saturation.
 - It is a measure of the amount of oxygen-carrying hemoglobin in the blood relative to the amount of hemoglobin which does not carry oxygen.
- The normal level of oxygen is usually 95% or higher in a healthy person.
- In Covid patients, it goes below than this level.
- A moderate Covid patient requires longtime moderate O2 supply 10Litre/150bar–10kg–1500 litres which can sustain up to 750 minutes.

'WHITEST EVER' PAINT WHICH CAN REFLECT 99% OF SUNLIGHT

◎ **CONTEXT:** Engineers from Purdue University in the US have created the whitest paint yet.

◎ **ABOUT :** Whitest Paint

- **Component:** The whitest paint is made up of barium sulphate, which makes it more white.
- **Cooling:** Buildings which will be coated with this paint may not require the need for air conditioning.
 - the paint can keep surfaces 19 degrees Fahrenheit cooler than their ambient surroundings at night
- **Electricity saver:** The new paint if used to cover a roof area of 1,000 square feet, it may

be able to get a cooling power of 10 kilowatts.

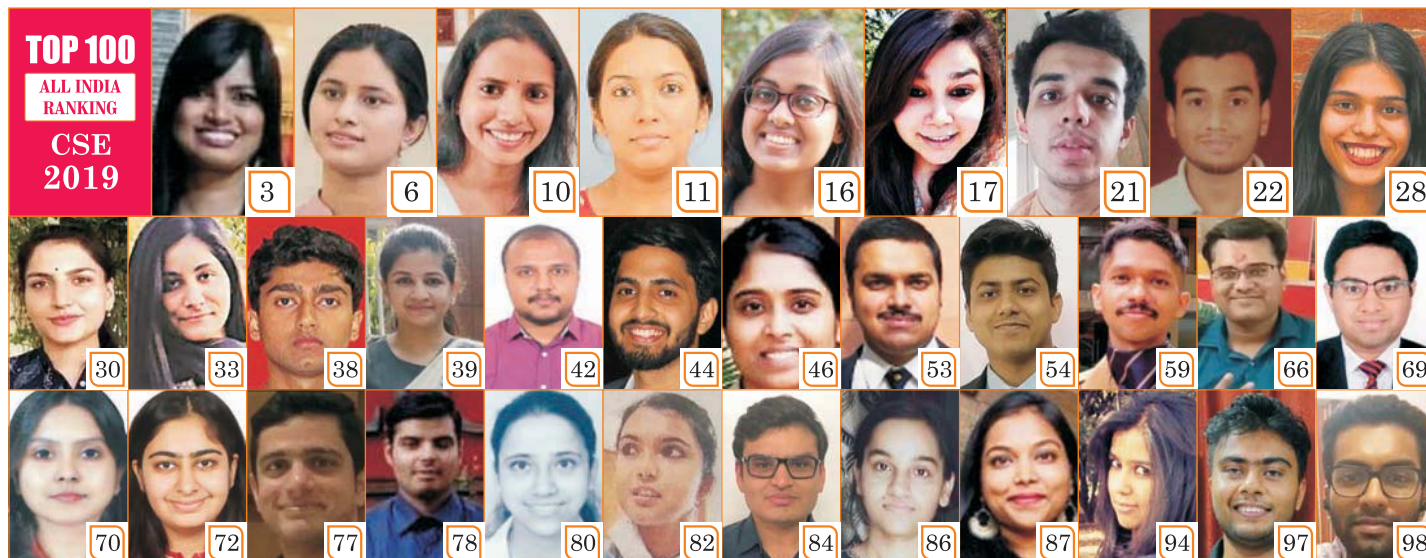
- **Equivalent:** It may be the closest equivalent to the blackest black paint that is called "Vantablack" which is able to absorb up to 99.9 per cent of visible light.

How does the reflection works?

- The light is made up of wavelengths of different colours Violet, Indigo, Blue, Green, Yellow, Orange and Red or VIBGYOR.
- We can see something green 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.
 - The colour of any object or thing is determined by the wavelength the molecules are not able to absorb.
 - Whichever wavelength of colour is not absorbed by an object that will be the colour which eye sees.
 - The absorption and reflection of light depends on how electrons are arranged in an atom (the building block of life, an atom is made up of electrons, protons and neutrons).

What makes the paint so white?

- The paint's high concentration of a chemical compound which is called barium sulfate makes it whiter.
- Different sized particles of the chemical compound scatter different amounts of light.
 - A varying size of particles of the compound makes sure that the paint can scatter more of the light spectrum from the sun.



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