

## Heat Dome

### ❖ Context

- The heat wave which is causing **historic high temperatures** to be reported in **North America** is the result of a phenomenon referred to as a "heat dome".

### ❖ What is a Heat Wave?

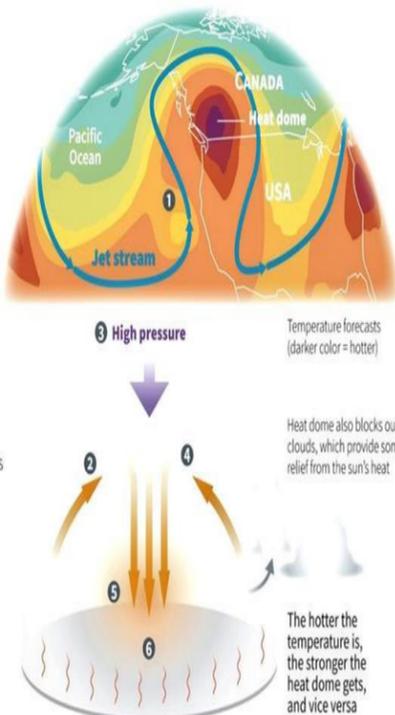
- A heat wave is a **period of unusually hot weather that lasts for more than two days**.
- It can occur with or without high humidity and has the potential to cover a large area.

### ❖ What is a Heat Dome?

#### The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 Hot and stagnant air **expands upwards**
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air **sinks and compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



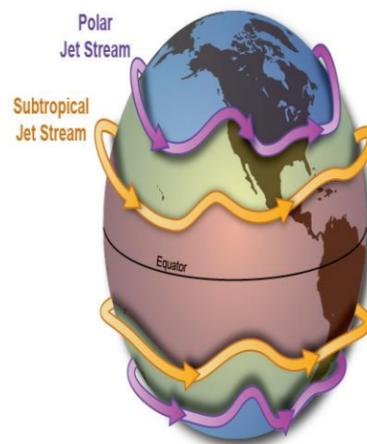
- A heat dome occurs when the **atmosphere traps hot ocean air** like a lid or cap over large geographical areas.
- The reason that the planet Venus is the hottest in the Solar System is because its thick, dense cloud cover traps the heat at the surface, leading to temperatures as high as 471 degree Celsius.

### ❖ What is Causing Current Phenomena?

- Scientists have found the main cause is a **strong change in ocean temperatures** from west to east in the **tropical Pacific Ocean** during the preceding winter.
- The **western Pacific ocean's temperatures have increased** in the past few decades and are relatively more than the temperature in the eastern Pacific.
- As the prevailing **winds move the hot air east**, the **northern shifts of the jet stream trap the air and move it toward land**, where it **sinks**, resulting in heatwaves.

### ❖ Why is the North Atlantic Jet Stream Migrating?

- The **Arctic is warming three to four times faster** than the globe as a whole.
- It means there is ever less difference between northern temperatures and those closer to the equator.
- That is resulting in swings in the North Atlantic jet stream, which in turn leads to extreme weather events like heat waves and floods.



## Alibag's white onion gets GI Tag

### ❖ Context

- Alibag's white onion gets GI tagged, to benefit farmers as white onion will get premium price.



### ❖ Key Highlights

- Onions are grown here for ages with only traditional and genuine seeds.
- Locals have acquired knowledge and mastered the skills required for the cultivation of white onion.
- Geo-climatic conditions of Alibag make it unique compared to other white onion-producing areas and that is why Alibag white onion has developed a unique taste, flavour, and shape as well.
- The GI for this onion, characterized **by its sweetness**.
- The GI tag gives a unique identity to the white onion, which has medicinal qualities and is being cultivated in a traditional way for a long time.

### ❖ Export potential

- Onion exports from Maharashtra declined to 5.8 lakh tonnes during FY22 from 7.9 lakh tonnes during FY21.
- The GI tag will help white onion farmers in Alibag to get a bigger export market.

### ❖ About Geographical Indications

- In India the Geographical Indications of Goods (Registration and Protection) Act, 1999 came into force September 2003, under which the GI registration is administered.
- GI Tag is basically given to the products related to agriculture, handicrafts, foodstuffs, spirit drinks and Industrial Products. India has more than 300 geographical Indications so far.

## Sakurajima Volcano

### ❖ Context

- A fiery volcanic eruption occurred in southern Japan prompting the highest level of warning by the authorities.



### ❖ Key Highlights

- The volcano is located at western Japanese island of **Kyushu**.



- Sakurajima is an **active stratovolcano**, formerly an island and now a peninsula, in Kagoshima Prefecture.

## Face to Face Centres

## Laggerstätte

### ❖ Context

- A rare arthropod fossil has been found at **Kirkfield Formation of southern Ontario**, a well known fossil site.



### ❖ Key Highlights

- Handful of **fossil sites of exceptional preservation**, known as laggerstätte, provides unique, critical information about the ecology and evolution of ancient life.
- These sites can contain **fossils with soft tissues** whose preservation requires elusive conditions, like **low-oxygen conditions** that halt decay.
- Soft tissues are **unmineralised structures** that would normally decay in most conditions, thus usually becoming absent from the fossil record.

### ❖ About Arthropods

- Arthropods are the most diverse group of animals in the world.
- They can be easily classified into groups: chelicerates (which includes spiders and mites), myriapods (like centipedes and millipedes), crustaceans (like crabs and shrimps) and insects.
- Some arthropod groups, like the trilobites, have gone extinct, but their mineralised exoskeletons have an excellent fossil record.

## Wentian Space station

### ❖ Context

- China successfully launched first lab module for its space station.



### ❖ Key Highlights

- The new module will function both as a backup of the core module, Tianhe, and as a powerful scientific experiment platform in the space station currently being built by the country.
- China is on the track to completing the construction of its space station as it successfully launched the first lab module.
- The construction of China's space station called **Tiangong** is expected to be completed this year i.e 2022.
- It will then evolve from a single-module structure into a national space laboratory with three modules -- the core module, Tianhe, and two lab modules, Wentian and Mengtian.

- Wentian lab features cutting-edge technologies, strong capabilities, and sophisticated design and represents a new milestone in China's space industry, state-run China Daily reported.
- It consists of three major parts :
  - a crew working compartment,
  - an airlock cabin and
  - an unpressurised service module.
- **Only country:** Once ready, China's low-flying space station will be the only country to own a space station. The International Space Station (ISS) of Russia is a collaborative project of several countries.

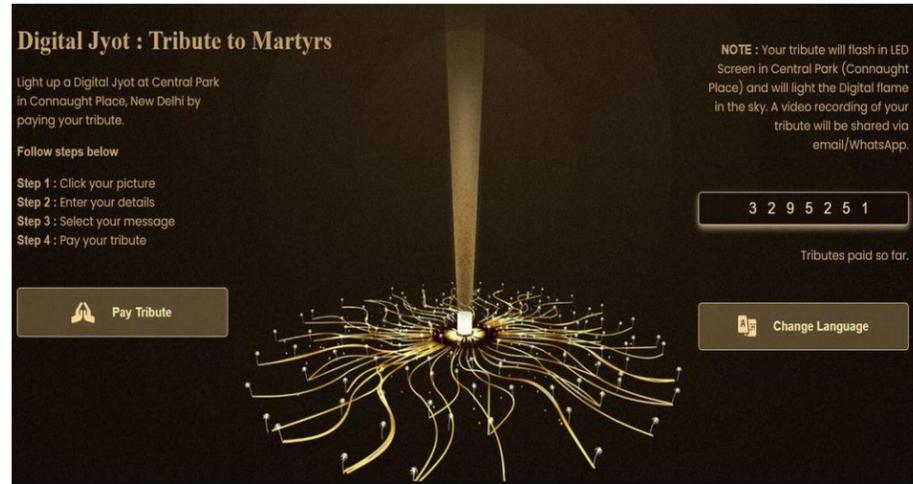
## Digital Jyot

### ❖ Context

- Prime Minister Narendra Modi recently tweeted about "Digital Jyot", the beam of light at Central Park in Connaught Place, and asked people to send in their messages at digitaltribute.in to make the beam brighter.

### ❖ Key Highlights

- Installed on March 12 2022, the beam gets brighter as more messages paying tribute to freedom fighters are posted by the public on the website.
- The individual messages are also played on a screen at Central Park as a part of the initiative **to mark 75 years of Independence**.
- As of now the beam is around 800 watt and would be at full capacity of 2,500 Watt with 1 crore messages.
- The beam can be seen from 30 km on a clear day on full intensity.



## CoWIN Platform

### ❖ Context

- Any country interested can avail CoWIN platform, the platform will be provided free of cost.
- India has already signed an MoU with the Government of the Co-operative Republic of Guyana for sharing CoWIN.



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❖ **CoWIN Platform**

- Selected vendors by the country will be trained on CoWIN technology to customise it for their requirement.
- Usually, since the vaccination cycle is almost the same in all countries, the customisation will be limited to changes in field and master data configuration.

- Complete revamp of the application by any country is not expected.
- CoWIN platform does not store or share any personal data.

## News in Between the Lines

### Aadi Krithigai



❖ **Context**

- Prime Minister greeted the people on the special day of Aadi Krithigai on 23<sup>rd</sup> July 2022.

❖ **Key Highlights**

- The Krittika nakshatra or Karthigai natchathiram of the Tamil month of Aadi is dedicated to Lord Muruga (Karthikeya / Subramanya), son of Lord Shiva and Goddess Parvathi.
- The festival celebrated on this day is known as **Aadi Kaarthigai** (Tamil: also spelled Aadi Kiruthigai or Aadi Krithikai).
- It is predominantly a Tamil festival popular among Tamil population.

### Face Authentication RD App



❖ **Context**

- The UIDAI, Unique Identification Authority of India has recently launched an application called **Aadhaar FaceRD Auth App**.

❖ **Key Highlights**

- The AUAs (**Aadhaar Authentication User Agencies**) will be able to capture a person's face for the authentication purpose.
- This application will be extremely useful to confirm the identity of people.
- The FaceRD works by capturing the real-time picture of the face of a person and then confirms whether the person's details match with the Aadhaar card or not.
- Besides, confirming the identity of people for Aadhaar related things on UIADI, the Aadhaar FaceRD App can help in the Aadhaar face authentication of other applications also including CoWIN, JeevanPraman, Scholarship, PDS and so on.

### Hub & Spoke Business Arrangement



❖ **Context**

- A new bill is on the anvil to give more powers to the Competition Commission of India taking into account new forms of anti-competitive business arrangements.

❖ **Key Highlights**

- These new forms of anti-competitive business arrangements have spurred in the light of strong growth in e-commerce.
- A hub and spoke cartel is one where **market players** at the horizontal level (spokes) enter into an agreement, tacit or explicit, to **share sensitive information through a vertical common player**, referred to as 'hub'.
- Although not directly involved in its activities, the **hub acts as a medium to facilitate the cartel**.

❖ **Other Issues in e-commerce Flagged by CCI**

- The practice of platforms own private labels threatening neutrality of the platform.
- Deep discounts by platforms.
- Exclusive sales arrangements between some brands and platforms.
- Platforms not sharing customer insight with listed businesses.

### Public Health Emergency of International Concern

❖ **Context**

- Amid a rapid rise in monkeypox cases across the globe, **WHO** declared the disease outbreak a Public Health Emergency of International Concern (PHEIC).

❖ **Key Highlights**

- The WHO defines a PHEIC as a disease outbreak that constitutes a **public health risk** through the **international spread** of disease which may require an **immediate and coordinated international response**.

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- It entails accelerating international efforts to contain the spread of the disease before it **escalates into a pandemic**.
- This would mean promoting countries to devise efforts to control transmission and coordinate sharing of key resources such as vaccines and therapeutics apart from heightened contact tracing, diagnosis and vaccination.
- The decision to declare a PHEIC is made by the **WHO's director-general and a committee of experts**.

## Sports Code



सत्यमेव जयते

MINISTRY OF YOUTH AFFAIRS & SPORTS

Government of India

### ❖ Context

- All India Football Federation (AIFF), Indian Olympic Association (IOA), Hockey India have been warned by their respective international bodies for the delay in elections. All bodies are also under legal scrutiny for violation of the Sports Code.

### ❖ Key Highlights

- The **National Sports Development Code of India**, was introduced in **2011** by the **Ministry of Youth Affairs and Sports**, which wanted good governance practices in the management of sports without interfering in their autonomy.
- Most of the sports federations had become personal fiefdoms of certain individuals - many of them politicians - as they continued to remain in power for long periods.
- The National Sports Code laid down restrictions regarding age and tenure.
- As per the Sports Code, **70 years** is the age limit for all office bearers with the tenure regulations only applying to the president, secretary general/secretary, and treasurer. If a body is found to be violative of the sports code, it can be suspended or grants can be stopped.
- Courts can also put them under a **Committee of Administrators (CoA)**.

## Fiberisation



### ❖ Context

- India is preparing to auction off about 72 Ghz of airwaves to rollout 5G services in the country which, however, requires fiberisation.

### ❖ Key Highlights

- To transition into 5G, India needs at least 16 times more fibre.
- The **process of connecting radio towers with each other** via optical fibre cables is called fiberisation.
- It will help in providing full utilisation of network capacity, additional bandwidth and stronger backhaul support.
- A telecom network consists of three parts; **core, transport, and radio**.
- The **backhaul** is an important part of the larger transport which connects the core of the network to the edge.
- Optical fibre-based media also provides almost infinite bandwidth and coverage, low latency and high insulation from interference. In India, currently **only 33% of the towers are fiberised**, compared to the 65%-70% in South Korea and 80%-90% in the U.S, Japan and China.

## Kargil Vijay Diwas



### ❖ Context

- India on 26 July 2022 commemorated 23 years of its victory over Pakistan in the Kargil War.

### ❖ Key Highlights

- The Nation is remembering its war heroes and pays tributes to the Martyrs on Kargil Vijay Diwas.
- The day marks the victory of the Indian armed forces in **Operation Vijay in 1999**, when they evicted the infiltrators backed by the Pakistani army from high outposts in the Kargil sector.
- The Kargil war was fought for more than **60 days** and ended with India regaining control of all the previously held territory.
- The victory of **Tiger Hill** was one of the crucial achievements in the 60- day long conflict.
- Indian soldiers fought the Kargil War under the toughest conditions, on difficult terrain, at an altitude of **18 thousand feet**.

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