

# **Weekly Current Affairs**

Sources: The Hindu+IndianExpress+PIB

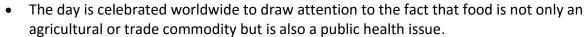
06th June 2021 to 12th June 2021

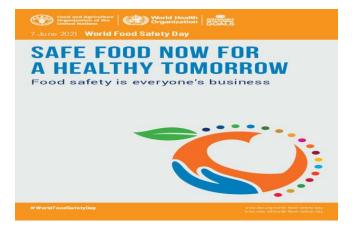
# **Contents**

- 1. Word Food Safety Day
- 2. ALH Mk-III
- 3. World Day Against Child Labour
- 4. Khadi Prakritik Paint
- 5. Indemnity
- 6. ASEAN
- 7. Sea Snot
- 8. PVDPS and Oxy Van
- 9. Aducanumab
- 10. QS World University Ranking
- 11. Operation Pangea
- 12. Performance Grading Index (PGI)
- 13. CAR T-Cell
- 14. CORPAT
- **15. Global Minimum Corporate Tax**
- 16. INS Sandhayak
- 17. Anti- hail guns
- 18. Heritage Tree
- 19. Fast Radio Bursts
- 20. Beed Model of Insurance
- 21. AISHE survey 2019-20
- 22. Terms in News

# **Word Food Safety Day**

- In 2018, the United Nations General Assembly proclaimed that every June 7 would be celebrated as World Food Safety Day.
- The observance is jointly facilitated by the Food and Agriculture Organisation of the United Nations (FAO) and the World Health Organisation (WHO).
- Theme 2021 'Safe Food for a healthy tomorrow'





#### Source->PIB

# **ALH Mk-III Advanced Light Helicopters**

- Indigenously designed and manufactured by Hindustan Aeronautics Limited (HAL), Bengaluru.
- These helicopters are fitted with modern surveillance radar and electro-optical equipment, which enable them to undertake the role of maritime reconnaissance in addition to providing long-range Search and Rescue, both by day and night.
- ALH MK III is also fitted with a heavy machine gun to undertake constabulary missions. A removable Medical Intensive Care Unit (MICU) is also fitted on ALH MK III helicopters to airlift critically ill patients. The helicopter also has a host of advanced avionics, making it truly an all-weather aircraft.

#### Source->PIB

# ALH Mk-III inducted into Coast Guard



# **World Day Against Child Labour**

- The World Day Against Child Labour is observed on 12thJune every year around the world.
- The ILO launched the World Day Against Child Labour in 2002 to focus attention on the global extent of child labour and the action and efforts needed to eliminate it.
- Union Minister of Women and Child Development and Textiles has Appealed to Citizens to report the instances of Child Labour on PENCIL Portal or by calling on Childline-1098.

#### Source->PIB

#### **Khadi Prakritik Paint**

#### In news

Delhi High Court has directed a Ghaziabad-based trader, who indulged in fraudulent manufacturing and selling of counterfeit Khadi Prakritik Paint, to stop all such activities immediately.

#### **About Khadi Prakritik Paint**

- It is a unique, innovative paint made from cow dung.
- Developed by Khadi and Village Industries Commission (KVIC),
- the anti-fungal and anti-bacterial paint was launched by MSME Minister Shri Nitin Gadkari on 12th January 2021.

#### **About KVIC**

- It is a statutory body established by an Act of Parliament (Khadi and Village Industries Commission Act of 1956).
- It is an apex organisation under the Ministry of MSME, with regard to khadi and village industries within India
- Recognising its potential to generate exports and its eco-friendly importance, the Ministry of Commerce had accorded deemed Export Promotional Council Status (EPCS) to KVIC in 2006, to boost the export of Khadi products.

## Source->PIB

#### Indemnity

#### In news

The Union government is in talks with foreign manufacturers of COVID-19 vaccines on their demand for Indemnity from liability as a condition for selling their vaccines to the country.

#### **Key takeaways:**

- Indemnity is a form of contract. The law on drugs in India does not have a provision for indemnity.
- **Section 124 of the Indian Contract Act, 1872**, defines as contract of indemnity as one by which one party promises to save the other from any loss caused to the latter.
- By indemnifying companies in respect of vaccines, the government of India may be able to negotiate lower prices and higher volumes. It may help accelerate the country's national vaccination programme.
- On the flip side, the government may be forced to make it a level playing field for local manufacturers by extending indemnity to them, and thereby inviting upon itself the entire risk associated with more than a billion vaccine shots.

#### **About Indemnity**

In simple terms, indemnity means security against a loss or other financial stress.

 It protects the manufacturers from any potential civil-legal liability or immunity from being sued by people for any unforeseen complications arising from their COVID-19 vaccine.

#### Source->The Hindu

#### **ASEAN**

#### In news

China is hosting ASEAN foreign ministers meeting this year. This year (2021) also marks the 30th anniversary of the dialogue relations between China and the ASEAN countries.

#### **Key takeaways:**

- Focus on Combating COVID-19, Promoting economic recovery and better dovetail strategic plans.
- Discussing the proposal of vaccine passport connecting China and ASEAN countries.
- China criticized the Quad (India, Australia, Japan and the United States grouping) during recent visits to Sri Lanka and Bangladesh and called on both countries to reject "military alliances"
- China and the ASEAN countries established a strategic partnership in 2005 and free trade zone in 2010.
- China and ASEAN countries are a part of the RCEP trade deal.

#### **About ASEAN**

- It is a regional grouping that was established in 1967 with the signing of the Bangkok Declaration.
- Members: Indonesia, Thailand, Singapore, Malaysia, The Philippines, Vietnam, Myanmar, Cambodia, Brunei, and Laos.
- **Headquarters:** Jakarta, Indonesia.

#### Source->The Hindu

#### Sea Snot

#### In news

Sea Snot accumulation in the Sea of Marmara (Turkey) is causing grave environmental concern.

#### **About Sea Snot:**

 It is also known as Sea Saliva or Marine Mucilage. It is a collection of thick, slimy, mucus-like substance found in the sea. It is composed of compounds secreted by marine organisms.

- Mucilage is a thick, gluey substance produced by nearly all plants and some microorganisms.
- Reasons: It's a combination of three things: high nutrient content, the very stratified water that's in that sea, and the phytoplankton bloom that ensues.
- It was first recorded in Turkey in 2007. Back then, it was also



spotted in the Aegean Sea near Greece.

#### **Effects**

- Threat to the marine ecosystem
- affected the livelihoods of fishermen
- It can cause an outbreak of water-borne diseases such as cholera in cities like Istanbul.

#### The Sea of Marmara

It is an inland sea entirely within the borders of Turkey. The sea connects the Black Sea to the Aegean Sea, thus

separating Turkey's Asian and European lands.

**Source: Indian Express** 



# **PVDPS and Oxy Van**

#### In news

Haryana Government has launched the *Pran Vayu Devta Pension Scheme (PVDPS*) and *Oxy Van(Oxygen Forests)* on the occasion of World Environment Day.

## About Pran Vayu Devta Pension Scheme

- It is an initiative to honour all those trees which are of the age of 75 years and above.
- Such trees will be identified throughout the state and these will be looked after by involving local people in this scheme.
- For the maintenance of these trees, a "pension amount" of Rs 2,500 would be given per year to the Village panchayats and Urban Local Bodies department.
- This 'tree pension' shall continue to increase every year on lines similar to the Old Age Samman Pension Scheme in the state.

## **About Oxy Van:**

- Oxy Van are identified pieces of land on which <u>as many as 3 crore trees</u> would be planted.
- The Oxy Vans will occupy 10% of the 8 lakh hectares of land across Haryana.
- The total cost of the project shall be Rs 1 crore.

# Source: <u>Indian Express</u> **Operation Pangea**

In news

Interpol has conducted <u>Operation Pangea XIV</u> to target the sale of counterfeit and illicit medicines and medical products.

#### **About Operation Pangea:**

- It is an international effort to <u>target the online sale of counterfeit and illicit health</u> <u>products</u>. It also aims to raise public awareness of the potential dangers of buying medicines online.
- The <u>first time Operation Pangea</u> was conducted was in <u>2008</u>.
- The operation is coordinated by INTERPOL. It involved police, customs and health regulatory authorities from 92 countries.
- The CBI is the nodal body for Interpol in India.

**Source: The Hindu** 

#### **Aducanumab**

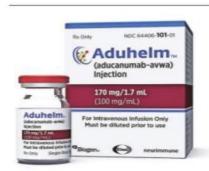
#### In news

Aducanumab", a new drug for the treatment of Alzheimer's disease, has been approved by the US Food and Drug Administration (FDA)

#### **Key takeaways:**

- It is a monoclonal antibody drug that aims at altering the course of Alzheimer disease by slowing the deterioration of brain function.
- The drug binds to beta amyloid(a protein that forms plaques in the brain-> leading to cognitive decline and problems with thinking) molecules and removes them.

# ADUCANUMAB FACT FILE



Biotechnology company Biogen's aducanumab (brand name Aduhelm), is the first new approval of an Alzheimer's drug by UDFDA since 2003, and the only treatment designed to slow progression of the disease.

WHO CAN USE IT: FDA did not define the patient population for whom aducanumab is appropriate. It was tested in patients in the earliest stages of Alzheimer's, but not in people who had progressed to moderate dementia. Biogen estimates around 1.5 million Americans are eligible for treatment with Aduhelm.

HOW IT WORKS: Aduhelm is designed to target amyloid beta, a protein that forms sticky deposits or plaques in the patient's brain. It is designed to slow the progression of Alzheimer's disease, allowing patients to remain as self-sufficient as possible for as long as possible. It is not a cure.

HOW IT IS GIVEN: As a monthly intravenous infusion. In trials, some patients given the highest dose experienced brain swelling; headache is also a reported side effect.

THE COST: It is very expensive. Biogen has said the average wholesale cost would be about \$56,000 per year. That is more than Rs 40 lakh at current exchange rates.

It is given monthly via injection to patients who suffer from early stages of Alzheimer's.

#### **Concerns:**

- High cost
- Ineffective Studies

#### About Alzheimer's Disease:

- Neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die.
- It is the most common cause of **dementia**-> a continuous decline in thinking, behavioural and social skills that affect a person's ability to function independently.
- Caused by: the abnormal build-up of proteins in and around brain cells.

**Source: Indian Express** 

# **QS World University Rankings:**

- Released by Quacquarelli Symonds (QS).
- It is an annual publication of university rankings which comprises the global overall and subject rankings.
- The universities are <u>evaluated</u> <u>based on the following six</u> <u>metrics</u>-> Academic Reputation (40%), Employer Reputation (10%), Faculty/Student Ratio (20%), Citations per faculty (20%), International Faculty Ratio (5%), International Student Ratio (5%).

Commence of the Commence of th	= indicates shared rankir
2022 global rank	Name
177=	Indian Institute of Technology, Bombay
185	Indian Institute of Technology, Delhi
186=	Indian Institute of Science, Bengaluru
255=	Indian Institute of Technology, Madras
277=	Indian Insititute of Technology, Kanpur
280	Indian Insititute of Technology, Kharagpur
395=	Indian Insititute of Technology, Guwahati
400=	Indian Institute of Technology, Roorkee
501-510 (ranking band)	University of Delhi
561-570 (ranking band)	Jawaharlal Nehru University, Delhi

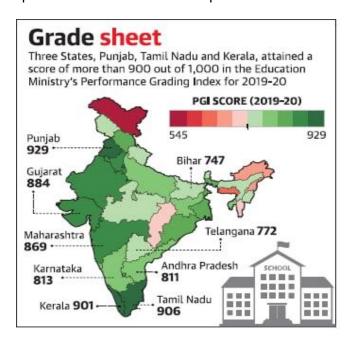
# **Key takeaways:**

- Only three educational institutes from India, the IIT Bombay, IIT Delhi and IISc Bengaluru feature in the top 200 list.
- Except for these three institutes, no other Indian institution has been able to break into the top 200 since 2017.
- IIT-Bombay continues to be India's best higher education institution for the fourth consecutive year.
- There are a total number of 22 Indian higher education institutions placed among the world's top 1,000 universities.
- Indian universities have improved their performance on academic reputation metric and
  - research impact, but continue to struggle on the teaching capacity metric.
- IISc Bengaluru remains the world's top research university, maintaining a perfect score of 100/100 for this metric.

**Source: Indian Express** 

# Performance Grading Index (PGI)

- It is a tool to provide insights on the status of school education in States and UTs.
- Released by: Department of School Education and Literacy (DoSEL), Ministry of Education.



- The Government has introduced the PGI with set of 70 parameters to catalyse transformational change in the field of school education
- It was first published in 2019 for States and UT's.
- It helps to pinpoint the gaps and prioritize areas for interventions
- Punjab, Chandigarh, Tamil Nadu, Andaman & Nicobar Island occupy highest grade

#### Source->The Hindu

# **CAR T-cell (chimeric antigen receptor T-cells) Therapy**

#### In news

The clinical trial of an indigenously developed CAR T-cell therapy for blood cancer treatment has begun at Mumbai's Tata Memorial Centre

# **About CAR T-cell Therapy:**

- **CAR T-Cell**:- are genetically engineered to produce an artificial T-cell receptor.It is widely used in developed nations for immunotherapy during cancer treatment. But the technology is not available in India yet.
- CAR T-Cell therapy developed by IIT-B, uses <u>lentiviral technology</u>->this is a method of
  inserting, modifying, or deleting genes in organisms using lentivirus a family of viruses
  responsible for diseases such as AIDS.
- Unlike chemotherapy, this drug is administered only once to the patient.
- Chemotherapy, are aimed at promoting life by a few months or years. They are not intended to cure cancer.
- The CAR-T cells have been fairly successful in curing cancers in some developed nations.

#### **Source->Hindustan Times**

# CORPAT

- India and Thailand have commenced the 31st edition of Indo-Thai CORPAT Exercise.
- They have been carrying out the Coordinated Patrol (CORPAT) exercises along their International Maritime Boundary Line <u>twice a year since 2005</u>.
- Aim-Effective implementation of UNCLOS and secure for commercial shipping and international trade.

#### Other Exercises between India and Thailand:

- Exercise Maitree- It is a bilateral military exercise between India and Thailand.
- **SIAM BHARAT**: It is a joint Air Force exercise between India and Thailand.
- Exercise SITMEX: It is a trilateral exercise involving the Republic of Singapore Navy (RSN), Royal Thailand Navy(RTN) and Indian Navy(IN).

#### Source->PIB

#### **INS Sandhayak**

- Oldest hydrographic survey vessel-> decommissioned at a naval dockyard in Visakhapatnam.
- It was commissioned to the Navy on February 26, 1981.
- INS Sandhayak also took part in significant operations
  - o 'Operation Pawan' in Sri Lanka in 1987,
  - o 'Rainbow for Humanitarian Assistance' in the aftermath of the 2004 tsunami

Indo-US HADR
 Exercise 'Tiger Triumph' in 2019.

# Source->The Hindu Global Minimum Corporate Tax (GMCT)

#### In news

G7 nations reached a landmark deal to close cross-border tax loopholes used by some of the world's biggest companies.

#### Key takeaways:

- It would support

   a minimum global
   corporation tax rate of at least 15%.
- They would put in place measures to ensure taxes
   were paid in the countries where businesses operate.

- United Kingdom 2021

  Whited Kingdom 2021
  - GLOBAL TAX
     The accord could form the basis of a global agreement next month
    - The pact would ensure taxes are paid in the countries where businesses operate
    - Leaders also agreed to move towards making companies declare environmental impact
- Governments could set whatever local corporate tax rate they want, but if companies pay lower rates in a particular country, their home governments could topup their taxes to the minimum rate, thus eliminating the advantage of shifting profits.

such as Google,

Facebook often

where they pay

book profits in jurisdictions

Amazon and

• OECD has also been coordinating tax negotiations on rules for taxing cross-border Digital Services and curbing tax base erosion, including a global corporate minimum tax.

#### **About GMCT**

- It is the minimum amount of corporate tax a company must pay on its income, both domestic and foreign.
- Under this, If a company moves some of its operations to another country having lowtax jurisdiction, then the company have to pay the difference between that minimum rate and whatever the firm paid on its overseas earnings.

#### **About G7**

- Formed in 1975 in the aftermath of the 1973 Oil Crisis.
- The G7 became the G8 with Russia's admission into the group in 1998->reverted to the G7 in 2014, following Russia's annexation of Crimea.
- The group has taken up a host of issues ranging from economic growth to environmental issues and terrorism.
- The latest summit seeks to address global health challenges.

## Source->The Hindu

#### **Anti-hail guns**

#### In news

HP government will be testing the use of indigenously developed 'anti-hail guns' to help out horticulturists who face crop damage due to hailstorms

#### About the anti-hail gun

- Developed by <u>IIT Bombay</u> along with Dr Y S <u>Parmar University of Horticulture and Forestry at Nauni (Solan).</u>
- It is a machine which generates shock waves to disrupt the growth of hailstones in clouds.
- It comprises a tall, fixed structure somewhat resembling an inverted tower, several metres high, with a long and narrow cone opening towards the sky.
- The gun is "fired" by <u>feeding an explosive mixture of acetylene gas and air</u> into its lower chamber, which releases a shock wave which travel faster than the speed of sound.
- These shock waves supposedly stop water droplets in clouds from turning into hailstones, so that they fall simply as raindrops.

# **Heritage Trees**

- The Maharashtra Cabinet has passed an action plan to protect and preserve <u>trees older</u> than 50 years in urban areas by terming them heritage trees
- Few important <u>criteria for considering a tree as a "heritage tree"</u> are: s<u>ize, shape, rarity, aesthetical/historical values, association with historic person, place or even myths.</u>
- Compensatory plantation will include planting the number of trees equivalent to the age
  of trees to be cut.
- Maharashtra Tree Authority: will have responsibility related to the protection and conservation of trees, including heritage trees.
- Tree Cess: The State authority will issue directions for the use of tree cess. The fine amount cannot be more than ₹1 lakh per tree in case of violations.

#### Source->The Hindu

# Fast radio bursts (FRBs)

#### In news

Researchers from the Pune-based Tata Institute for Fundamental Research (TIFR) and the National Centre for Radio Astrophysics (NCRA), have assembled the largest collection of Fast Radio Bursts (FRBs) catalogue.

#### **Key takeaways:**

- The data is from Canadian Hydrogen Intensity Mapping Experiment (CHIME).
- In 2020, NASA spotted FRB for the first time in the Milky Way.
- The new catalogue expands the current library of known FRBs, and is already helping in understanding their properties.

#### **About FRB**

- These are bright bursts of radio waves whose durations lie in the millisecond-scale, because of which it is difficult to detect them and determine their position in the sky.
- It was first discovered in 2007.
- Their origins are unknown and their appearance is highly unpredictable.
- It can be used to understand the three-dimensional structure of matter in the universe

#### **Source->The Hindu**

# **Beed Model of Crop Insurance**

#### In news

Maharashtra CM has asked the PM for state-wide implementation of the 'Beed model' of the Pradhan Mantri Fasal Bima Yojana (PMFBY).

#### **About Beed Model**

- Under this model, the insurance company provides a cover of 110% of the premium collected.
- In case the compensation amount exceeds the 110% mark, the state government would pay the bridge amount.
- But if the compensation was less than the premium collected, the insurance company would keep 20% of the amount as handling charges and reimburse the rest to the state government.

**Note:** <u>Beed</u> is a <u>drought-prone district in Maharashtra</u>. Farmers here have repeatedly lost crops either to failure of rains or too heavy rains.

#### **About PMFBY**

- Launched in 2016 by the Ministry of Agriculture and Farmers Welfare.
- Aim: To provide comprehensive insurance cover against failure of the crop
- It covers food crops, oilseed crops, annual commercial/horticultural crops.
- The prescribed premium is 2% for Kharif crops,1.5% for Rabi crops,5% for commercial and horticultural crops.

**Source: Indian Express** 

# All India Survey on Higher Education (AISHE) 2019-20.

#### **Key takeaways:**

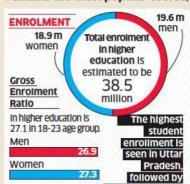
- During the last five years from 2015-16 to 2019-20, there has been a growth of 11.4% in student enrolment.
- Uttar Pradesh has the highest student enrolment in India. It has 49.1% male and 50.9% female students. It is followed by Tamil Nadu and Maharashtra.
- The Gross Enrollment Ratio(GER) has increased by a minuscule 0.8% in 2019-20. GER in higher education in 2019-20 was 27.1%.
- There has been an overall increase of over 18% in female enrolment in higher education from 2015-16 to 2019-20.
- However, the share of girl students is lowest in institutes of national importance. Also, female participation in professional courses is lower in comparison to academic courses.
- Gender Parity Index(GPI) in Higher Education improved a bit. In 2019-20, it was 1.01 against 1.00 in 2018-19
- The Pupil-Teacher Ratio in Higher Education in 2019-20 is 26.

#### Source->PIB

# 18.2% RISE IN WOMEN ENROLMENT IN 5 YEARS

HIGHER EDUCATION SURVEY

Enrolment of women in higher education has increased but their percentage share in professional courses is still lower than men, according to the Ali India Survey on Higher Education (AISHE) 2019-20. Scheduled Tribes and minorities still lag in overall enrolment and the Bachelor of Arts remains the most popular course, the report said.



#### SOCIAL BREAKUP

Scheduled Caste students constitute
14.7% and Scheduled Tribes 5.6% of
the total enrolment. 37% students belong to
Other Backward Classes, 5.5% to Muslims
and 2.3% to other minority communities

Maharashtra and

Tamii Nadu

92,831 persons with disabilities (PWD) are enrolled in higher education, of which 47,830 are men and 45,001 women. Women participation among PWD students is the highest in ST group with 119 women per 100 men, followed by SCs (78).

49,348 foreign students from 168 different countries are enrolled in India. The highest number of students are from Nepal, followed by those from Afghanistan, Bangladesh, Bhutan, and Sudan. B Tech, BSC, B.E popular courses among foreign students.



The total number of teachers are 15,03,156, out of which about 57.5% are men and 42.5% women In Bihar, woman to man teachers' ratio is 1:4.



There has been an 18.2% rise in female enrolment from 2015-16 to 2019-20. The Gender Parity Index (GPI) in higher education rose to 1.01 in 2019-20 against 1.00 in 2018-19

The percentage share of men is higher than women at aimost every level, except M.Phil, postgraduate and certificate courses. Women participation in professional courses is lower in comparison to academic courses at both undergraduate and postgraduate levels

Share of women is the lowest in institutions of National Importance, followed by Deemed University-Government, State Private University. Distance enrolment constitutes about 11.1% of the total enrolment

The man-woman ratio is similar among all social groups. In case of OBCs, its 50.5: 49.5. There are more women students than men among minorities.

Teachers from the general group constitute 56.5% of the total teachers. OBCs form 32.1% of teachers; SCs and STs constitute 9% and 2.4%, respectively. About 5.6% teachers are Muslims, and 9% from other minority groups



#### SUBJECT AND COURSE

About 79.5% of the students are enrolled in Undergraduate programmes and Just 0.5% in PhD courses Maximum numbers of students are enrolled in BA courses, followed by B.Sc. and B.Com

UG level: 32.7% of students are enrolled in Arts, Humanities/Social Sciences courses, followed by 16% In Science, 14.9% in Commerce and 12.6% In Engineering and Technology

POSTGRADUATION- maximum students are enrolled in Social Science stream and Science comes next

The share of Ph.D. student is the highest in State Public University at 29.8%, followed by institute of National importance at 23.2%, Deemed Univ-Private at 13.9% and Central Univ at 13.6% At Ph.D level, most of students are enrolled in Engineering and Technology stream followed by Science

Enrolment in professional courses is more in private institutions than in government, both at the undergraduate and postgraduate levels

#### INSTITUITIONAL SPREAD

There are 1,043 univs, 42,343 colleges and 11,779 standalone institutions, as per AISHE 307 universities are affiliating i.e. having colleges, 396 universities are privately managed, and 420 universities are in rural area 17 universities are exclusively for women

THE TOP 8 STATES WITH THE HIGHEST NUMBER OF COLLEGES IN INDIA ARE UTTAR PRADESH, MAHARASHTRA, KARNATAKA, RAJASTHAN, ANDHRA PRADESH, TAMIL NADU, MADHYA PRADESH AND GUJARAT



78.6% colleges are privately managed; 65.2% privateunaided and 13.4% private-aided

#### **Terms in News**

**Monoclonal Antibodies** are man-made proteins that act like human antibodies in the immune system. They are made by cloning a unique white blood cell.

**I-Familia:** Global database to identify missing persons. It can identify missing persons through family DNA and help the police solve cold cases in member countries. Launched by Interpol.

**YounTab scheme**: Ladakh Lt Governor has launched the YounTab scheme for students in the Union Territory to encourage digital learning.

**UN Decade on Ecosystem Restoration:** Launched by The UNEP and the FAO to prevent, halt and reverse the degradation of ecosystems on every continent and in every ocean.

**Online Module:**Set up by Centre to map out of school children and connect them to mainstream education through special training centres.

**Pakke Tiger Reserve:**The 862 sq.km. tiger reserve in Pakke Kessang district in Arunachal Pradesh.

**MSP:**It is the rate at which the government purchases crops from farmers.It is based on a calculation of at least one and a half times the cost of production incurred by Farmers.

**Principle of proportionality:**It is defined as the obligation to refrain from "any attack which may be expected to cause incidental loss or injuries to civilians, or damage to civilian objects, which would be excessive in relation to the concrete and direct military advantage anticipated".

**Build Back Better World" (B3W) project:** Aimed at competing with China's trillion dollar Belt and Road infrastructure (BRI) initiative.

Carbis Bay Declaration: Series of commitments to curb future pandemics after COVID19 wrecked economies and killed millions around the world.