

Ukraine peace deal

- Saudi Arabia is set to host Ukraine, the U.S., some European countries, and major developing countries including India and Brazil for peace talks on the Russia- Ukraine war on August 5 and 6.
- Ukrainian President Volodymyr Zelensky is seeking support for his peace plan, which involves the withdrawal of Russian troops and restoration of Ukraine's territorial integrity as per its 1991 borders.
- UN Secretary -General Antonio Guterres had previously stated that peace negotiations seemed unlikely as both sides believed they could win the conflict.
- Several countries and blocs, such as China and African nations, have proposed their own peace initiatives, but none have been accepted by both Ukraine and Russia so far
- In February, China came out with a 12- point- plan for the “political settlement of the Ukraine crisis”.
- While the Chinese Foreign Ministry promoted it as the launch of a peace initiative by Beijing, it was seen as an attempt to placate criticism of its silence on Russia’s actions, as a repetition of its already expressed positions on the war, and as skewed in favor of Moscow.
- While Kyiv out rightly rejected the proposal, Russia has said that it could serve as a “basis for some processes aimed at the search for peace”, but had some provisions, like a ceasefire, that were “impossible” to implement.

THE HINDU

99. LK99!

The name is 99. LK-99!

- This is the name that a group of South Korean scientists named Sumba Lee, Jalon Kim, and Young-Wan Kwon have conferred to a material that they recently reported as a superconductor at room temperature and pressure (in preprint papers).
 - The material is a copper- doped lead apatite, a type of phosphate mineral
- #### Why are copper oxides of interest?
- In 1986, superconductivity physics witnessed a revolution when scientists found that some copper oxide materials became superconducting at above -240 degrees Celsius.
 - More recently, scientists have synthesized sulfide and hydride materials that become superconductors at near room temperatures but under extreme pressure, such as that found at the center of the earth, which is achievable only in laboratory

conditions

THE HINDU

HELA CELLS

- HeLa is an immortalized cell line used in scientific research. It is the oldest and most commonly used human cell line.
- The line is derived from cervical cancer cells taken on February 8, 1951, from Henrietta Lacks, a 31-year-old African-American mother of five, who died of cancer on October 4, 1951, and after whom they are named.
- The cell line was found to be remarkably durable and prolific, which allows it to be used extensively in scientific study
- An immortalized cell line is a population of cells from a multicellular organism that would normally not proliferate indefinitely but, due to mutation, have evaded normal cellular senescence and instead can keep undergoing division.
- The cells can therefore be grown for prolonged periods in vitro.

THE HINDU

INDIA & US

- the economic, and more specifically, the trade relationship between the two countries, is growing surpassing

U.S.\$120 billion but it continues to underperform relative to the sheer potential

- Trade must be pushed to a more central role as the U.S.-India story continues to unfold.
- In the last two years, the Narendra Modi government has inked new free trade agreements (FTAs) with the United Arab Emirates and Australia and launched or reinvigorated negotiations for parallel deals with the European Union, the United Kingdom, and Canada
- The Biden administration maintains that it has evolved away from FTAs and discovered a better approach to trade, emphasizing resilient supply chains, reshoring or friend shoring, and prioritizing labor rights and climate -friendlier production over craven and mistaken globalization.
- Friend shoring' is a growing trade practice where supply chain networks are focused on countries regarded as political and economic allies.
- In fact, the U.S. and India have been able to agree to transactional concessions in their respective markets (e.g., mangoes and pomegranates for India in exchange for cherries, hay, and pork for the U.S.) through the bilateral Trade Policy Forum (TPF) even without an active FTA negotiation

THE HINDU

DEEP TECH

- The Startup movement is moving beyond the consumer Internet and e-commerce to genuine deep technology areas, such as space and remote sensing, artificial intelligence and robotics, biotech and pharma, electric vehicles, drones, defense, telecommunications, semiconductors, and many more.
 - Deep tech, or deep technology, refers to those startups whose business model is based on high-tech innovation in engineering, or significant scientific advances
 - These real sectors go beyond digital marketplaces, seller discovery, and exchange of information, and impact many more sectors of the economy, which will bring deeper industrialization in newer areas and more jobs.
 - Deep tech entrepreneurship is also creating new avenues for science and technology (S&T) discoveries in the public sector labs to reach the market
- First, the availability of much larger risk capital for deep tech startups.
 - Second, we need to enable mass procurement of indigenously developed technologies.
 - This latter step has started to happen in fits and starts, across Ministries such as defense, smart cities, and health; however, a concerted push across the government is still desirable.
 - Industry and industry bodies have a role to play in aggregating demand in their sector, to kick start locally-made technologies.

THE HINDU

Startup India 2.0

- It is an opportune time for the government to support this second phase of entrepreneurship, a Startup India 2.0, focused on the real sectors listed above. This support must come through two routes.