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Non-Fungible Tokens

- Non-Fungible Tokens (NFTs) are **transaction records captured on the blockchain** - the web version of a physical ledger.
- NFTs allow people to trade the ownership of digital entities such as memes, media, tweets, arts, articles in 'token' form.
- As NFTs are supported by blockchain, these transaction records are permanent, verified multiple times and cannot be erased or changed.
- Each non-fungible token is uniquely identifiable. So, no two digital entities can have the same token.
- **Rights** - An NFT is a certificate of authenticity, or a digital autograph that can be attached to digital property. Buying an NFT doesn't convey copyright or usage rights unless there is an explicit licence mentioning it.
- **Earning** - NFTs don't offer any cash flow and are not real assets. The only way one can make money is by luring others into buying your NFT.
- To sell an NFT, a new NFT needs to be created by the seller. Creating an NFT will require spending real money which will go into the crypto economy.
- **Importance** - The Covid pandemic has further devastated the poorly-paid lives of innumerable artists, musicians and creators.
- The digital world offers a creative outlet, but in it, any creation can be easily duplicated. With NFTs, any creation can be tokenised to create a digital ownership certificate, helping creators get good price for their art.

Global Electric Vehicle Outlook 2021

- This report is an annual publication that identifies and discusses recent developments in electric mobility across the globe.
- It is released by the **International Energy Agency**. It is developed with the support of the members of the Electric Vehicles Initiative (EVI).
- Combining historical analysis with projections to 2030, it examines key areas of interest such as electric vehicle (EV) and charging infrastructure deployment, energy use, CO_2 emissions and battery demand.
- It includes policy recommendations for policymakers and stakeholders that consider policy frameworks and market systems for EV adoption.
- **Findings** - Around 3 million new electric cars were registered in 2020, a 41% increase from 2019.

- The sales in the first quarter of 2021 reached nearly two and half times their level in the same period a year earlier.
- Based on current trends and policies, IEA projects the number of electric vehicles on the road worldwide to reach 145 million by 2030.
- For the first time, the 2021 report makes available two online tools,
    1. The Global EV Data Explorer, which allow users to interactively explore EV statistics and projections worldwide,
    2. The Global EV Policy Explorer, which allow users to interactively explore policy measures worldwide.

Indian Scenario

- The Global EV Outlook projected that more than 30% of new vehicle sales in India will be electric by 2030 (60% of all two/three- wheelers, 30% of LCVs and buses).
- Its stated policies scenario that took into account FAME II policy of India said that the EV deployment in India will be achieved through the electrification of 2/3-wheelers, which will reach a sales share of 50%.
- The rate of electrification of buses and light-duty vehicles is lower, below 15% sales share in 2030.
- The lack of government spending under the FAME II policy has hindered EV deployment along with a pressure on domestic automakers to focus on BS-VI innovation instead of EVs.
- Significant acceleration will be required to reach both the programme targets and national targets of 30% EV sales by 2030.

Ethanol Blending Policy

- The Government of India has fixed target of 10% blending of fuel grade ethanol with petrol by 2022 & 20% blending by 2025.
- It has also allowed production of ethanol from **B-Heavy Molasses, sugarcane juice, sugar syrup and sugar**; and encouraging sugar mills to divert excess sugarcane to ethanol.
    - Target - To divert 50-60 LMT of excess sugar to ethanol by 2025.
- To increase production of fuel grade ethanol and to achieve blending targets, the Government has allowed use of **maize and rice** with Food Corporation of India (FCI) for production of ethanol.
- Government has fixed price of ethanol from maize as Rs 51.55/litre & rice available with FCI as Rs 56.87/litre for ethanol supply year 2020-21.
- In current ethanol supply year (ESY) 2020-21 (December to November) to achieve 8.5% blending target, about 325 Cr litres ethanol is required to be supplied to Oil Marketing Companies (OMCs).

Ethanol Projects made viable

- With a view to increase existing capacities further, Department of Food and Public Distribution has notified modified interest subvention scheme to produce ethanol from other 1G feed stocks by,
    1. Setting up new grain based distilleries, or
    2. Expanding the existing grain based distilleries, dual feed distilleries & molasses based distilleries.
- OMCs being the assured buyer for ethanol have given comfort for purchase of ethanol from distilleries for next 10-15 years.
- Ministry of Environment, Forest & Climate Change has also streamlined the process of getting environment clearance (EC) for ethanol projects.
- Department of Financial Services and State Bank of India have issued Standard Operating Procedure (SOP) for sanctioning and disbursal of loans for ethanol projects.

Oxygen Concentrators

- By affecting the lungs, Covid-19 reduces the oxygen level dangerously.
- Oxygen concentrators can be used by the patient to enhance oxygen levels to clinically acceptable levels (Oxygen Therapy).
- **Working** - Oxygen concentrators will suck in atmospheric air and filter other gases, and compress oxygen. It increases the oxygen concentration.
- Depending on need, the litres of oxygen per minute have to be regulated.
- Oxygen concentrators can supply between 0.1 litres per minute (LPM) to 5 to 10 LPM. A concentrator has 92-95% pure oxygen.
- **Usage -** Oxygen concentrators can be used when the oxygen requirement of the patient is a maximum of 5 litres per minute.
- Only mild to moderately ill Covid-19 patients (who have an oxygen saturation level between 90 and 94) should use an oxygen concentrator at home, until they get hospital admission.
- Anyone with oxygen saturation depleting below 80-85 may need higher flow of oxygen and will have to switch to an oxygen cylinder or liquid medical oxygen supply or get hospitalised.
- They are useful for patients with post-COVID complications which needs oxygen therapy.
- However, patients using oxygen concentrator themselves without suitable medical advice can be harmful.
- **Production** - Besides multi-national brands, several Indian start-ups, funded under the CAWACH, have developed efficient and cost effective Oxygen Concentrators.

- [CAWACH (Centre for Augmenting War with Covid 19 Health Crisis) is a programme of Department of Science & Technology.]
- Given their usefulness during the second wave of Covid Pandemic, 1 lakh Oxygen Concentrators are being procured through PM CARES fund.

Types of Oxygen Concentrators

- **Continuous flow oxygen concentrator** will provide the same flow of oxygen every minute unless it is turned off irrespective of whether patient is breathing it in or not.
- **Pulse dose oxygen concentrator** detects breathing pattern and dispenses oxygen when it detects inhalation.
- The oxygen dispensed per minute will vary in second case.

Oxygen Saturation

- Oxygen level is measured by oxygen saturation, known as SpO2, which is a measure of the amount of oxygen-carrying haemoglobin in the blood.
- A healthy individual will have an arterial oxygen saturation of 95% – 100%.
- **WHO** - If the oxygen saturation is 94% or lower, the patient needs to be treated quickly. A saturation of less than 90% is a clinical emergency.
- **Union Ministry of Health** - A patient with oxygen concentration less than or equal to 93% requires hospital admission, while those with below 90% is classified as a severe disease, requires admission in ICU.

Covid - A Vascular Disease

- A new study shows that the SARS-CoV-2's spike proteins, not only help the virus infect its host by latching on to healthy cells, but also play a key role in the disease itself.
- It explained that Covid-19 is not only a respiratory disease, but also a **vascular disease** by demonstrating how the virus damages and attacks the vascular system (comprising the blood vessels) on a cellular level.
- The findings help explain Covid-19's wide variety of seemingly unconnected complications, and could open the door for new research into more effective therapies.
- The exposure of healthy endothelial cells (which line arteries of heart) to the spike protein showed that the spike protein damaged the cells by binding ACE2 (a human protein).
- This binding disrupted ACE2's molecular signalling to mitochondria (organelles that generate energy for cells), causing the mitochondria to become damaged and fragmented.

CT Scan for Covid

- Several Covid positive patients with mild to moderate Covid symptoms, and some with negative RT-PCR reports but Covid symptoms are making a beeline for CT scans (who actually need not take CT scan).
- **Working** -Computed Tomography (CT) scan is a combination of multiple X-rays and a computer process to create a picture of the body or any part of the body.
- Chest CT is a routine imaging tool for pneumonia diagnosis. Compared to RT-PCR, chest CT imaging is more reliable, sensitive and rapid method to diagnose and assess COVID-19.
- **Recommendation** - Doctors said that Covid patients with worsening condition in home isolation or in hospital with critical condition are cases recommended for CT scan to detect the infection level.
- If a patient's oxygen level is going down below 95 during home quarantine or his health is not improving even after a week after coming Covid positive then such patients should get their CT scan done.
- If Covid patient is in home isolation are doing well then they should only monitor their oxygen level 5-6 times in a day through a pulse oximeter and if oxygen level is above 96 than he should not panic.
- If a patient is showing mild or moderate symptoms and his report is false negative must home quarantine and keep a tab on the oxygen level.

Source: PIB, The Indian Express, Business Line

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