



UN Treaty on the High Seas

Prelims: BBNJ, UNCLOS, UNGA, Covid-19, 1958 Geneva Convention, EEZ.

Mains: Treaty on the High Seas.

Why in News?

Recently, the [UN \(United Nations\)](#) members agreed on a [High Seas Treaty](#) to ensure the protection and sustainable use of marine biodiversity of areas beyond national jurisdiction.

- It was agreed during talks led by the UN during the **Intergovernmental Conference (IGC) on Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ)** in New York, the US.
- The treaty is **yet to be formally adopted as members** are yet to ratify it. Once adopted, the treaty will be **legally binding**.

What are High Seas?

- **About:**
 - According to the [1958 Geneva Convention on the High Seas](#), parts of the sea that are **not included in the territorial waters** or the internal waters of a country are known as the high seas.
 - It is the area beyond a **country's Exclusive Economic Zone** (that extends up to **200 nautical miles (370 km) from the coastline**) and till where a nation has jurisdiction over living and non-living resources.
 - No country is responsible **for the management and protection of resources on the high seas**.
- **Significance:**
 - The high seas **account for more than 60% of the world's ocean area** and cover about **half of the Earth's surface**, which makes them a hub of marine life.
 - They are home to **around 2.7 lakh known species**, many of which are yet to be discovered.
 - They regulate the climate by playing a **fundamental role in planetary stability** by **mitigating the effects of climate change** through its **absorption of carbon** and by **storing solar radiation** and distributing heat around the globe.
 - Therefore, they are fundamental to human survival and well-being.
 - Moreover, the ocean **provides a wealth of resources and services**, including seafood and raw materials, genetic and medicinal resources, air purification, climate regulation, and aesthetic, scientific and cultural services.
- **Threats:**
 - They absorb heat from the atmosphere, are affected by phenomena like the [El Nino](#), and are also undergoing [acidification](#) — all of which endanger **marine flora and fauna**.
 - Several thousand marine species are at risk of extinction by 2100 if current warming and acidification trends continue.
 - Anthropogenic pressures on the high seas include **seabed mining, noise pollution, chemical and oil spills and fires, disposal of untreated waste** (including antibiotics),

- overfishing, introduction of invasive species, and coastal pollution.
- Despite the alarming situation, **the high seas remain as one of the least-protected areas, with only about 1% of it under protection.**

What is the High Seas Treaty?

▪ Background:

- In 1982, the [United Nations Convention on the Law of the Sea \(UNCLOS\)](#) was adopted, which delineated rules to govern the oceans and the use of its resources.
 - However, there was **no comprehensive legal framework that covered** the high seas.
- As climate change and global warming emerged as global concerns, a need was felt for **an international legal framework to protect oceans** and marine life.
- The [UNGA \(United Nations General Assembly\)](#) decided in 2015 to develop a legally binding instrument within the framework of UNCLOS.
 - Subsequently, the **IGC was convened to frame a legal instrument** on BBNJ.
- There were several hold-ups due to the [Covid-19 pandemic](#), hampering a timely global response. In 2022, the European Union launched the High Ambition Coalition on BBNJ to finalize the agreement at the earliest.

▪ Key Features:

- **Access and Benefit-sharing Committee:**
 - It will set up an access- and benefit-sharing committee to frame guidelines.
 - The activities concerning marine genetic resources of areas on high seas will be in the interests of **all States and for the benefit of humanity**.
 - They have to be **carried out exclusively for peaceful purposes**.
 - **Environmental Impact Assessments:**
 - Signatories will have to conduct [environmental impact assessments](#) **before the exploitation** of marine resources.
 - Before carrying out a planned activity, the member will have to undertake processes of screening, scoping, carrying out an impact assessment of the marine environment likely to be affected, identifying prevention, and management of potential adverse effects.
 - **Consent from Indigenous Community:**
 - Marine resources in areas beyond national jurisdiction that are held by indigenous people and local communities can only be accessed with their “free, prior and informed consent or approval and involvement”.
 - **No State can claim its right over marine genetic resources** of areas beyond national jurisdiction.
 - **Clearing-House Mechanism:**
 - Members will have to provide the Clearing-House Mechanism (CHM), established as part of the treaty, with details like the objective of the research, geographical area of collection, names of sponsors, etc.
 - **Funding:**
 - A special fund will be established as part of the pact which will be fixed by the conference of parties (COP). The COP will also oversee the functioning of the treaty.
- ### ▪ Significance:
- The treaty is significant in achieving the 30x30 target set at [UN CBD \(Convention on Biological Diversity\) COP15](#) under which the countries agreed to protect 30% of oceans by 2030.

What are the Other Conventions related to Seas?

▪ Convention on Continental Shelf 1964:

- It defines and **delimits the rights of States to explore and exploit** the natural resources of the continental shelf.

▪ Convention on Fishing and Conservation of Living Resources of the High Seas 1966:

- It was designed to solve the problems involved in the conservation of living resources of the high seas, considering that because of the development of modern technology some of these resources are in danger of being overexploited.

- [London convention 1972:](#)
 - Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matters.
- **MARPOL Convention (1973):**
 - It covers pollution of the **marine environment by ships** from operational or accidental causes.
 - It lists various forms of marine pollution caused by oil, noxious liquid substances, harmful substances in packaged form, sewage and garbage from ships, etc.

Way Forward

- National governments still need to **formally adopt and ratify this agreement** to enable the treaty to enter into force.
 - **Everyone in the global community across all sectors must act together** – for our own sake, as much as for that of ocean life – to celebrate, implement and monitor the effectiveness of the new High Seas Treaty.
- Without a doubt, **better protecting the high seas and imposing careful management of marine resources** will in turn mitigate the cumulative impact of activities bearing a potentially heavy toll, such as shipping and industrial fishing, in the virtuous circle of a [sustainable blue economy](#) that benefits people and nature alike.
 - It is high time the **ocean gets the protection it is due.**

[Source: TH](#)

Court Martial

Prelims: Court Martial, Court of Inquiry, Armed Forces (Special Powers) Act, FIR, Code of Criminal Procedure.

Mains: Court Martial and Legal recourse for Accused.

Why in News?

An Army court has recommended **life imprisonment for a Captain involved in the staged killings** of three men at Amshipora in Jammu and Kashmir's Shopian district in 2020. The sentence will be final after it is confirmed by the Northern Army Commander.

- The Captain was court-martialled after a **Court of Inquiry (Col)** and subsequent summary of evidence found that troops under his command had **exceeded their powers** under the [Armed Forces \(Special Powers\) Act](#).

What is the Process of Court Martial?

- When the Army wants an allegation against its personnel investigated, it first sets up a Col for the purpose.
 - This stage is **similar to the registering of a [First Information Report \(FIR\)](#)** by police.

- A Court of Inquiry investigates **the complaint but cannot award a punishment**. The Col records the statements of witnesses, which is comparable to the examination of witnesses by a police officer under **Section 161 of the [Code of Criminal Procedure \(CrPC\)](#)**.
- Based on the findings of the Col, a **tentative charge sheet is drawn up by the commanding officer** of the accused officer.
 - After this, the **hearing of charges takes place** (just like the initial summoning of an accused by the magistrate in a case involving civilians). The **summary of evidence is then recorded**.
- Once this process has been completed, a **General Court Martial (GCM)** is ordered; similar to the conduct of a trial by a judicial court for civilian matters.

What is the Legal Recourse Available?

- Under section 164 of the **Army Act 1950**, the accused **can file a pre-confirmation petition as well as one post-confirmation**.
 - A **pre-confirmation petition will go to the Army Commander**, who may look into its merits.
 - Whereas a **post-confirmation petition must be filed with the government** since the officer is cashiered — his ranks are removed, and he is dismissed from service — after confirmation of the sentence by the Army commander.
- After these options have been exhausted, the **accused can approach the Armed Forces Tribunal**, which can suspend the sentence.
 - For instance, in 2017, the Tribunal **suspended the life sentences awarded to five Army personnel**, including two officers, in the Machil fake encounter case of 2010.

[Source: IE](#)

Glacial Retreat

For Prelims: Glacial Retreat, Floods, Landslide, Pensilungpa Glacier (PG), Durung-Drung Glacier (DDG).

For Mains: Factors Influence Glacial Dynamics, Impact of Glacial Retreat

Why in News?

Recent studies on Himalayan glaciers show that the **variability in retreat rate and mass balance** in different sectors of the mountain range is primarily linked to [topography](#) and [climate](#).

- However, **variable retreat rates of glaciers** and inadequate supporting field data make it **challenging to develop a coherent picture of climate change impact**.

What are the Factors Influence Glacial Dynamics?

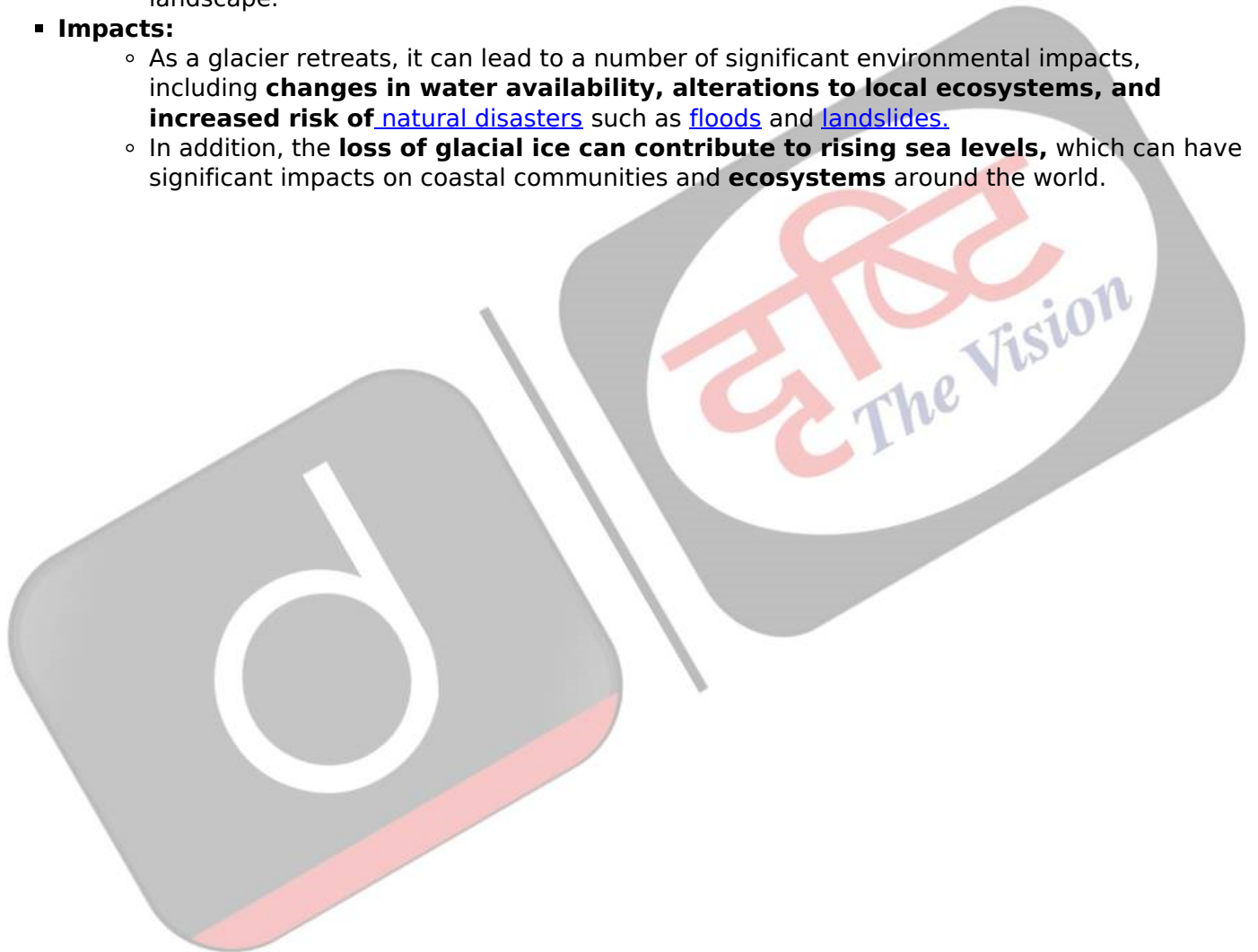
- A team from **Wadia Institute of Himalayan Geology** (Uttarakhand) studied two glaciers with different characteristics, the **Pensilungpa Glacier (Ladakh)** and the **Durung-Drung Glacier, (Ladakh)** for a comparative study of glacier fluctuations between **1971 and 2019**.
 - They quantitatively evaluated the influence of the **debris cover on the loss of [ice mass](#)** in summer and on the terminal recession of glaciers.
- Their study confirms that the **glacier retreat rate is controlled by [climate change](#)** and the

topographic setting and morphology of the glacier.

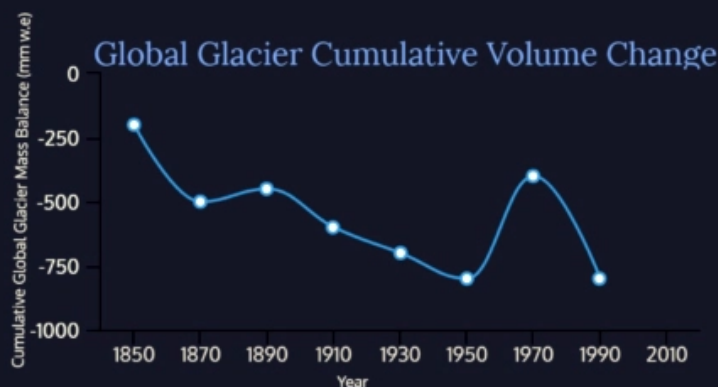
- They also found that the **thickness of the debris cover significantly alters the glacier response** to climate forcing.
- Other factors such as **snout geometry, glacier size, elevation range, slope, aspect, debris cover, as well as the presence of supra and proglacial lakes** also influence the heterogeneous glacial dynamics.

What is Glacial Retreat?

- **About:**
 - Glacial retreat refers to the **process of a glacier shrinking or receding in size** over time due to a decrease in ice accumulation or an increase in ice melt.
- **Causes:**
 - This can be caused by a number of factors, including **rising global temperatures, changes in [precipitation patterns](#)**, or changes in the geography of the surrounding landscape.
- **Impacts:**
 - As a glacier retreats, it can lead to a number of significant environmental impacts, including **changes in water availability, alterations to local ecosystems, and increased risk of [natural disasters](#)** such as [floods](#) and [landslides](#).
 - In addition, the **loss of glacial ice can contribute to rising sea levels**, which can have significant impacts on coastal communities and **ecosystems** around the world.



Glacier Retreat



Glaciers have retreated at exponential rates due to the increase in global temperatures

Global temperature increase negatively affects the atmosphere.



Earth Observatory February 28, 2016

Located on the border of China in India

Hazards on the Biosphere:

- Floods, landslides, avalanches have become more common, and kill about 100 people per year.

Earth Observatory February 28, 2016

- The global sea level has risen 4 to 8 inches in the past century due to glacier retreats.

NRDC February 28, 2016

- Without glacial water, water temperatures increase causing many aquatic species to disappear and the food chain to be disrupted.

USGS May 2013

- Many animals live on glaciers. Since glaciers are melting, they are losing their habitats.

USGS May 2013

- Melting Ice in the Arctic could disrupt Atlantic Ocean currents, which produces heat, and drop global temperatures by 10 to 20 degrees.

NASA Science March 5, 2004

Other facts:

- Over 110 glaciers have disappeared over the last 150 years at the Montana's Glacier National Park

Earth Observatory February 28, 2016

- The total global ice mass lost from Greenland, Antarctica, etc. was about 4.3 trillion ton, which added 0.5 inches to the sea level. That is enough to cover the US in 1.5 feet deep in ice.

NASA Mission Takes Stock of Earth's Melting Land Ice February 8, 2012



UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 With reference to the water on Earth, consider the following statements:

1. The amount of water in the rivers and lakes is more than the amount of groundwater.
2. The amount of water in polar ice caps and glaciers is more than the amount of groundwater.

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

Ans: (b)

Q2. Which of the following phenomena might have influenced the evolution of organisms? (2014)

1. Continental drift
2. Glacial cycles

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: c

Mains

Q.1 How do the melting of the Arctic ice and glaciers of the Antarctic differently affect the weather patterns and human activities on the Earth? Explain. **(2021)**

[Source: PIB](#)

India-Australia Relations

For Prelims: Economic Cooperation and Trade Agreement, Supply Chain Resilience Initiative, QUAD, Location of Australia and the Neighbourhood, Comprehensive strategic Partnership

For Mains: India and Australia Relations, India-Australia Critical Minerals Investment Partnership, Significance, India Australia Summit.

Why in News?

Australian Prime Minister is visiting India for **India-Australia Summit** in March 2023, seeking to strengthen the new momentum in ties between the two countries through deeper trade, investment and defence relations.



How have been the India- Australia Relations so far?

▪ Historical Perspective:

- Australia and India for the first time established diplomatic relations in the pre-Independence period, when the **Consulate General of India was first opened as a Trade Office in Sydney in 1941.**
- India-Australia relations touched a **historic low** when the **Australian Government condemned India's 1998 nuclear tests.**
- In 2014, Australia signed a **Uranium supply deal** with India, the first of its kind with a country that is a **non-signatory to the [Nuclear Non-Proliferation Treaty](#)**, in recognition of India's "impeccable" non-proliferation record.

▪ Shared Values:

- Shared values of **pluralistic, Westminster-style democracies, Commonwealth traditions, expanding economic engagement, and increasing high-level interaction** have underpinned the India-Australia bilateral relationship.
- Common traits, including **strong, vibrant, secular, and multicultural democracies, a free press, an independent judicial system,** and English language, serve as the foundation for closer co-operation.

▪ People-to-people Ties:

- India is one of the top sources of skilled immigrants to Australia. As per the 2021 Census, around **9.76 lakh people in Australia reported their ancestry as Indian origin,** making them the second largest group of overseas-born residents in Australia.

▪ Strategic Ties:

- In 2020, Prime ministers of both the countries elevated bilateral relationship from Strategic Partnership to [Comprehensive strategic Partnership](#) during [India-Australia Leaders' Virtual Summit](#).
- In 2021, the prime ministers of both the countries **met during COP26 at Glasgow.**
- In 2022, there has been a **series of high-level engagements** and exchange of ministerial visits in 2022 and in 2023 including India-Australia virtual summit and Foreign Ministers meet. Several key announcements were made during **2nd India-Australia Virtual Summit** including:
 - **A Letter of Intent on Migration and Mobility Partnership Arrangement** to foster the exchange of skills.

▪ Defence Cooperation:

- The [2+2 Ministerial Dialogue](#) took place in September 2021, and the Deputy Prime Minister

and Defence Minister of Australia visited India in June 2022.

- The [Mutual Logistics Support Agreement \(MLSA\)](#) was signed during the Virtual Summit in June 2020 to enhance defence cooperation.
- **Joint military exercises:**
 - Australia will host the "[Malabar](#)" exercises in August 2023, with participation from India, Japan, and the US.
 - India has been invited to join the **Talisman Sabre exercises** in 2023.

▪ **China Factor:**

- Australia-China ties became strained due to several reasons including Australia **banning Huawei from 5G network, call for enquiry into the origins of Covid-19 and Slamming china's human rights violations in Xinjiang and Hongkong.**
 - China responded by imposing trade barriers on Australian exports, and by cutting off all ministerial contact.
- India is facing Chinese aggression along the border which has been highlighted by incidents such as [Galwan valley clash](#).
- Both Australia and India support a **rules-based international order** and they are seeking to forge regional institutions in the Indo-Pacific which are inclusive, promote further economic integration.
 - The countries' participation in [Quad](#) (India, Australia, US, Japan) is an example of their convergence of interests, based on shared concerns.

▪ **Multilateral Cooperation:**

- Both are members of the [Quad](#), Commonwealth, [Indian Ocean Rim Association \(IORA\)](#), [ASEAN Regional Forum](#), Asia Pacific Partnership on Climate and Clean Development, and have participated in the [East Asia Summits](#).
- Both countries have also been cooperating as members of the Five Interested Parties (FIP) in the [World Trade Organization](#) context.
- Australia is an important player in [Asia Pacific Economic Cooperation \(APEC\)](#) and supports India's membership of the organisation.

▪ **Economic Cooperation:**

- [Economic Cooperation Trade Agreement \(ECTA\)](#):
 - It is the first free trade agreement signed by India with a developed country in a decade which entered into force in December 2022.
- **Reduction in Duties:**
 - It has resulted in an **immediate reduction of duty to zero on 96% of Indian exports to Australia** in value (that is 98% of the tariff lines) and **zero duty on 85% of Australia's exports (in value) to India.**
- [Supply Chain Resilience Initiative \(SCRI\)](#):
 - India and Australia are partners in the trilateral arrangement along with Japan which seeks to enhance the resilience of supply chains in the [Indo-Pacific Region](#).
- **Bilateral trade:**
 - Australia is the **17th largest trading partner of India** and India is Australia's 9th largest trading partner.
 - Bilateral trade between India and Australia was **US\$ 27.5 billion in 2021**, there is potential for it to reach around **US\$ 50 billion in five years.**

▪ **Cooperation in Education Sector:**

- The Mechanism for **Mutual Recognition of Educational Qualifications (MREQ)** was signed in March 2023. This will facilitate mobility of students between India and Australia.
 - Deakin University and University of Wollongong are planning to open campuses in India.
 - **More than 1 lakh Indian students are pursuing higher education degrees in Australian universities**, making Indian students the second largest cohort of foreign students in Australia.

▪ **Cooperation on Clean Energy:**

- In February 2022, countries signed a **Letter of Intent on New and Renewable Energy** for cooperation to reduce the cost of renewable energy technologies, including ultra low-cost solar and clean hydrogen.
- India announced Australian Dollars (AUD) 10 million for Pacific Island Countries under the [International Solar Alliance \(ISA\)](#).
- Both the countries committed to USD 5.8 million to the **three-year India-Australia Critical**

What are the Challenges in India-Australia Relations?

- **Adani coal mine controversy:**
 - There was controversy over the Adani coal mine project in Australia, with some activists protesting against it, which created a strain in the relationship between the two countries.
- **Visa issues:**
 - There have been concerns over visa restrictions for Indian students and professionals seeking to work in Australia.
- **Violence with Indian Diaspora:**
 - Attacks on Indian Diaspora and temples in the recent past by Khalistan supporters have been a issue of strain.

Way Forward

- The India-Australia relations have strengthened in recent years due to **shared values, interests, geography, and objectives.**
- Both countries **envision a free, open, inclusive, and rules-based Indo-Pacific region**, unilateral or coercive actions are not preferred and are to be avoided in resolving any disagreements or conflicts.
- Renewed relationship between India- Australia through initiatives such as India Australia bilateral Summits give **an opportunity to further strengthen the ties between the two countries to play an active role in ensuring rule-based order in the Indo-Pacific.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q.1 Consider the following countries: (2018)

1. Australia
2. Canada
3. China
4. India
5. Japan
6. USA

Which of the above are among the 'free-trade partners' of ASEAN?

- (a) 1, 2, 4 and 5
(b) 3, 4, 5 and 6
(c) 1, 3, 4 and 5
(d) 2, 3, 4 and 6

Ans: (c)

- The Association of Southeast Asian Nations (ASEAN) has free trade agreements with six partners, namely the People's Republic of China, Republic of Korea, Japan, India as well as Australia and New Zealand.

Digital India Act, 2023

Prelims: Digital India Act, 2023, Information Technology Act (IT Act) of 2000, Digital Personal Data Protection Bill, 2022, Cybersecurity, Artificial Intelligence (AI), Deepfakes.

Mains: Digital India Act, 2023, Cybersecurity.

Why in News?

The Ministry of Electronics and Information Technology will soon come up with the **Digital India Act, 2023** which will replace the [Information Technology Act \(IT Act\) of 2000](#).

- The Indian parliament plans to implement the Digital India Act alongside the [Digital Personal Data Protection Bill, 2022](#), proposed in November 2022, where the two legislations will work in tandem with each other.

What is the Need for a New Act?

- Since the IT Act of 2000 was enacted, there have been many revisions and amendments (IT Act Amendment of 2008, IT Rules 2011) in attempts to define the **digital space in which it regulates while trying to put more emphasis on the data handling policies**.
- However, because the IT Act was originally designed only to protect e-commerce transactions and define cybercrime offenses, it **did not deal with the nuances of the current cybersecurity landscape** adequately nor did it address data privacy rights.
- Without a complete replacement of the governing digital laws, the **IT Act would fail to keep up with the growing sophistication** and rate of cyber-attacks.
- The new Digital India Act envisages to act as **catalysts for Indian economy by enabling more innovation**, more startups, and at the same time protecting the citizens of India in terms of safety, trust, and accountability.

What are the Likely Provisions under Digital India Act 2023?

- **Freedom of Expression:**
 - Social media platforms' own moderation policies may now be reduced to constitutional protections for freedom of expression and Fundamental speech rights.
 - An October 2022 amendment to the IT Rules, 2021 says that **platforms must respect users' free speech rights**.
 - Three Grievance Appellate Committees have now been established to take up content complaints by social media users.
 - These are now **likely to be subsumed into the Digital India Act**.
- **Online Safety:**
 - The Act will cover [Artificial Intelligence \(AI\)](#), [Deepfakes](#), cybercrime, competition issues among internet platforms, and data protection.
 - The government put out a draft Digital Personal Data Protection Bill in 2022, which would be one of the four prongs of the Digital India Act, with the National Data Governance Policy and amendments to the Indian Penal Code being others, **along with rules formulated under the Digital India Act**.
- **New Adjudicatory Mechanism:**
 - A new "Adjudicatory Mechanism" for criminal and civil offenses committed online would come into place.
- **Safe Harbour:**
 - The government is reconsidering a key aspect of cyberspace — 'safe harbour', which is the principle that **allows social media platforms to avoid liability for posts made by users**.
 - The term has been reined in recent years by regulations like the [Information Technology](#)

[\(Intermediary Guidelines and Digital Media Ethics Code\) Rules, 2021](#), which require platforms to take down posts when ordered to do so by the government, or when required by law.

What is the Digital Personal Data Protection Bill?

- The Bill will apply to the processing of digital personal data within India where such data is collected online, or collected offline and is digitised. It will **also apply to such processing outside India**, if it is for offering goods or services or profiling individuals in India.
- Personal data may **be processed only for a lawful purpose for which an individual has given consent**. Consent may be deemed in certain cases.
- Data fiduciaries will be **obligated to maintain the accuracy of data**, keep data secure, and delete data once its purpose has been met.
 - “Data Fiduciary” is defined as any person who alone or in conjunction with other persons **determines the purpose and means of processing** of personal data.
- The Bill grants **certain rights to individuals including the right to obtain information**, seek correction and erasure, and grievance redressal.
- The central government **may exempt government agencies from the application of provisions of the Bill** in the interest of specified grounds such as security of the state, public order, and prevention of offences.
- The central government will establish the **Data Protection Board of India to adjudicate non-compliance** with the provisions of the Bill.

What Data Protection Laws are there in other Nations?

- **European Union Model:**
 - The [General Data Protection Regulation](#) focuses on a comprehensive data protection law for processing of personal data.
 - In the EU, **the right to privacy is enshrined as a fundamental right** that seeks to protect an individual’s dignity and her right over the data she generates.
- **US Model:**
 - There is **no comprehensive set of privacy rights** or principles in the US that, like the EU’s GDPR, addresses the use, collection, and disclosure of data.
 - Instead, **there is limited sector-specific regulation**. The approach towards data protection is different for the public and private sectors.
 - The activities **and powers of the government vis-a-vis personal information are well-defined** and addressed by broad legislation such as the Privacy Act, the Electronic Communications Privacy Act, etc.
 - For the private sector, there are some sector-specific norms.
- **China Model:**
 - New Chinese laws on **data privacy and security issued over the last 12 months include the Personal Information Protection Law (PIPL)**, which came into effect in November 2021.
 - It gives Chinese data principals new rights as it seeks to prevent the misuse of personal data.
 - The **Data Security Law (DSL)**, which came into force in September 2021, requires **business data** to be categorized by levels of importance, and puts new restrictions on cross-border transfers.

[Source: TH](#)

Migrant Issues and Safeguards

For Prelims: Human Migration, India's migrant workers, Labour Codes.

For Mains: Legal framework for migrant welfare, Issues with Labour Codes, Need for a migration-centric policy.

Why in News?

[Tamil Nadu's industrial and manufacturing sectors are concerned about possibility of migrant worker exodus](#) after purported attacks on Hindi-speaking men.

- The state's industries heavily rely on the estimated one million migrant workers.

What are the Issues Faced by Migrant Workers?

- **Social and Psychological Aspects:**
 - Many times, migrants are **not easily accepted** by the host place, and they always **remain as a second-class citizen**.
 - Any person migrating to a new culture faces **multiple challenges, from cultural adaptation and language barriers** to homesickness and loneliness.
- **Exclusion from Political Rights and Social Benefits:**
 - Migrant workers are **deprived of many opportunities** to exercise their political rights like the **right to vote**.
 - Moreover, the need to provide **proof of address, Voter IDs and Aadhaar cards**, which is difficult due to the fluidity of their lives, deprive them from accessing welfare schemes and policies.
- **Issues faced by Marginalised Sections:**
 - Whereas the people who are poor or belong to a **marginalised section do not find it easy to mix up**.

SHARE OF MIGRANT WORKERS AMONG TOTAL WORKERS BY MAJOR SECTORS

Sector	RURAL		URBAN	
	Male	Female	Male	Female
Primary	4%	75%	20%	65%
Manufacturing	13%	59%	38%	51%
Public Services	16%	69%	40%	56%
Construction	8%	73%	32%	67%
Traditional Services	10%	65%	29%	55%
Modern Services	16%	66%	40%	52%
Total	6%	73%	33%	56%

What is the Legal Framework for Migrant Labour Welfare?

- The **legal framework** for migrant labour welfare in India is provided by the [Inter-State Migrant Workmen Act, 1979](#).
 - The Act **mandates the registration of establishments that employ migrant workers** and requires contractors to obtain licenses from both the home and host states. However, the Act has not been fully implemented in practice.
 - The Act has been subsumed into four broader labor codes, which are:
 - [The Code on Wages, 2018](#)
 - [The Industrial Relations Code, 2020](#)
 - [The Code on Social Security, 2020](#)
 - [The Occupational Safety, Health and Working Conditions Code, 2020](#)
- The **implementation process is delayed** as states are yet to finalise their rules under these codes.

What are the Issues with Legal Framework for Migrant Workers?

- Inter-State Migrant Workmen Act, 1979 has **not been fully implemented** in states.
- **Small Startups and Informal Sector Left out From Social Security Coverage.** There are no specific provisions for social security of employees in small startups, [Micro, Small and Medium Enterprises](#) or workers in small establishments having less than 300 workers.
- **Migrant workers, self-employed workers, home-based workers, and other vulnerable groups** in rural areas are not covered under social security benefits.
 - This would enable companies to introduce arbitrary service conditions for their workers.

What are the Steps taken by Government for Migrant Welfare?

- **Central Government's Steps:**
 - The Union Government has approved the proposal for the continuation of the 7 existing sub-schemes under the **"Relief and Rehabilitation of Migrants and Repatriates"** scheme.
 - In 2021, [NITI Aayog](#), along with a working subgroup of officials and members of civil society, has prepared a [draft National Migrant Labour policy](#).
 - The ramping up of [One Nation One Ration Card \(ONORC\)](#) project and introduction of the [Affordable Rental Housing Complexes \(ARHC\)](#), **PM Garib Kalyan Yojna scheme** and [e-Shram portal](#) reflected a ray of hope for migrants.
- **State Governments' Steps:**
 - In 2012, with the help of the **International Labour Organisation**, an **MoU was signed between Odisha and Andhra Pradesh** to track labourers migrating from 11 districts of Odisha to work in brick kilns in then-united Andhra Pradesh.
 - **Kerala has set up facilitation centres for migrant workers** to maintain data regarding migrant workers arriving in Kerala as well as help migrant workers navigate any problems they might face.
 - Jharkhand has started the [Safe and Responsible Migration Initiative \(SRMI\)](#) in 2021, which aims at enabling systemic registration of migrant workers for monitoring and analysis in the source as well as the destination districts.
 - **Jharkhand government will have help desks** which will be known as **'labour consulates'** in various states.

Way Forward

- Merely enrolling workers in a registry will not be effective unless they also have access to social security benefits. Therefore, it is **crucial for the central government to collaborate with states and coordinate their actions in safeguarding the rights of workers.**

UPSC Civil Services Exam, Previous Year Questions (PYQ)

Q. What are the main socio-economic implications arising out of the development of IT industries in major cities of India? **(2021)**

Q. Discuss the changes in the trends of labour migration within and outside India in the last four decades. (2015)

[Source:IE](#)

Rapid Fire Current Affairs

Time Zone for the Moon

With more lunar missions than ever on the horizon, **the European Space Agency (ESA) wants to give the moon its own time zone.** [National Aeronautics and Space Administration \(NASA\)](#) is **shooting for its first flight to the moon with astronauts in more than a half-century in 2024**, with a lunar landing as early as 2025.

For now, **a moon mission runs on the time of the country that is operating the spacecraft.** An internationally accepted lunar time zone would make it easier for everyone, especially since more governments and companies are aiming for the moon.

Clocks **run faster on the moon than on Earth**, gaining about **56 microseconds each day.** Further complicating matters, ticking occurs differently on the lunar surface than in lunar orbit. While the **space station doesn't have its own time zone, it runs on Coordinated Universal Time (UTC)**, which is meticulously based on atomic clocks (type of clock that uses certain resonance frequencies of atoms (usually cesium or rubidium) to keep time with extreme accuracy).

UTC is a **modern time standard defined by a series of atomic clocks and is used as a standard reference time** in many applications within transport, finance and scientific research.

Read More: [India's Third Moon Mission](#)

Scrub Typhus

Scrub typhus, **a life-threatening infection caused by Orientia tsutsugamushi bacteria — is a major public health threat in South and Southeast Asia.** As per estimates, nearly one million cases are reported from South and Southeast Asia with 10% mortality. **India is one of the hotspots with at least 25% of the disease burden.**

Scrub typhus is a major public health threat **because of the high mortality rate in patients with severe disease despite diagnosis and treatment.** It is **transmitted to humans by bites from tiny, infected larvae of mites.** Only the larval stage of the mite requires a blood meal, which is usually from rodents. **Combination therapy using both doxycycline and azithromycin is far more effective in treating severe scrub typhus** than monotherapies of either drug by itself.

The infection does not cause typical symptoms, thus making correct and early diagnosis difficult. Also, **awareness about infection and disease is very low despite the high disease burden and mortality rate.** Increasing awareness can clearly bring down the mortality rate.

Read More: [Scrub Typhus](#)

Gene-editing: A Concern



A new study warns of the **consequences of deploying technology for the birth of gene-edited twins that is still less understood.**

Deleting harmful disease-causing mutations by gene editing could be counterproductive. It could create more problems. **Since gene editing is still experimental. It could also increase the risk of other diseases.**

Gene editing **is a group of technologies that give scientists the ability to change an organism's Deoxy-Ribonucleic Acid (DNA).** It can be divided into two classes. **One involves changing genes in human cells.** This method does not alter reproductive cells, such as sperm or eggs. It can be used to treat diseases caused by mutations. **The second method alters the genome of human embryos.**

Humans possess **two versions of a particular gene received from each parent.** If a child gets a recessive disease-causing gene from one parent and a dominant healthy version of the same gene from the other, they could still be protected.

The extensive copying of genetic information from one parent to another due to Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) **could give rise to two mutant copies of the disease-causing gene in the embryo.** This significantly increased the risk of diseases.

Read More: [Gene Editing. Clustered Regularly Interspaced Short Palindromic Repeats \(CRISPR\)](#)

Lossless Energy Possibility

According to US scientists, they have **produced the first commercially accessible material that eliminates the loss of energy** as electricity is conducted through a wire, a breakthrough that **could mean more efficient computers and power grids, longer- lasting batteries, improved high-speed trains, and more powerful nuclear fusion reactors.**

They have **created a new superconductor that can operate at room temperature and at a much lower pressure** than previously discovered superconducting materials. **A rare earth metal called lutetium combined with hydrogen and nitrogen can conduct electricity without resistance at 21 degrees Celsius** and around just 10,000 atmospheres of pressure.

Superconductors, which are materials that can conduct electric currents without any loss, have been **considered extremely impractical because they typically need to be cooled,** to around -195 degrees Celsius, and subjected to extreme pressure to work.

Read More: [Superconductivity](#)

