



ANUSHKA IAS



D.N.A.

**DAILY NEWS
ANALYSIS**

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COVID VACCINES FOR CHILDREN (THE HINDU)

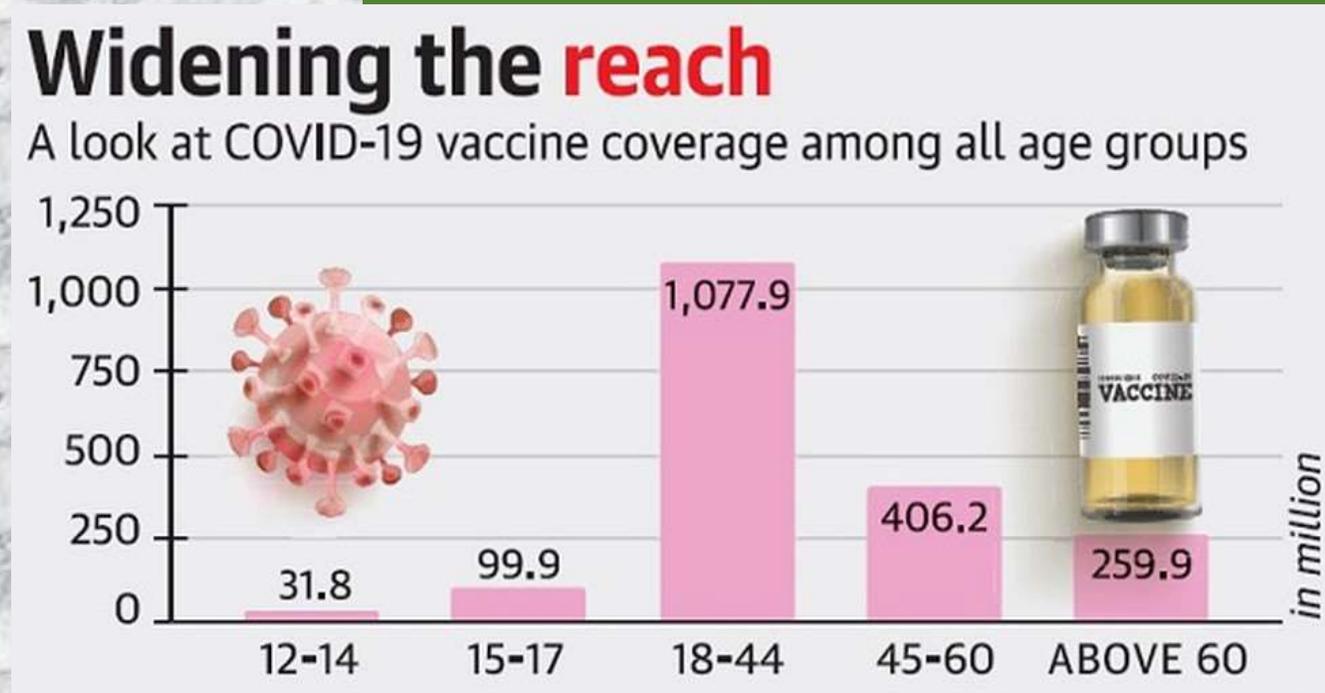
COVERED IN GS : 3 (SCIENCE AND TECHNOLOGY)

NEWS

Amid an uptick of fresh COVID-19 cases in the country, the Drugs Controller General of India (DCGI) approved the emergency use authorisation for two anti-coronavirus vaccines in children between five and 12.

ABOUT

- ❖ Biological E’s Corbevax has been approved for administration in children between the ages of five and 12 and Bharat Biotech’s Covaxin has been approved for restricted use in emergency situations in the 6-12 age group.
- ❖ Currently, Bharat Biotech’s inactivated whole virion vaccine is being administered in children aged 15-18, and Biological E’s protein sub-unit vaccine in children between 12 and 15 under a national COVID-19 immunisation programme.



- ❖ The DCGI has also cleared ZyCoV-D’s two-dose regimen for children aged over 12. The second dose of the vaccine can be administered on the 28th day.

RAMSTEIN AIR BASE (THE HINDU)

COVERED IN GS : 3 (DEFENCE)

NEWS

Top U.S. officials hosted emergency talks with allies in Germany on Tuesday on supplying Kyiv with more weapons to fend off Russia's assault, as the UN's chief headed to Moscow in a bid to avert further escalation of the conflict.

About:

- ❖ The meeting of 40 countries at the U.S. Ramstein Air Base in Germany comes after Russian Foreign Minister Sergey Lavrov accused Ukraine of only "pretending" to negotiate a cease-fire and warned of a "real" risk of a new world war.
- ❖ Ramstein Air Base is a United States Air Force base in Rhineland-Palatinate, a state in southwestern Germany.



- ❖ It serves as headquarters for the United States Air Forces in Europe – Air Forces Africa (USAFE-AFAFRICA) and also for NATO Allied Air Command (AIRCOM).

COAL POWER (THE HINDU)

COVERED IN GS : 3 (ECONOMICS)

NEWS :

China led global coal power expansion in 2021, with about 25,000 MW of new plants, followed by India with about 6,100 MW, reported the Global Energy Monitor which conducts an annual survey of coal power capacity under development or deployment.

About:

- ❖ Worldwide, however, coal-plant capacity under development declined 13% last year.
- ❖ After rising in 2020 for the first time since 2015, total coal power capacity under development slid last year to a record low of 457 gigawatts (GW), from 525 gigawatts.



China, South Korea, and Japan have pledged to stop funding new coal plants in other countries, but China continued to lead globally in domestic development of new coal plants, commissioning more coal capacity than the rest of the world combined.

KURIL ISLANDS (THE HINDU)**COVERED IN GS : 3 (GEOGRAPHY)****NEWS :**

On April 22, Japan's Diplomatic Bluebook for 2022 described the Kuril Islands (which Japan calls the Northern Territories and Russia as the South Kurils) as being under Russia's "illegal occupation".

About:

- ❖ This is the first time in about two decades that Japan has used this phrase to describe the dispute over the Kuril Islands.
- ❖ Japan had been using softer language since 2003, saying that the dispute over the islands was the greatest concern in Russia-Japan bilateral ties.

**What are the Kuril Islands/ Northern Territories?**

- These are a set of four islands situated between the Sea of Okhotsk and the Pacific Ocean near the north of Japan's northernmost prefecture, Hokkaido.
- Both Moscow and Tokyo claim sovereignty over them though the islands have been under Russian control since the end of World War II.

P.T.O.

The Soviet Union had seized the islands at the end of World War II and by 1949 had expelled its Japanese residents. Tokyo claims that the disputed islands have been part of Japan since the early 19th century.

What lies behind the dispute?

- ❖ According to Tokyo, Japan's sovereignty over the islands is confirmed by several treaties like the Shimoda Treaty of 1855, the 1875 Treaty for the exchange of Sakhalin for the Kuril Islands (Treaty of St. Petersburg), and the Portsmouth Treaty of 1905 signed after the Russo-Japanese war of 1904-05 which Japan had won.
- ❖ Russia, on the other hand, claims the Yalta Agreement (1945) and the Potsdam Declaration (1945) as proof of its sovereignty and argues that the San Francisco Treaty of 1951 is legal evidence that Japan had acknowledged Russian sovereignty over the islands.

SELF-AMPLIFYING mRNA VACCINE (THE HINDU)

COVERED IN GS : 3 (HEALTH)

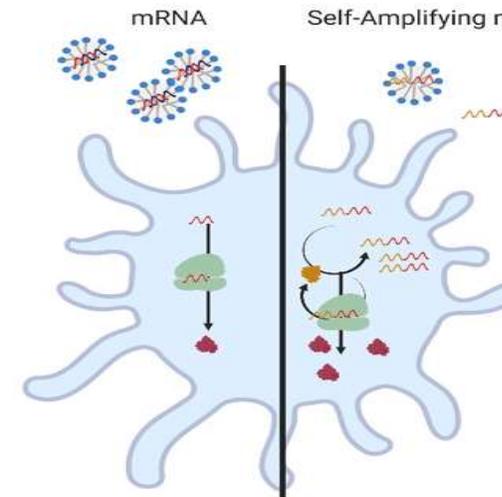
NEWS :

A self-amplifying mRNA vaccine — one in which the delivered RNA multiplies inside the body — has shown promising results against Covid-19 in ongoing phase 1/2/3 trials.

About:

- ❑ The vaccine, ARCT-154, has been developed by Arcturus Therapeutics Holdings, based in San Diego, California, and its trials are in progress in Vietnam.
- ❑ An mRNA vaccine, such as those from Pfizer/BioNTech and Moderna, use messenger RNA that encodes the spike protein of the coronavirus.
- ❑ In other words, the mRNA directs the cell to produce copies of the spike protein, so that the immune system will recognise the spike if and when actual infection takes place, and mount a response.

Self-Amplifying mRNA Construct



Advantages:

- High yield of target antigen
- Prolonged translation
- No need for transfection agents or delivery systems

Challenges:

- Longer mRNA sequences are more challenging to produce (possible errors, lower mRNA production yields)
- Strong inflammatory response may limit antigen production
- Prolonged replication of mRNA may decrease the viability of the host cell
- Potential risk for anti-vector immunity

- ❑ A self-amplifying mRNA vaccine is an improvement on the traditional RNA platform.
- ❑ It encodes four extra proteins in addition to the vaccine antigen, and these enable amplification of the original strand of RNA once inside the cell.