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GS 2 : Polity, Governance, International Relations

1. A WTO waiver on patents won't help us against covid

Waiver from TRIPS

- Last October, India and South Africa moved a motion at the WTO asking its council on Trade-Related Aspects of Intellectual Property Rights (TRIPS) to provide a waiver on intellectual property protection for pharmaceutical patents.
- Many developing countries have since supported the joint move.
- While most advanced countries, home to the world's major pharmaceutical companies, have opposed it.
- Nobel economist Joseph Stiglitz, along with activist Lori Wallach, penned an opinion piece making a case for such a waiver.

Voluntary licensing

- Alternative to waiver could be **voluntary licensing arrangements** between pharmaceutical companies and countries that wish to make vaccine doses for their own use.
- This is exactly what has occurred in India's case, with a licensing **agreement between AstraZeneca and Serum Institute of India**.
- The recent difficulties with this arrangement are a result of India diverting some doses intended for export (or for Covax) to its domestic vaccination drive.
- But India will soon begin making other important global vaccines under similar licence arrangements, and a waiver would do nothing to speed up this process.

Compulsory licensing

- In the event that India needs to ramp up production more than is feasible via licences from global manufacturers, there is another alternative available, **which is 'compulsory licensing'**.
- Such an approach would not permit the **export of vaccine** doses made under a compulsory licence.

- This approach should be taken by any developing country, if, for some reason, global pharmaceutical companies are unwilling to license a life-saving vaccine for domestic manufacture and distribution in that nation.

Why TRIPS waiver won't help

- India's limiting factors are a **shortage of raw materials** and **low production capacity**, neither of which would be cured with the supposed magic bullet of a WTO waiver.
- Not only would a WTO waiver not do anything to address the real bottlenecks that constrain the global production and distribution of vaccines, it would also **set a bad precedent**.
- It is true that governments, including the US and others, have significantly subsidized or incentivized in other ways the research and development activities of private pharmaceutical companies that now hold patents for major covid vaccines.
- Yet, these governments **required the ingenuity of private enterprise to invent these vaccines**.

Conclusion

While it may seem appealing, a WTO waiver on intellectual property protection is an inappropriate priority. It's a distraction from the heavy lifting needed to create the capacity to fight the scourge of covid.

2. International Labour Day

Why in News

Every year 1st May is observed as May Day and is also known as **International Labour Day** worldwide.

- The day is observed as an occasion to **commemorate the contributions of labourers and the working class**.
- The **International Labour Organization**, a United Nations agency, works towards setting international labour standards.

Key Points

- **History and Significance:**
 - **United States:**
 - Labour Day **has its origins in the labour union movement in the United States** in the 19th Century.

- However, the **USA and Canada celebrate Labour day on the first Monday of September, every year.**
- Labour day was designated as a day in support of workers by trade unions and socialist groups in the memory of the **Haymarket affair of 1886 in Chicago, USA.**
 - **Haymarket Affair** was a peaceful rally in support of workers which led to a violent clash with the police, leading to severe casualties. Those who died were hailed as “Haymarket Martyrs”.
- Workers’ rights violations, straining work hours, poor working conditions, low wages and child labour were the issues highlighted in the protest.
- **Europe:**
 - May Day was **first celebrated on 1st May, 1890**, after it was declared by the first **International Congress of Socialist Parties** in Europe in July 1889.
- **USSR:**
 - The Soviet Union and the Eastern bloc nations **started celebrating the Labour day after the Russian Revolution, 1917.**
 - New ideologies such as **Marxism and Socialism** inspired many socialist and communist groups and they attracted peasants and workers and made them an integral part of national movement.
- **India:**
 - The first Labour’s Day was celebrated in 1923 in Chennai. This day was observed by the **Labour Kisan Party of Hindustan.**
 - On this day, communist leader **Malayapuram Singaravelu Chettiar** asked the government that 1st May should be considered as a national holiday to symbolise the efforts and work of the workers.
 - This day is also known as Kamgar Divas, Kamgar Din and Antarrashtriya Shramik Divas in India.

Constitutional Provisions Related to Labour

- Indian constitution provides numerous safeguards for the protection of labour rights. These safeguards are in the **form of fundamental rights and the Directive principle of State policy.**
- **Article 14** commands the State to **treat any person equally before the law.**
- **Article (19) (1) (c)** grants citizens the **right to form associations or unions.**
- **Article 21** promises **protection of life and personal liberty.**
- **Article 23** prohibits forced labour.
- **Article 24** prohibits employment of children below the age of fourteen years.

- **Article 39(a)** provides that the State shall **secure to its citizens equal right to an adequate means of livelihood.**
- **Article 41** provides that within the limits of its economic capacity the State shall **secure for the Right to work and education.**
- **Article 42** instructs the State to make provisions for securing just and humane conditions of work and for maternity relief.
- **Article 43** orders the State to secure a **living wage, decent conditions of work and social and cultural opportunities** to all workers through legislation or economic organisation.
- **Article 43A** provides for the **participation of workers in Management of Industries through legislation.**

Legal Provisions

- Parliament has passed **3 labour code bills** aimed at labour welfare reforms covering more than 50 crores organized and unorganized workers in the country.
- These three Bills are
 - **Social Security Code, 2020.**
 - **Code on Occupational Safety, Health & Working Conditions Code, 2020**
 - **Industrial Relations Code, 2020**

3.The rising sun in India-Japan relations

Issues discussed in US-Japan summit

- The discussion focused on their **joint security partnership** given the need to address China's recent belligerence in territorial disputes in the South and East China Seas as well as in the **Taiwan Strait.**
- Both sides **affirmed the centrality of their treaty alliance,** for long a source of stability in East Asia, and pledged to stand up to China in key regional flashpoints such as the **disputed Senkaku Islands and Taiwan.**
- Both sides acknowledged the importance of extended deterrence vis-à-vis China through cooperation on cybersecurity and space technology.
- Discussions also touched upon Chinese ambitions to dominate the development of new age technologies such as **5G and quantum computing.**
- Given China's recent pledge to invest a mammoth **\$1.4 trillion** in emerging technologies, Washington and Tokyo scrambled to close the gap by announcing a **Competitiveness and Resilience Partnership, or CoRe.**

- Both sides have also signalled their intent to pressure on China on violations of intellectual property rights, **forced technology transfer**, excess capacity issues, and the use of **trade-distorting industrial subsidies**.
- Both powers repeatedly emphasised their vision of a **Free and Open Indo-Pacific**.

Issues that need to be discussed in Japan PM's visit to India

1) Continuation of balancing security policy

- First, one can expect a continuation of the balancing security policy against China that began in 2014.
- Crucially, India's clashes with China in Galwan have turned public opinion in favour of a **more confrontational China policy**.
- In just a decade, New Delhi and Tokyo have expanded high-level ministerial and bureaucratic contacts, conducted joint military exercises and concluded military pacts such as the **Acquisition and Cross-Servicing Agreement (ACSA)** logistics agreement.
- Both countries need to affirm support for a Free and Open Indo-Pacific and continued willingness to work with the Quad.
- Both countries need to take stock of the state of play in the security relationship while also pushing the envelope on the still nascent **cooperation on defence technology and exports**.

2) Expanding cooperation in various sectors

- The two powers will look to **expand cooperation** in sectors such as cybersecurity and emerging technologies.
- Digital research and innovation partnership in technologies from **AI and 5G to the Internet of Things** and space research has increased between the two countries in the recent past.
- There is a need to deepen **cooperation between research institutes** and expand funding in light of China's aforementioned technology investment programme.
- Issues of India's insistence on **data localisation** and reluctance to accede to global cybersecurity agreements such as the **Budapest Convention** may be discussed in the summit.

3) Economic ties

- Economic ties and infrastructure development are likely to be top drawer items on the agendas of New Delhi and Tokyo.
- Though Japan has poured in **around \$34 billion** in investments into the Indian economy, Japan is only India's 12th largest trading partner.

- Trade volumes between the two stand at **just a fifth of the value of India-China bilateral trade.**
- India-Japan summit will likely reaffirm Japan's support for key manufacturing initiatives such as **'Make in India' and the Japan Industrial Townships.**
- Further, India will be keen to secure continued infrastructure investments in the **strategically vital connectivity projects** currently under way in the Northeast and the Andaman and Nicobar Islands.

4) Joint strategy toward key third countries

- In years past, India and Japan have **collaborated to build infrastructure in Iran and Africa.**
- Both countries have provided vital aid to **Myanmar and Sri Lanka** and hammer out a common **Association of Southeast Asian Nations** outreach policy in an attempt to counter China's growing influence in these corners of the globe.
- However, unlike previous summits, the time has come for India and Japan to take a hard look at reports suggesting that joint infrastructure projects in Africa and Iran **have stalled with substantial cost overruns.**
- Tokyo will also likely try to get New Delhi to reverse its decision not to join the **Regional Comprehensive Economic Partnership.**

Conclusion

Writing in 2006, Shinzo Abe, expressed his hope in his book that "it would not be a surprise if in another 10 years, Japan-India relations overtake Japan-U.S. and Japan-China relations". Thus far, India has every reason to believe that Japan's new Prime Minister is willing to make that dream a reality.

4. Vande Bharat Mission: One of Top Civilian Evacuations

Why in News

The **Vande Bharat Mission (VBM)**, which started repatriating Indians stranded abroad due to Covid-19 and the resultant lockdowns since May 2020, has become **one of the largest evacuations of civilians by a country.**

Key Points

- **Vande Bharat Mission (VBM):**
 - It is the **biggest civilian evacuation exercise to bring back Indian citizens stranded abroad amidst the corona virus-induced travel restrictions.**

- It has surpassed the large-scale airlift of 1,77,000 people in 1990 at the onset of the Gulf War.
- The mission is undergoing its 10th phase and has carried 32 lakh passengers approximately both inbound and outbound.
- National carrier Air India, alongwith its budget carrier Air India Express (AIE) carried out the bulk of air transfers under the mission.
 - AIE used its fleet to lift agricultural products, mainly fruits and vegetables (the most sought-after items among the NRI Indians), to West Asian countries, Singapore and Kuala Lumpur.
- Besides, helping distressed rural farmers and the NRIs, the aim of the mission is to keep the supply chain intact.
- While overseas Indians from as many as 93 countries have availed repatriation through the VBM, the government has entered into special travel arrangements called 'air travel bubbles' with 18 different countries so far.
 - Transport bubbles or air travel arrangements are temporary arrangements between two countries aimed at restarting commercial passenger services when regular international flights are suspended as a result of the pandemic.
 - It allows carriers of both the countries to fly passengers either way without any restrictions.
 - Reciprocal in nature, the bilateral pact aims to benefit airlines from both countries with faster repatriations.
- Due to a recent spurt in Covid-19 cases in the country and many countries of late, patronage has come down in the VBM flights.
- **Other Civilian Rescue Missions:**
 - **Evacuation from the Gulf (1990-91):**
 - Until VBM, India's evacuation of civilians from Kuwait during the 1990-91 Gulf war had been the world's largest evacuation exercise of civilians by air.
 - Around 1,77,000 Indians were caught in the war which left millions homeless and many dead. Air India, at that time, operated around 500 flights over two months.
 - **Operation Raahat:**
 - It was launched by the Indian Armed Forces, to evacuate 4,640 Indian citizens and 960 foreign nationals of 41 countries from Yemen during the 2015 Yemen Crisis.
 - The evacuation took place both by sea and the air.
 - **Operation Maitri:**
 - The rescue and relief operation was carried out by the government of India and Indian armed forces in the aftermath of the April 2015 Nepal earthquake.

- The Indian Armed Forces evacuated around 5,188 persons, while nearly 785 foreign tourists were provided transit visas.
- **Operation Safe Homecoming:**
 - It was **launched by the Indian government on 26th February, 2011** to evacuate its citizens, fleeing from the **Libyan Civil War**.
 - The air-sea operation was conducted by the Indian Navy and Air India. Around 15,000 civilians were rescued in the operation.
- **Operation Sukoon:**
 - It was an operation **carried out by the Indian Navy** to evacuate Indian, Sri Lankan and Nepalese nationals, from the conflict zone during the **2006 Lebanon War**.
 - It was one of the largest evacuations conducted by the Indian Navy in which a total of 2,280 people were evacuated.

5. Kyrgyzstan-Tajikistan Border Tension

Why in News

Recently, a **ceasefire on the border between Kyrgyzstan and Tajikistan** appeared to be holding after a day of intense **fighting between the two countries** that has killed about 40 people and wounded about 175.

- **Kyrgyzstan and Tajikistan** belong to the central asia region. Other countries of the region are Kazakhstan, Turkmenistan, and Uzbekistan.

Key Points

- **Background:**
 - Both nations have **claimed the area around the water supply facility in Kok-Tash, a dispute dating back decades to when they were both part of the Soviet Union.**
 - The current configuration of the Kyrgyz-Tajik border is the **product of Soviet mapmakers** drawing the dividing lines for Soviet republics, after the **Union of Soviet Socialist Republics (USSR) collapsed in late 1991.**
 - The meandering boundary between Tajikistan and Kyrgyzstan is particularly tense as over a third of its **1,000-km length is disputed. Restrictions on access to land and water** that communities regard as theirs have often **led to deadly clashes in the past.**
- **International Response:**
 - Russia and **European Union (EU)** welcomed the ceasefire deal and emphasised the **need for a lasting and peaceful solution.**
- **Importance of Central Asia for India:**
 - **Political:**

- India has a very wide array of interests in Central Asia covering **security, energy, economic opportunities etc.**
- Security, stability and prosperity of Central Asia is **imperative for peace and economic development of India.**
- Central Asia serves as a **land bridge between Asia and Europe, making it geopolitically axial for India.**
- Both **India and Central Asian Republics (CARs)** share many **commonalities and perceptions** on various regional and world issues and can play a crucial role in providing regional stability.
- **Economic:**
 - The region is **rich in natural resources** such as petroleum, natural gas, antimony, aluminum, gold, silver, coal and uranium which **can be best utilized by Indian energy requirements.**
 - Central Asia has **huge cultivable areas lying barren** and without being put to any productive use, offering enormous opportunity for cultivation of pulses.
 - CARs are fast getting linked to the global market for production, supplies of raw materials and services. They are also increasingly getting integrated into the **East-West Trans-Eurasian transit economic corridors.**
- **Indian Initiatives:**
 - India intends **expansion of International North South Transport Corridor (INSTC)** to Afghanistan and Uzbekistan.
 - It will act as a vital gateway to access Eurasian markets and optimally operationalize its use, requiring a Central Asian state joining the project as a direct stakeholder.
 - **India-Central Asia Dialogue:**
 - India has proposed setting up of 'India-Central Asia Development Group' to take forward development partnership between India & Central Asian countries.
 - This group will help India to expand its footprints in the resource-rich region amid China's massive inroads and to fight terror effectively, including in Afghanistan.

India-Kyrgyzstan

- **Political:**
 - India has enjoyed **strong bilateral ties with Kyrgyzstan since 1991.**
 - India was **one of the first countries to establish diplomatic ties with Kyrgyzstan in 1992.**
- **Culture & Economic:**
 - **Since 1992, the two countries have many agreements, including on Culture, Trade and Economic Cooperation, Civil Aviation, Investment**

Promotion and Protection, Avoidance of Double Taxation, Consular Convention etc.

- **Military:**
 - In 2011, the joint '**Khanjar**' series of exercises was started.
- **Indian Diaspora:**
 - In Kyrgyzstan, about **9,000 Indian students** are studying medicine in various medical institutions in the country. Also, **there are many businessmen living in Kyrgyzstan** who are involved in trade and several other services there.
- **Strategic:**
 - The Kyrgyz leaderships have been **largely supportive of India's stand on Kashmir**.
 - They also support India's bid for a permanent seat at the **United Nations Security Council (UNSC)**.

India-Tajikistan

- **Political:**
 - India and Tajikistan elevated bilateral relations to the level of a **Strategic Partnership in 2012**.
 - Tajikistan supported India's membership to the **Shanghai Cooperation Organization (SCO)** and also permanent membership of an expanded UNSC.
 - India supported Tajikistan's accession to the **World Trade Organization** in 2013.
- **Culture & Economic:**
 - Trade between two sides is **not to expectations despite efforts from both countries, due to more transit time and lack of readily accessible trade routes**.
 - Despite limitations, trade in food processing, mining, pharmaceuticals, textiles, skill development, science & technology, Information Technology, culture and tourism are continued between two countries.
- **India's Assistance:**
 - India delivered **major food assistance** in 2001-02. To overcome a crisis caused by an unprecedented harsh winter in January-February **2008**, **India gave a grant of USD 2 million** (USD 1 million as cash assistance and USD 1 million in kind, such as power cables, generators and pump sets).
 - India provided **2 million doses of oral polio vaccine** through the **United Nations Children's Fund (UNICEF)** in November 2010.
 - In March 2018, India gifted **10 Russian-made ambulances** to various regions of Tajikistan drawing substantial media coverage and appreciation from high offices.

- **Indian Diaspora:**
 - The **total number of Indians is estimated at about 1550**, out of which more than 1250 are students.

Way Forward

- Geography has placed central asia at the nexus of crucial political and economic transformations for centuries. With the actualization of the **Belt and Road Initiative, India's Connect Central Asia policy**, and the EU's new Central Asia strategy, the 21st century could possibly be the most decisive period for the region.
- Stemming from its historic cultural and economic bonds, **India is now well placed to take a more active role in the development of the region**. India's growing global visibility and key contributions to multilateral forums like the SCO have catapulted India from an observer into a critical stakeholder in the region.
- As India looks beyond its borders, **Central Asia provides India with the right platform to leverage its political, economic and cultural connections to play a leading role in Eurasia**.

GS 3 : Economy, Science and Technology, Environment

6. Positron: The Antimatter Counterpart of the Electrons

Why in News

Researchers from the **Raman Research Institute (RRI)**, Bengaluru, have resolved the mystery of the antimatter counterpart of the electrons called **Positron and Positron Excess Phenomenon**.

- RRI is an autonomous institution of the **Department of Science and Technology**.

Anti-Matter

- Antimatter is the **opposite of normal matter**. More specifically, the sub-atomic particles of antimatter have properties opposite those of normal matter.

- **Matter** is made up of atoms, which are the basic units of chemical elements such as hydrogen, helium or oxygen.
- **Atoms** are the basic units of matter and the defining structure of elements. atoms are made up of three particles:
 - Protons, Neutrons and Electrons.

Positron

- Positron is a **subatomic particle whose mass is the same as that of an electron and numerically equal but positively charged particle**. The positron was discovered in 1932.

Key Points

- **Positron Excess:**
 - The excess number of high energy particles of the antimatter counterpart of the electrons, called **positrons have intrigued scientists for long**.
 - Over the years astronomers have **observed positrons having an energy of more than 10 giga-electron volts, or 10 GeV**.
 - For an estimate, this is the energy of a **positively charged electron accelerated across a 10,000,000,000 volt battery**. Positrons with energy more than 300 GeV, however, are lower in comparison to what astronomers expect.
 - This behaviour of positrons between 10 and 300 GeV is what astronomers call the '**positron excess**'.
- **RRIs Study:**
 - The **Milky Way** consists of **giant clouds of molecular hydrogen**. They are the seats of the formation of **new stars** and can be as massive as **10 million times the Sun's mass**.
 - They can extend up to **600 light-years**.
 - Cosmic rays, produced in **supernovae** explosions propagate through these clouds before they reach the Earth. **Cosmic rays interact with molecular hydrogen and can give rise to other cosmic rays**.
 - As they propagate through these clouds, they **decay from their original forms and intermix, lose their energy by energising the clouds, and may also get re-energised**.
 - RRI studied all these astrophysical processes via a **code it set up on the computer, using a publicly available code**.
- **RRIs Code:**
 - The code **considers 1638 molecular hydrogen clouds in the Milky Way** that other astronomers have observed across different wavelengths of the electromagnetic spectrum.

- RRI followed a comprehensive catalogue which consists of **ten molecular clouds in the immediate neighbourhood of our Sun.**
- These galactic clouds **provide the astronomers a crucial input** that is the number of giga-electron volt cosmic rays.
 - These help them **determine the excess number of positrons that reach the Earth.**
- The computer code was successfully able to **reproduce the observed number of positrons at giga-electron volt energies.**
- Not only the positron excess, the computer code accurately **reproduces the spectra of protons, antiprotons, boron, carbon, and all other components of cosmic rays.**
- **RRIs Proposal:**
 - Cosmic rays **while propagating through the Milky Way galaxy interact with matter producing other cosmic rays**, primarily electrons and positrons.
 - All mechanisms via which cosmic rays interact with the molecular clouds to show that **nearby molecular clouds can be a viable contributor to the positron excess phenomenon.**

Cosmic Rays

- Cosmic rays are **atom fragments that rain down on the Earth from outside of the solar system.** They blaze at the speed of light and have been blamed for electronics problems in satellites and other machinery. They were Discovered in 1912.

Light-Year

- The light-year is a unit of length used to express astronomical distances and is equivalent to about **9.46 trillion kilometres.**
- As defined by the International Astronomical Union, a light-year is **the distance that light travels in vacuum in one Julian year.**

7. No mass nesting of Olive Ridley turtles at Rushikulya in Odisha this year

No mass nesting this year

- The annual spectacle of the mass nesting of millions of Olive Ridley sea turtles near the Rushikulya river mouth in Odisha is likely to be missed this year, **as the time for it is almost over.**
- It's been around one month since the mass nesting of last year.

- If they do skip the beach, **this won't be the first time.**
- In 2002, 2007, 2016 and 2019, the turtles had not shown up at Rushikulya.
- The Rushikulya river mouth is considered the second-biggest rookery in India after Gahirmatha.
- Mass nesting in the **Gahirmatha marine sanctuary** occurred from March 9-23, 2021 and over 349,000 eggs were laid during this period.

What could explain the miss in mass nesting

- It is a natural phenomenon. During some years, they did not turn up for mass nesting even though a huge number had congregated in the sea.
- **Beach erosion** might be one of the causes for the turtles staying away this year.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Drone Delivery Of Covid-19 Vaccines

In news

- Ministry of Civil Aviation (MoCA) and Directorate General of Civil Aviation (DGCA) have granted conditional exemption for **drone deployment** to the Government of Telangana for Experimental delivery of Covid-19 Vaccines.

Key takeaways

- The permission has been granted within Visual Line of Sight (VLOS) Range using drones.
- It is valid for a period of one year or until further orders.
- Earlier this month, similar permission was granted to the Indian Council of Medical Research (ICMR) for conducting feasibility study of Covid-19 vaccine delivery using drones in collaboration with IIT Kanpur.
- The grant of these permissions is intended to achieve the dual objectives of faster vaccine delivery & improved healthcare access by:

1.

1. Ensuring primary healthcare delivery at the citizen's doorstep

2. Limiting human exposure to COVID congested or COVID prone areas through aerial delivery
3. Ensuring access to health care to the last mile, especially in remote areas
4. Possible integration into the middle mile of medical logistics for long range drones
5. Improving medical supply chain, especially with a third vaccine expected to be commissioned and millions of doses to be transported across India

2. 400th Birth Anniversary of Guru Tegh Bahadur

Why in News

Sri Akhand Path was inaugurated at **Gurdwara Guru Ke Mahal**, the birthplace of the ninth Sikh guru, **Guru Tegh Bahadur**, to mark the 400th **Prakash Purab** (birth centenary) of the Guru.

Key Points

- **Guru Teg Bahadur (1621-1675):**
 - Guru Tegh Bahadur was the **ninth Sikh Guru**, often **venerated as the 'Protector of Humanity' (Srisht-di-Chadar)** by the Sikhs.
 - Known as a great teacher, Guru Tegh Bahadur was also an excellent warrior, thinker, and poet, who wrote detailed descriptions of the nature of God, mind, body, and physical attachments among other things spiritual.
 - His writings are housed in the sacred text, '**Guru Granth Sahib**,' in the form of 116 poetic hymns.
 - He was also an avid traveler and **played a key role in setting up preaching centers** throughout the Indian subcontinent.
 - During one such mission, he **founded the town of Chak-Nanki in Punjab**, which later became a part of Punjab's Anandpur Sahib.
 - In the year 1675, Guru Tegh Bahadur was **executed in Delhi** under the orders of the **Mughal Emperor Aurangzeb**.
- **Sikhism:**
 - The word '**Sikh**' in the Punjabi language means '**disciple**'. Sikhs are the disciples of God who follow the writings and teachings of the Ten Sikh Gurus.
 - Sikhs believe in **one God (Ek Onkar)**. They believe they should remember God in everything they do. This is called **simran**.

- The Sikhs call their faith **Gurmat** (Punjabi: “the Way of the Guru”). According to Sikh tradition, **Sikhism** was established by **Guru Nanak** (1469–1539) and subsequently led by a succession of nine other Gurus.
- The development of Sikhism was influenced by the **Bhakti movement** and **Vaishnava Hinduism**.
- The **Khalsa** upholds the highest Sikh virtues of commitment, dedication and a social conscience.
 - The Khalsa are men and women who have undergone the Sikh baptism ceremony and who strictly follow the **Sikh Code of Conduct and Conventions**.
 - They wear the prescribed physical articles of the faith (**5K's**: Kesh (uncut hair), Kangha (a wooden comb), Kara (a iron bracelet), Kachera (cotton underpants) and Kirpan (an iron dagger)).
- Sikhism **condemns blind rituals** such as fasting, visiting places of pilgrimage, superstitions, worship of the dead, idol worship etc.
- It preaches that **people of different races, religions, or sex are all equal** in the eyes of God.
- **The Sikh Literature:**
 - The **Adi Granth** is believed by Sikhs to be the abode of the eternal Guru, and for that reason it is known to all Sikhs as the **Guru Granth Sahib**.
 - The **Dasam Granth** is controversial in the Panth because of questions concerning its authorship and composition.
- **Shiromani Gurdwara Parbandhak Committee:**
 - Shiromani Gurdwara Parbandhak Committee, Amritsar, Punjab (India), an apex democratically elected body of Sikhs residing all over the world was established under a **special Act of Parliament in 1925 to look after the religious affairs, cultural and historical monuments**.

Ten Gurus of Sikh Religion

Guru Nanak Dev (1469-1539)	<ul style="list-style-type: none"> ▪ He was the first guru of Sikh and the founder of Sikh religion. ▪ He started the GURU KA LANGAR. ▪ He was contemporary of Babur. ▪ Kartarpur corridor was commemorated on the 550th birth anniversary of Guru Nanak Dev.
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Guru Angad (1504-1552)	<ul style="list-style-type: none"> ▪ He invented the new script called Guru-Mukhi and popularized and expanded the system of Guru ka Langar.
Guru Amar Das (1479-1574)	<ul style="list-style-type: none"> ▪ He introduced the ceremony of the Anand Karaj Marriage. ▪ He abolished the custom of Sati and Purdah system among the Sikhs. ▪ He was contemporary of Akbar.
Guru Ram Das (1534-1581)	<ul style="list-style-type: none"> ▪ He founded Amritsar in 1577 on the land granted by Akbar. ▪ He started the construction of Golden Temple/Swarna mandir at Amritsar.
Guru Arjun Dev (1563-1606)	<ul style="list-style-type: none"> ▪ He composed the Adi Granth in 1604. ▪ He led to the completion of construction of Golden temple. ▪ He was acclaimed as Shaheeden-de-Sartaj. ▪ He was executed by Jahangir on charges of helping prince Khusrau.
Guru Hargobind (1594-1644)	<ul style="list-style-type: none"> ▪ He led to the transformation of the Sikh Community into a Military community. He is known as "Soldier Saint". ▪ He led to the establishment of Akal Takht and fortified the Amritsar City. ▪ He waged wars against Jahangir and Shah Jahan.
Guru Har Rai (1630-1661)	<ul style="list-style-type: none"> ▪ He was a man of peace thus devoted most of his life in maintaining peace with Aurangzeb and doing missionary work.
Guru Har Krishan 1656-1664)	<ul style="list-style-type: none"> ▪ He was the youngest guru of all and was given the title of Guru at a very early age of 5. ▪ He was summoned by Aurangzeb against anti-islamic blasphemy.

Guru Teg Bahadur (1621-1675)	<ul style="list-style-type: none"> ▪ He founded Anandpur Sahib.
Guru Gobind Singh (1666-1708)	<ul style="list-style-type: none"> ▪ He founded a warrior community known as Khalsa in 1699. ▪ He introduced a new rite "Pahul". ▪ He joined Bahadur Shah's as a noble. ▪ He was the last Sikh Guru in human form and he passed the Guruship of Sikhs to the Guru Granth Sahib.

3. Launch of Operation Samudra Setu-II

In news

- Indian Navy has launched Operation Samudra Setu-II to augment the ongoing national mission for meeting the Oxygen requirements.

Key takeaways

- Mission deployed Indian Naval warships will undertake shipment of liquid Oxygen filled cryogenic containers and associated medical equipment in support of India's fight against COVID-19.
- Two ships INS Kolkata and INS Talwar have entered port of Manama, Bahrain for embarking and transporting 40MT of liquid oxygen to Mumbai.
- INS Jalashwa is enroute to Bangkok and INS Airavat to Singapore for similar missions.
- Last year Indian Navy had launched **Operation Samudra Setu** as part of the **Vande Bharat Mission** and repatriated approx 4,000 stranded and distressed Indian citizens from Maldives, Sri Lanka and Iran.

GS 3 :Economy, Science and Technology,Environment

4. Scheme For Special Assistance To States For Capital Expenditure For 2021-22

In news

- The Ministry of Finance, Government of India has decided to provide an additional amount of upto Rs. 15,000 crore to States as interest free 50 year loan for spending on capital projects.

Key takeaways

- The Department of Expenditure has issued fresh guidelines in this regard on the “Scheme of Financial Assistance to States for Capital Expenditure” for the financial year 2021-22.
- Under the Scheme, financial assistance is provided to the State Governments in the form of 50-year interest free loan.
- An amount not exceeding Rs.12,000 crore was earmarked for the scheme for the financial year 2020-21, and a sum of Rs.11,830.29 crore was released to the States.
- This helped to sustain state level capital expenditure in the pandemic year.
- In view of the positive response to the scheme and considering the requests of the State Governments, the Government has decided to continue the scheme in the year 2021-22.

5. Delhi Air Pollution

Why in News

Recently, according to the **SAFAR (System of Air Quality and Weather Forecasting and Research)** system, Delhi’s air quality deteriorated from ‘moderate’ to ‘poor’ and ‘very poor’.

Key Points

- **Causes of Deteriorating Air Quality:**
 - Delhi’s air **typically worsens in October-November** and improves by March-April. Current weather conditions are not unfavourable, unlike in winter.
 - During winter, cool and calm weather traps and spikes daily pollution, particularly in north Indian cities located in the **Indo Gangetic Plain**.
 - Hence, apart from **local emissions**, the deterioration in air quality is **being attributed to an increase in fire counts, mostly due to burning of wheat crop stubble in northern India**.
 - The **most crucial reasons** for the alarming levels of air pollution in Delhi include:

- City's landlocked geographical location.
- Crop burning in neighbouring states (Punjab, Haryana and Rajasthan).
- Vehicular emissions.
- Industrial pollution.
- Large-scale construction activities.
- **Concerns:**
 - Deteriorating air quality is worrying amid an increasing number of **novel coronavirus disease (Covid-19)** cases and deaths.
 - In the **World Air Quality report 2020**, Delhi has been listed as the **10th most polluted city and the top polluted capital city in the world**.
 - However, it **shows a boost in Delhi's air quality by approximately 15%** from 2019 to 2020.
 - In July 2020, **Greenpeace (non-governmental organisation)** found out that of the 28 global cities studied, **Delhi bore the highest economic cost of air pollution** with an estimated loss of 24,000 lives in the first half of 2020 despite a strict Covid-19 lockdown.
 - Long-term exposure to outdoor and **household (indoor) air pollution** contributed to over 1.67 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases, and **neonatal diseases**, in India in 2019 (**State of Global Air 2020**).
- **Major Measures Taken:**
 - Subsidy to farmers for buying **Turbo Happy Seeder (THS)** which is a machine mounted on a tractor that cuts and uproots the stubble, in order to **reduce stubble burning**.
 - The introduction of **BS-VI vehicles**, push for **electric vehicles (EVs)**, **Odd-Even** as an emergency measure and construction of the **Eastern and Western Peripheral Expressways** to reduce vehicular pollution.
 - Implementation of the **Graded Response Action Plan (GRAP)**. It is a set of curbs triggered in phases as the air quality deteriorates, which is typical of the October-November period.
 - Development of the **National Air Quality Index (AQI)** for public information under the aegis of the **Central Pollution Control Board (CPCB)**.

System of Air Quality and Weather Forecasting And Research

- SAFAR is a national initiative **introduced by the Ministry of Earth Sciences (MoES)** to measure the air quality of a metropolitan city, by measuring the overall pollution level and the location-specific air quality of the city.
- The system is **indigenously developed by the Indian Institute of Tropical Meteorology (IITM), Pune** and is **operationalized by the India Meteorological Department (IMD)**.

- The ultimate objective of the project is to increase awareness among the general public regarding the air quality in their city so that appropriate mitigation measures and systematic action can be taken up.
- SAFAR is an **integral part of India's first Air Quality Early Warning System** operational in Delhi.
- It **monitors all weather parameters** like temperature, rainfall, humidity, wind speed, and wind direction, UV radiation, and solar radiation.
- **Pollutants Monitored:** PM2.5, PM10, Ozone, Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Sulfur Dioxide (SO₂), Benzene, Toluene, Xylene, and Mercury.

Way forward

- The wheat season is not followed by intensive farm fires, unlike paddy harvesting, as managing wheat stubble is comparatively easy and wheat straw is processed into cattle feed by most farmers.
- So instead of focusing on farm fires, Delhi should look at local emissions to control the air pollution.
- Breathing clean air is a fundamental right of every Indian citizen. Therefore, human health must become a priority when it comes to tackling air pollution.

6. Legal Metrology (Packaging Rules 2011)

In news

- According to the Ministry of Consumer Affairs, Importers of medical devices, used particularly for providing oxygen support to Covid-19 patients, are now allowed to import these devices without prior mandatory declaration for the next three months, the said in a notification.

Key takeaways

- The importers can make all necessary declarations after the custom clearance, but before they are sold to consumers.
- The Legal Metrology (Packaged Commodities) Rules, 2011, make it mandatory to get the approvals prior to the import.
- Department of Consumer Affairs administers the Legal Metrology Act 2009.

Do you know?

- The act provides for application of legal requirements to measurements and measuring instruments.
- The objective of Legal Metrology is to ensure public guarantee from the point of view of security and accuracy of the weighments and measurements.
- The Legal Metrology (Packaged Commodities), Rules 2011 are primarily intended to ensure that the consumers are able to make informed choices by being informed of essential declarations on the pre-packed commodities.

7. Hottest planet in the known universe discovered

About the plane

- TOI-1431b, also known as MASCARA-5b, was found 490 light-years from Earth and could be **the hottest planet in the known universe**.
- Researchers at the University of Southern Queensland's Centre for Astrophysics in Toowoomba led the global team that made the discovery.
- NASA's **Training Exoplanet Survey Satellite** first flagged TOI-1431b as a possible planet in late 2019.
- Dayside temperature reaches approximately 2700 degrees celcius and nightside temperature approaches approximately 2300 degrees celcius – **no life could survive in its atmosphere**.
- This temperature is significantly greater than the melting point of most metals, many of which will turn to liquid at under 2000 degrees celcius.
- Titanium melts at 1670 degrees, platinum at 1770 degrees, and stainless steel at between 1375 and 1530 degrees.

Planet with a retrograde orbit

- These types of planets, known as ultra-hot Jupiters, are rarely discovered but this particular one is even more unusual due to its **retrograde orbit**.
- In our Solar System, all the planets orbit in the same direction that the Sun rotates and they're all along the same plane.
- This new planet's orbit is tilted so much that **it is actually going in the opposite direction** to the rotation of its host star.

8. Seven Indian Navy Ships Deployed for Op Samudra Setu II

Operation Samudra Setu II

- In support of the nation's fight against Covid-19 and as part of operation '**Samudra Setu II**', seven Indian Naval ships have been deployed for **shipment of liquid medical oxygen-filled cryogenic containers and associated medical equipment** from various countries.
- Indian Navy also has the surge capability, to deploy more ships when the need arises to further nation's fight against COVID-19.
- It is pertinent that the ships are **combat ready** and capable of meeting any contingency in keeping with the attributes of versatility of sea power.

Operation Samudra Setu I

- It may be recalled that **Operation Samudra Setu** was launched last year by the Navy and around 4000 Indian citizens stranded in neighbouring countries, amidst COVID 19 outbreak, were successfully repatriated back to India.

Prelims Practice Questions

1. Amnesty International is:

- an agency of the United Nations to help refugees of civil wars
- a global Human Rights Movement
- a non-governmental voluntary organization to help very poor people
- an inter-governmental agency to cater to medical emergencies in war-ravaged regions

Answer: b

Explanation:

Amnesty International is a global Human Rights Movement.

2. With reference to Corporate Social Responsibility, consider the following statements:

- The concept of CSR is governed by Corporate Social Responsibility Act, 2013.
- The CSR provisions are applicable to companies with an annual turnover of 1,000 crore.

Which of the statements given above is/are correct ?

- A 1 only
B 2 only
C Both 1 and 2
D Neither 1 nor 2

Answer : B

Explanation

- The term "**Corporate Social Responsibility**" in general can be referred to as a corporate initiative to assess and take responsibility for the company's effects on the environment and impact on social welfare.
- In India, **the concept of CSR is governed by clause 135 of the Companies Act, 2013. Hence, statement 1 is not correct.**

- India is the first country in the world to mandate CSR spending along with a framework to identify potential CSR activities.
- The CSR provisions within the Act is **applicable to companies with an annual turnover of 1,000 crore** and more, or a net worth of Rs. 500 crore and more, or a net profit of Rs. 5 crore and more. **Hence, statement 2 is correct.**

3. Which of the following is the duty of the Competition Commission of India?

1. Eliminate practices having an adverse effect on competition
2. Promote and sustain competition
3. Protect the interests of consumers
4. Ensure freedom of trade in the markets of India.

Select the correct option from below:

- a. 1 and 2 only
- b. 1, 2 and 3 only
- c. 2, 3 and 4 only
- d. All of the above

Answer: d

Explanation:

- Competition Commission of India is a statutory body of the Government of India responsible for enforcing The Competition Act, 2002 and promoting competition throughout India and preventing activities that have an appreciable adverse effect on competition in India.
- It is noted that the mandate of the Commission is to eliminate practices having an adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade carried on by other participants, in markets in India.

4. Which of the following is/are statutory bodies?

1. Competition Commission of India
2. NITI Aayog
3. National Human Rights Commission

4. Special Officer for Linguistic Minorities

Select the correct option from below:

- a. 1 and 2 only
- b. 1 and 3 only
- c. 1, 2 and 3 only
- d. 1, 3 and 4 only

Answer: b

Explanation:

- Competition Commission of India and the National Human Rights Commission are both statutory bodies.
- Competition Commission of India is a statutory body of the Government of India responsible for enforcing The Competition Act, 2002 and promoting competition throughout India and preventing activities that have an appreciable adverse effect on competition in India.
- The National Human Rights Commission of India is a Statutory public body responsible for the protection and promotion of human rights.
- The NITI Aayog is a public policy think tank of the Government of India. It is not a statutory body.
- Special Officer for Linguistic Minorities is a constitutional office entrusted with the responsibility of safeguarding the various provisions related to linguistic minorities in India. Article 350 B of the Constitution provides for the appointment of a Special Officer for Linguistic Minorities by the President.

5. 'Tianhe', recently seen in the news, is related to:

- a. A nasal spray viewed as a potential cure against Covid-19 infection
- b. Chinese Space program
- c. Naval Exercise between India & Singapore
- d. A computer malware

Answer: b

Explanation:

China has launched the main module of its first permanent space station that will host astronauts for the long term. It is called Tianhe, or the "Heavenly Harmony".

6. MACS 1407, sometimes seen in the news recently, is?

- a. The first-ever electric Tractor developed indigenously in India
- b. A high-yielding and pest-resistant variety of soybean
- c. An indigenously developed Oxygen Enrichment Technology
- d. A device which converts Nitrogen Generator into Oxygen Generator

Answer : b

- Indian Scientists have recently developed a high-yielding and pest-resistant variety of soybean named MACS 1407.

MACS 1407

- Scientists from MACS-Agharkar Research Institute (ARI), Pune, an autonomous institute of the Department of Science & Technology, Government of India in collaboration with Indian Council of Agricultural Research (ICAR), New Delhi have developed MACS 1407.
- Using the conventional cross breeding technique they developed MACS 1407 which gives 39 quintals per hectare making it a high yielding variety and is also resistant to major insect-pests like girdle beetle, leaf miner, leaf roller, stem fly, aphids, white fly and defoliators.
- Its thick stem, higher pod insertion (7 cm) from ground, and resistance to pod shattering make it suitable even for mechanical harvesting.
- It is suitable for rain-fed conditions of North-East Indian states, Assam, West Bengal, Jharkhand and Chhattisgarh.
- Its seeds will be made available to farmers for sowing during the 2022 Kharif season.

Background

- In 2019, India produced around 90 million tons of soybean, widely cultivated as oil seeds as well as a cheap source of protein for animal feed and many packaged meals and is striving to be among the world's major producers of soybean.
- High-yielding, disease resistant varieties of the legume can help achieve this target.

Mains Practice Questions

1Q. The double burden of undernutrition and obesity needs to be tackled as part of India's national nutrition strategy. Discuss (250 words)

Approach

- State the facts related to double burden of malnutrition and obesity as introduction.
- What are factors responsible for double burden.
- Describe the consequences of double burden of malnutrition and obesity.
- Describe the national nutrition strategy to tackle double burden of malnutrition and obesity.
- Give conclusion.

2Q. What do you understand by Moral Emotions and what is their role? How are they different from basic emotions? (250 words)

Approach

- Define moral emotions and their role with examples.
- Differentiate between moral emotions and basic emotions with suitable examples.