



Snow Leopard

Snow Leopard

Panthera Uncia

Often referred to as the "ghost of the mountains"

HABITAT

- Mountainous regions of **Central and Southern Asia**
- **12** Range Countries
- In India:
 - **Western Himalayas:** Jammu and Kashmir, Ladakh, Himachal Pradesh
 - **Eastern Himalayas:** Uttarakhand and Sikkim and Arunachal Pradesh

MAJOR SITES

- Hemis National Park, Ladakh
 - **Snow leopard capital of the world**
- Great Himalayan National Park, Himachal Pradesh
- Gangotri National Park, Uttarakhand
- Khangchendzonga National Park, Sikkim

PROTECTION STATUS

- **Vulnerable:** IUCN Red List
- **Appendix I:** CITES
- **Schedule I:** Indian Wildlife (Protection) Act 1972

CONSERVATION EFFORTS

- Global Snow Leopard and Ecosystem Protection (GSLEP) Programme
- Himal Sanrakshak- Community Volunteer Programme
- Project Snow Leopard
- Snow Leopard Conservation Breeding Programme- Padmaja Naidu Himalayan Zoological Park, West Bengal



THREATS

- Human Snow Leopard Conflict
- Climate Change
- Loss of Prey and Habitat
- Poaching



UN to Sign treaty on Ocean Biological Diversity

For Prelims: Exclusive Economic Zone, UNCLOS

For Mains: Conservation of Marine in High Seas

Why in News?

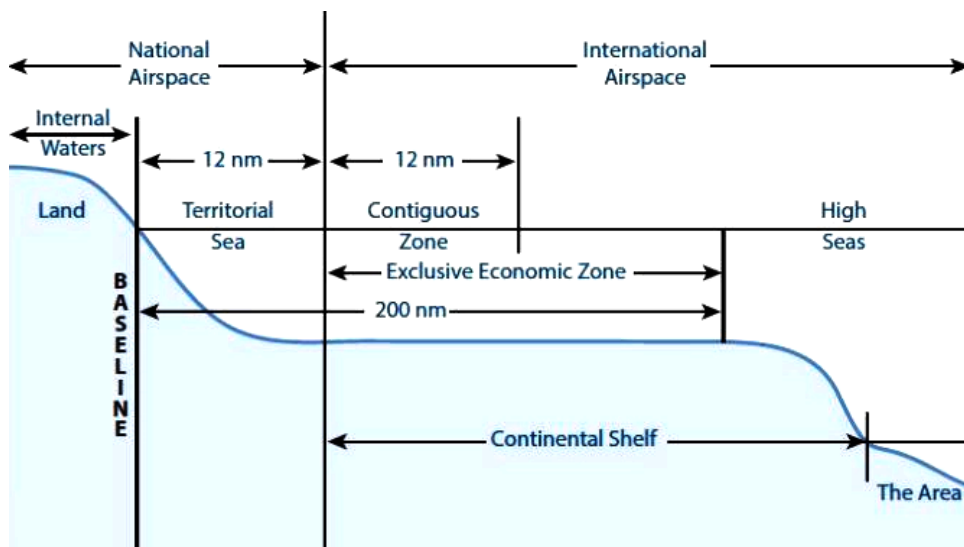
Recently, the [United Nations](#) organised the Intergovernmental Conference to draft the first-ever treaty on the **Ocean's Biological Diversity** to conserve marine diversity in the High Seas.

- The conference was held in New York, USA.
- A series of conferences was set in motion in 2018 to draft **international legislation under the 1982 UN Convention on the Law of the Sea (UNCLOS)** on the conservation and sustainable use of marine biological diversity in these areas.

What are the Objectives of the New Treaty?

- The treaty seeks to address the **conservation and sustainable use of marine biodiversity in areas of the ocean which are beyond the limits** of national maritime zones.
- It will also address marine genetic resources, including questions on benefit-sharing, measures such as area-based management tools, environmental impact assessments, and the **transfer of marine technology**.
- The agreement will be **deciding on the rights of companies that undertake exploration for biological resources in the high seas**.
 - With advances in biotechnology and genetic engineering, several companies see potential in exotic microbes and other organisms - several of them undiscovered - that abide in the deep ocean and could be used for drugs, vaccines and a variety of commercial applications.
- Since marine life is **already reeling from the impact of industrial fishing**, climate change and other extractive industries, the treaty seeks to protect our global oceans.

What are the High Seas?



- Countries can protect or exploit waters under 200 nautical miles (370 kilometres) to their shorelines, but **everything outside these 'exclusive economic zones' is considered international waters: the high seas.**
- The high seas **make up two-thirds of Earth's oceans**, providing 90% of its available habitat for life and **accounting for up to USD 16 billion a year in fisheries catch.**
- They are also **prime territory for the discovery of valuable mineral deposits**, potent pharmaceuticals and oil and gas reserves.
- International law identifies **four global commons namely:**
 - the High Seas, the Atmosphere, Antarctica, Outer Space.
 - Global commons **refer to resource domains that lie outside the political reach** of any one nation.

How are the High Seas Regulated Currently?

- The **United Nations Convention on the Law of the Sea (UNCLOS)** regulates activities in international waters, including sea-bed mining and cable laying.
- It **lays down rules for the use of the ocean and its resources**, but does **not specify how states should conserve** and sustainably use high seas biodiversity.
- No overarching **treaty exists to protect biodiversity or conserve vulnerable ecosystems in the oceans.**

United Nations Convention on the Law of the Sea (UNCLOS)

- The 'Law of the Sea Treaty', formally known as the United Nations Convention on the Laws of the Sea (UNCLOS) **was adopted in 1982** to establish jurisdictional limits over ocean areas.
- The convention defines **a distance of 12 nautical miles from the baseline as Territorial Sea limit and a distance of 200 nautical miles distance as Exclusive Economic Zone limit.**
- It provides for technology and wealth transfer from developed to underdeveloped nations and requires parties to implement regulations and laws to control marine pollution.
- India became a signatory to the UNCLOS in 1982.
- **UNCLOS created three new institutions:**
 - **International Tribunal for the Law of the Sea:** It is an independent judicial body established by UNCLOS to adjudicate disputes arising out of the convention.
 - **International Seabed Authority:** It is a UN body set up to regulate the exploration and exploitation of marine non-living resources of oceans in international waters.
 - **Commission on the Limits of the Continental Shelf:** It facilitates the implementation of the United Nations Convention on the Law of the Sea (the Convention) in respect of the establishment of the outer limits of the continental shelf beyond 200 nautical miles.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. With reference to the United Nations Convention on the Law of Sea, consider the following statements:

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (d)

Exp:

- Under limits of the territorial sea every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention. **Hence, statement 1 is correct.**
- Under INNOCENT PASSAGE IN THE TERRITORIAL SEA, Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea. **Hence, statement 2 is correct.**
- The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention. Under this the exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. **Hence, statement 3 is correct.**

Mains

Q. With respect to the South China sea, maritime territorial disputes and rising tension affirm the need for safeguarding maritime security to ensure freedom of navigation and overflight throughout the region. In this context, discuss the bilateral issues between India and China. (2018)

[Source: TH](#)

Lord Curzon

For Prelims: Curzon Gate, Bijay Chand Mahtab, Burdwan Estate, Bengal Partition.

For Mains: Curzon, his Foreign Policy and Reforms.

Why in News?

Recently, the West Bengal Government has decided to erect a **statue of Bardhaman's Maharaja Bijay Chand Mahatab** and his wife Radharani in **front of the Lord Curzon Gate**.

- Mahtab had built the gate in **1903 when Curzon visited the town**.
- Maharajadhiraja Bijay Chand Mahtab (1881 - 1941) was the ruler of Burdwan Estate, Bengal in British India from 1887 till his death in 1941.

Who Was Curzon?

- George Nathaniel Curzon (11th January, 1859- 20th March, 1925) born in **Kedleston Hall, England** was a **British Statesman and Foreign Secretary** who during his terms in office played a major role in British policy making.
 - He succeeded **Lord Elgin and served as India's Viceroy between 1899 and 1905**.
 - He became the **youngest Viceroy of India** at the age of 39.
 - He was one of the **most controversial and consequential holders** of that post.
- Before assuming office as governor general and viceroy, Curzon had visited India (four times) Ceylon, Afghanistan, China, Persia, Turkestan, Japan, and Korea.

What were Curzon's Foreign Policies?

- **North-West Frontier Policy:**
 - Curzon, unlike his predecessors, pursued a policy of consolidation, strength and security of the British occupied territories in the north-west.
 - He kept **Chitral under British control and constructed a road connecting Peshawar and Chitral thereby** arranging for the security of Chitral.
- **Afghan Policy:**
 - Lord Curzon's Afghan policy was **conditioned by the political and economic interests, fear of Russian expansion** in Central Asia and Persian Gulf area.
 - From the very start there was an estrangement of relations between Afghans and the British.
- **Policy towards Persia:**
 - In order to secure British influence in that region Lord Curzon personally went to the Persian Gulf area in 1903 and took firm measures to protect the British interests there.
- **Relation with Tibet:**
 - Lord Curzon's Tibet policy was also influenced by fear of Russian dominance in the region.
 - It was Lord Curzon's efforts that revived the trade relations between the two under which Tibet agreed to pay a huge indemnity to the British.

What were Reforms in Various Fields?

- **Calcutta Corporation Act, 1899:**
 - The act reduced the number of elected legislatures and increased the number of nominated officials to deprive Indians from self-governance.
 - 28 members of the Corporation resigned in protest and it, therefore, became a government department with the English and the Anglo-Indians as the majority in it.
- **Economic:**
 - In 1899, the British currency was declared legal tender in India and a pound was declared equivalent to rupees fifteen.
 - The rate of salt-tax was reduced by Curzon, from two-and-a-half rupees per maund (1

maund is equal to approximately 37 kg) to one-and-a-third rupees per maund.

- People with annual income of more than Rs. 500 paid the tax. Moreover, income-tax payers also received relaxation.

▪ **Famine:**

- When Curzon arrived in India, it was in the grip of a terrible famine which affected the extensive territories in south, central and western India. Curzon provided all possible relief to the affected people.
- **People were provided work on payment basis** and the cultivators were exempted from the payment of revenue.
- By 1900, when the famine was over, Curzon appointed a Commission to probe into the causes of the famine and suggest preventive measures which were later brought into consideration.

▪ **Agriculture:**

- In 1904, the **Co-operative Credit Societies Act** was passed to induce the people to form societies for the purpose of deposits and loans, mainly to save peasants from the clutches of the money-lenders who usually charged an exorbitant rate of interest.
- In 1900, the **Punjab Land Alienation Act** was passed which restricted the transfer of lands of the peasants to money-lenders in cases of failure of payment of their debts.

▪ **Railways:**

- Curzon decided to **improve railway facilities in India** and also to make the Railway profitable to the government.
- The Railway lines were increased, the Railway department was abolished and the management of the Railways was taken away from the hands of the Public Works Department and handed over to a Railway Board consisting of three members.

▪ **Education:**

- In 1901, Curzon **called an education conference at Shimla** following which the University Commission was appointed in 1902.
- The Indian Universities **Act was passed in 1904** upon the recommendations of the commission.
- Gurudas Banerjee, Calcutta HC judge and a member of the commission, had given his dissent-note in the report and the Indian public despised the Act but all in vain.

What was Curzon's Role in the Partition of Bengal?

- The partition of the undivided Bengal Presidency in 1905 was one of Curzon's most criticized moves, which triggered widespread opposition not only in Bengal but across India, and gave impetus to the freedom movement.
- Bengal was the **most populous province of India**, with around 8 crore people.
- It comprised the present-day states of **West Bengal, Bihar, parts of Chhattisgarh, Odisha, and Assam** and present-day Bangladesh.
- In July 1905, Curzon announced the partition of the undivided Bengal Presidency.
 - A new province of East Bengal and Assam was announced, with a population of 3.1 crore with a Muslim-Hindu ratio of 3:2.
 - The western Bengal province was overwhelmingly Hindu.

What are the Consequences of the Partition?

- The partition provoked great resentment and hostility all over India. All sections of the Congress, the Moderates and the Radicals, opposed it.
- The struggle that unfolded in the response, came to be known as the Swadeshi movement, was the strongest in Bengal but with echoes elsewhere too; in deltaic Andhra for instance, it was known as the Vande Mataram Movement.
 - The protest was to boycott British goods, especially textiles, and promote swadeshi goods.
- There were marches and demonstrations with the protesters singing Vande Mataram to underline their patriotism and challenge the colonialists.
- Rabindranath Tagore led the marches at many places, and composed many patriotic songs, most famously '**Amar Sonar Bangla**' (**My Golden Bengal**), which is now the national anthem of Bangladesh.

What are the Impacts of the Protests?

- Curzon left for Britain in 1905, but the agitation continued for many years.
- King George V at his Coronation Durbar abrogated Bengal's partition in **1911**.
 - **Lord Hardinge** was the Viceroy of India in 1911.
- The Swadeshi movement, which had grown significantly during the agitation, later reached nationwide proportions.
- The partition of Bengal and the highhanded behaviour of Curzon fired the national movement and the Congress.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. With reference to Swadeshi Movement, consider the following statements: (2019)

1. It contributed to the revival of the indigenous artisan crafts and industries.
2. The National Council of Education was established as a part of Swadeshi Movement.

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: (c)

Q. The 'Swadeshi' and 'Boycott' were adopted as methods of struggle for the first time during the (2016)

- (a) agitation against the Partition of Bengal
- (b) Home Rule Movement
- (c) Non-Cooperation Movement
- (d) visit of the Simon Commission to India

Ans: (a)

Q. The Partition of Bengal made by Lord Curzon in 1905 lasted until (2014)

- (a) the First World War when Indian troops were needed by the British and the partition was ended
- (b) King George V abrogated Curzon's Act at the Royal Durbar in Delhi in 1911
- (c) Gandhiji launched his Civil Disobedience Movement
- (d) the Partition of India in 1947 when East Bengal became East Pakistan

Ans: (b)

Mains

Q. Evaluate the policies of Lord Curzon and their long term implications on the national movement. (2020)

Source: IE

5 Years of UDAN

For Prelims: UDAN Scheme, Civil Aviation

For Mains: UDAN Scheme, Government's Policies & Intervention

Why in News?

Recently [UDAN \(UdeDeshKaAamNagrik\)](#), a **Regional Connectivity Scheme** of the **Ministry of Civil Aviation** has completed 5 years of success since the launch of its first flight by the Prime Minister on 27th April 2017.

What do we need to know about the UDAN Scheme?

▪ About:

- **Ude Desh Ka Aam Naagrik (UDAN)** was launched as a **Regional Connectivity Scheme (RCS)** under the **Ministry of Civil Aviation** in 2016.
- It was formulated based on the review of **The National Civil Aviation Policy (NCAP)-2016** and it was planned to remain in force for a period of 10 years.
 - Under this Scheme, **Regional Connectivity Fund (RCF)** was created, which funds the **Viability Gap Funding (VGF)** requirements of the scheme through a levy on certain domestic flights.
 - VGF means a grant one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability.

▪ Objectives:

- To develop the **regional aviation market**.
- To provide affordable, economically viable and profitable air travel on regional routes to the common man even in small towns.

▪ Features:

- The scheme envisages **providing connectivity to unserved and underserved airports** of the country through the revival of existing air-strips and airports.
 - Under-served airports are those which **do not have more than one flight a day**, while **unserved airports are those where there are no operations**.
- Financial incentives from the Centre, state governments and airport operators are extended to selected airlines to **encourage operations from unserved and under-served airports**, and keep airfares affordable.

▪ Achievements So Far:

- There were **74 operational airports in 2014** which has **increased to 141 by now**.
- **68 underserved/unserved destinations** which include 58 Airports, 8 Heliports & 2 Water Aerodromes have been connected under UDAN scheme.
- With 425 new routes initiated, **UDAN has provided air connectivity to more than 29 States/ UTs** across the country.
- **More than one crore passengers** have availed the benefits of this scheme as on 4th August 2022.

▪ Targets:

- **220 destinations** (airports/heliports/water aerodromes) under UDAN are targeted to be **completed by 2026** with 1000 routes to provide air connectivity to unconnected destinations in the country.
 - Under UDAN, **954 routes have already been awarded to connect 156 airports**.

▪ Awards & Recognition:

- RCS-UDAN was awarded the [Prime Minister's Award for Excellence in Public Administration](#) under Innovation Category for the year 2020.

- [Republic Day Tableau for 26th January 2022](#) on UDAN was adjudged as the Best **Tableau** by the **Ministry of Defence**.

How has the UDAN Scheme's Performance been?

- **UDAN 1.0**
 - Under this phase, **5 airlines companies were awarded 128 flight routes to 70 airports** (including 36 newly made operational airports).
- **UDAN 2.0**
 - In 2018, the Ministry of Civil Aviation announced **73 underserved and unserved airports**.
 - For the first time, **helipads were also connected under phase 2 of the UDAN scheme**.
- **UDAN 3.0**
 - **Inclusion of Tourism Routes** under UDAN 3 in coordination with the Ministry of Tourism.
 - Inclusion of **Seaplanes for connecting Water Aerodromes**.
 - Bringing in a number of routes in the **North-East Region under the ambit of UDAN**.
- **UDAN 4.0**
 - In 2020, **78 new routes were approved under the 4th round of RCS-UDAN** to further enhance the connectivity to remote & regional areas of the country.
 - **Kavaratti, Agatti, and Minicoy islands of Lakshadweep** will be connected by the new routes of UDAN 4.0.
- **UDAN 4.1**
 - The UDAN 4.1 focuses on **connecting smaller airports**, along with special helicopter and seaplane routes.
 - Some new routes have been proposed under the [Sagarmala Seaplane Services](#).
 - **Sagarmala Seaplane Services** is an ambitious project under the Ministry of Ports, Shipping and Waterways with potential airline operators.
- **UDAN 5.0**
 - In 2021, the Ministry of Civil Aviation **flagged off 6 routes**, expanding the **aerial connectivity of North-East India**, under the UDAN Scheme.
- **Lifeline UDAN:**
 - It was launched for **transportation of medical cargo during pandemic**.
 - It commenced in March 2020 during [COVID-19 period](#) and it helped to operate 588 flights transporting almost 1000 Tonnes of voluminous cargo and essential medical services to various parts of the country.
- **Krishi UDAN:**
 - It was launched for **value realization of agriculture products** especially in Northeastern Region (NER) and tribal districts
- **International UDAN:**
 - Under International UDAN, the plan is to **connect India's smaller cities directly to some key foreign destinations in the neighbourhood**.

Way Forward

- Airlines have leveraged the scheme strategically towards gaining additional slots at congested tier-1 airports, monopoly status on routes and lower operational costs.
 - Thus, **stakeholders should work towards making the UDAN scheme sustainable on its own and improve its efficiency**.
- Airlines should undertake **marketing initiatives** so that more and more people can take advantage of the UDAN scheme.
- **More infrastructure is required** for the successful implementation of the scheme across the country.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Examine the development of Airports in India through joint ventures under Public-Private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? **(2017)**

Q. International civil aviation laws provide all countries complete and exclusive sovereignty over the airspace above their territory. What do you understand by 'airspace'? What are the implications of these laws on the space above this airspace? Discuss the challenges which this poses and suggest ways to contain the threat. **(2014)**

[Source: PIB](#)

Har Ghar Jal

For Prelims: Har Ghar Jal, Gram Sabha, Jal Jeevan Mission, Gram Panchayats, Village Water and Sanitation Committee (VWSC), Functional Tap Connection (FHTC), Sansad Adarsh Gram Yojana (SAGY).

For Mains: Impact of Jal Jeevan Mission.

Why in News?

Recently, [Goa](#) and [Dadra & Nagar Haveli and Daman & Diu \(D&NH and D&D\)](#) became the **first 'Har Ghar Jal' certified State and UT** in the country respectively.

- The people from all the villages have declared their village as [Har Ghar Jal](#) through a resolution passed by [Gram Sabha](#), certifying that all households in the villages have **access to safe drinking water through taps**.
- **Village Water and Sanitation Committee (VWSC) or paani Samiti** has been constituted in all the 378 villages of Goa and 96 villages of D&NH and D&D.
 - It is responsible for the operation, maintenance, and repair of water supply infrastructure developed under 'Har Ghar Jal' programme.

What is Jal Jeevan Mission?

- **About:**
 - [Jal Jeevan Mission](#), a **central government initiative under the Ministry of Jal Shakti**, aims to ensure **access of piped water for every household in India**.
 - Jal Jeevan Mission, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India.
 - The programme will also implement source sustainability measures as mandatory elements, such as **recharge and reuse through grey water management, water conservation, rain water harvesting**.
 - The Jal Jeevan Mission will be based on a **community approach to water**.
 - The mission will include information, education, and communication as key components.
 - The mission is meant to create a people's movement for water, making it everyone's priority.
 - Further, the **Har Ghar Nal Se Jal programme** was announced by Finance Minister in Budget 2019-20.

- It forms a crucial part of the Jal Jeevan Mission.
- The programme **aims to implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, and rainwater harvesting.**

▪ **Mission:**

- To assist, empower and facilitate:
 - States/ UTs in the **planning of participatory rural water supply strategy for ensuring potable drinking [water security](#)** on a long-term basis to every rural household and public institution.
 - States/ UTs for **creation of water supply infrastructure**, so that every rural household has a **Functional Tap Connection (FHTC)** by 2024 and water in adequate quantity of prescribed quality is made available on regular basis.
 - **Gram Panchayats (GPs)/ rural communities to plan, implement, manage, own, operate, and maintain their own in-village water supply systems.**
 - States/ UTs to develop robust institutions having a focus on service delivery and financial sustainability of the sector by promoting a utility approach
 - Further **enhancing capacity building of the stakeholders and creating awareness** in the community on the significance of water for improvement in quality of life.

▪ **Objectives:**

- To provide **Functional Tap Connection (FHTC)** to every rural household.
- To prioritize the provision of FHTCs in quality affected areas, villages in drought-prone and desert areas, **[Sansad Adarsh Gram Yojana \(SAGY\)](#)** villages, etc.
- To provide functional tap connection to Schools, Anganwadi centres, GP buildings, Health centres, wellness centres, and community buildings
- To monitor the functionality of tap connections.
- To promote and **ensure voluntary ownership among the local community by way of contribution in cash, kind and/ or labour**, and voluntary labour (shramdaan)
- To assist in **ensuring the sustainability of the water supply system, i.e., water source, water supply infrastructure.**

Note: In the Budget 2021-22, **[Jal Jeevan Mission \(Urban\)](#)** has been announced under **the Housing and Urban Affairs Ministry** to provide universal coverage of water supply to all households through functional taps in all statutory towns in accordance with Sustainable Development Goal- 6.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2020)

1. 36% of India's districts are classified as "overexploited" or "critical" by the Central Ground Water Authority (CGWA).
2. CGWA was formed under the Environment (Protection) Act.
3. India has the largest area under groundwater irrigation in the world.

Which of the statements given above is/are correct.

- (a) 1 only
 (b) 2 and 3 only
 (c) 2 only
 (d) 1 and 3 only

Ans: (b)

Exp:

- Based on groundwater levels, areas across the country are split into three categories: Over-exploited, Critical and Semi critical. The first refers to groundwater being extracted more than what's recharged i.e. extraction is more than 100%. Critical where the groundwater taken out is 90-100% of what's recharged and semi-critical where extraction rate is 70%-90%.
- As per the report 'National Compilation on Dynamic Groundwater Resources of India, 2017' of CGWA, out of the total 6881 assessment units (Blocks/ Mandals/Talukas) in the country, 1186 units in various States (17%) have been categorized as 'OverExploited', 313 units (5%) are 'Critical', and 972 are semi-critical units (14%). **Hence, statement 1 is not correct.**
- **Note:** As per National Compilation on Dynamic Groundwater Resources of India 2020, Out of the total 6965 assessment units (Blocks/ Mandals/ Talukas/ Firkas) in the country, 16 % have been categorized as 'Over-exploited, 4 % as Critical, 15 % as Semi-critical and 64 %) as 'Safe' units. Apart from these, there are 97 (1%) assessment units, which have been categorised as 'Saline'.
- **The Central Ground Water Authority (CGWA) was constituted under Section 3(3) of the Environment (Protection) Act, 1986 to regulate, control development and management of ground water resources. Hence, statement 2 is correct.**
- As per report of Food and Agriculture Organization (FAO) of UN, the countries with the largest extent of areas equipped for irrigation with groundwater, in absolute terms, are India (39 million ha), China (19 million ha) and the USA (17 million ha). **Hence, statement 3 is correct. Therefore, option (b) is the correct answer.**

Mains

Q. What is water stress? How and why does it differ regionally in India? (2019)

[Source: PIB](#)

Tilapia Aquaculture Project: Fisheries

For Prelims: India's Fisheries Sector, Tilapia Aquaculture Project, Pradhan Mantri Matsya Sampada Yojna, Aquaculture.

For Mains: Significance of India's Fisheries Sector.

Why in News?

Inspired by [Pradhan Mantri Matsya Sampada Yojana \(PMMSY\)](#), the Technology Development Board (TDB) has extended support to the **Tilapia Aquaculture Project** with Israeli Technology.

- Technology Development Board (TDB) is a statutory body under the Ministry of Science and Technology.

What is Pradhan Mantri Matsya Sampada Yojana?

- Pradhan Mantri Matsya Sampada Yojana (PMMSY) scheme was announced in September 2020 to **provide financial support for the acquisition of technologically advanced fishing**

vessels, deep sea fishing vessels for traditional fishermen, and fishing boats and nets for traditional fishermen.

- It envisages enhancing fish **production to 220 lakh metric tons by 2024-25, at an average annual growth rate of about 9%**.
- The ambitious scheme also aims to double the export earnings to Rs.1,00,000 crore and generate about 55 lakhs direct and indirect employment opportunities in the fisheries sector over a period of the next five years.
- Despite various issues faced by the sector during Covid - 19 pandemic, India has achieved all-time high exports of marine products worth USD 7,165 million from April to February 2021-22.

What is Aquaculture?

- **About:**
 - The term aquaculture broadly refers to the **cultivation of aquatic organisms in controlled aquatic environments** for any commercial, recreational or public purpose.
 - The breeding, rearing and harvesting of plants and animals takes place **in all types of water environments** including ponds, rivers, lakes, the ocean and man-made “closed” systems on land.
- **Purposes:**
 - Food production for human consumption,
 - Rebuilding of populations of threatened and endangered species,
 - Habitat restoration,
 - Wild stock enhancement,
 - Production of baitfish, and
 - Fish culture for zoos and aquariums.

What is Tilapia?



- Tilapia, also dubbed aquatic chicken, has emerged to be **one of the most productive and internationally traded fish foods** in the world.
 - The culture of tilapia has become **commercially popular in many parts of the world** and due to its quick growth and low maintenance cultivation, it was dubbed **aquatic chicken**.
 - Tilapia is tolerant of a variety of aquaculture environments, it can be farmed in brackish or salt water and also in pond or cage systems.

What is the State of Fisheries in India?

- **About:**
 - Fishing is the **capture of aquatic organisms in marine, coastal and inland areas**.

- Marine and inland fisheries, together with aquaculture, **provide food, nutrition and a source of income** to millions of people around the world, from harvesting, processing, marketing and distribution.
- For many it also forms part of **their traditional cultural identity**.
- One of the greatest threats to the sustainability of global fishery resources is illegal, unreported and unregulated fishing.
- **Significance:**
 - Fisheries is one of the **fastest growing sectors** amongst the primary producing sectors.
 - India is the **second largest fish producing country** in the world accounting for 7.56% of global production and contributing about 1.24% to the country's **Gross Value Added (GVA) and over 7.28% to the agricultural GVA**.
 - India is the **4th largest exporter** of fish in the world.
 - The sector plays **a vital role in economic and overall development** of the country, also referred as the **“Sunrise Sector”**, it is poised to **bring in immense potential through equitable and inclusive growth**.
 - The sector is recognized as a **powerful engine for providing employment to 14.5 million people** and sustaining livelihood for the 28 million fishermen community of the country.
 - The fisheries sector has witnessed three **major transformations in the last few years:**
 - The growth of inland aquaculture, specifically freshwater aquaculture.
 - The mechanization of capture fisheries.
 - The successful commencement of brackish water shrimp aquaculture.
- **Challenges:**
 - The **Food and Agriculture Organization (FAO)** points out that **nearly 90% of the global marine fish stocks** have either been fully **exploited or overfished** or depleted to the extent that recovery may not be biologically possible.
 - Discharge of harmful substances like plastics and other waste into water bodies that cause devastating consequences for aquatic life.
 - **Changing climate**.

What are the Government Initiatives for Fisheries?

- **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)**
- **Blue Revolution**
- **Extension of Kisan Credit Card (KCC)**
- **Marine Products Export Development Authority.**
- **Seaweed Park**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Under the Kisan Credit Card scheme, short-term credit support is given to farmers for which of the following purposes? (2020)

1. Working capital for maintenance of farm assets
2. Purchase of combine harvesters, tractors and mini trucks
3. Consumption requirements of farm households
4. Post-harvest expenses
5. Construction of family house and setting up of village cold storage facility

Select the correct answer using the code given below:

- (a)** 1, 2 and 5 only
(b) 1, 3 and 4 only

(c) 2, 3, 4 and 5 only

(d) 1, 2, 3, 4 and 5

Ans: (b)

Exp:

- The **Kisan Credit Card (KCC)** scheme was introduced in 1998 for providing adequate and timely credit support from the banking system under a single window with flexible and simplified procedure to the farmers for their cultivation and other needs like purchase of agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.
- The scheme was further extended in the year 2004 for the investment credit requirement of farmers viz allied and non-farm activities.
- Kisan Credit Card is provided with the following objectives:
 - The short-term credit requirements for cultivation of crops,
 - Post-harvest expenses, hence 4 is correct.
 - Produce marketing loan,
 - Consumption requirements of farmer household, hence 3 is correct.
 - Working capital for maintenance of farm assets and activities allied to agriculture, like dairy animals, **inland fishery, etc., hence, 1 is correct.**
 - Investment credit requirement for agriculture and allied activities like pumpsets, sprayers, dairy animals, etc. However, this segment forms the long term credit limit portion.
- The Kisan Credit Card Scheme is implemented by Commercial Banks, RRBs, Small Finance Banks and Cooperatives.
- The short-term credit support is not given to farmers for Purchase of combine harvesters, tractors and mini trucks and Construction of family house and setting up of village cold storage facility. **Hence, 2 and 4 are not correct.**
- **Therefore, option (b) is the correct answer.**

Mains

Q. Defining blue revolution, explain the problems and strategies for pisciculture development in India. (2018)

Source: [PIB](#)

CAROTAR, 2020

For Prelims: Free Trade Agreement (FTA), Rules of Origin, CBIC.

For Mains: Provisions of CAROTAR, 2020.

Why in News?

Recently, The [Central Board of Indirect Taxes and Customs \(CBIC\)](#) issued a circular, stating that custom officers should be sensitive in applying **CAROTAR (Customs Administration of Rules of Origin under Trade Agreements) Rules, 2020** and maintain consistency with the provisions of relevant trade

agreements or its Rules of Origin.

- Exemptions specified in a [Free Trade Agreement \(FTA\)](#) with regard to country of origin will prevail **in case of conflict between revenue department and importer.**

What are the CAROTAR Rules?

- **About:**
 - CAROTAR, 2020 set guidelines for enforcement of the 'rules of origin' for allowing preferential rate on imports under Free Trade Agreements.
 - They supplement the existing operational certification procedures prescribed under different trade agreements.
 - They were notified in August, 2020 by the Ministry of Finance.
- **Provisions:**
 - An importer is required **to do due diligence before importing the goods** to ensure that they meet the prescribed originating criteria.
 - An importer **will have to enter certain origin related information** in the Bill of Entry, as available in the Certificate of Origin.
 - Importers will have to ensure that imported goods meet the prescribed '**rules of origin' provisions** for availing concessional rate of customs duty under [Free Trade Agreements \(FTAs\)](#).
 - Importers have to prove that imported products have undergone value addition of at least 35% in the countries of origin.
 - Earlier, merely a [country of origin certificate](#), issued by a notified agency in the country of export was sufficient to avail the benefits of FTAs.
 - This was exploited in many cases, i.e., the FTA partner countries have been claiming to have produced the goods in question without having the necessary technological capacity for the required value addition.
- **Implications:**
 - They will make the **importer to correctly ascertain the country of origin, properly claim the concessional duty** and assist customs authorities in smooth clearance of legitimate imports under FTAs.
 - The domestic **industry will be protected** from misuse of FTAs.
 - Under these rules, a **country that has inked an FTA with India cannot dump goods from some third country** in the Indian market by just putting a label on it.

What is a Free Trade Agreement?

- **About:**
 - It is an **arrangement between two or more countries or trading blocs that primarily agree to reduce or eliminate customs tariff** and non tariff barriers on substantial trade between them.
 - It covers **trade in goods** (such as agricultural or industrial products) or trade in services (such as banking, construction, trading etc.).
 - It also covers **other areas such as intellectual property rights (IPRs), investment, government procurement and competition policy** etc.
 - India has inked FTAs with several countries, including [UAE](#), [Mauritius](#), Japan, South Korea, Singapore, and ASEAN members.
- **Benefit:**
 - By eliminating tariffs and some non-tariff barriers, **FTA partners get easier market access** into one another's countries.
 - Exporters **prefer FTAs to multilateral trade liberalization** because they get preferential treatment over non-FTA member country competitors.

Q. The term 'Regional Comprehensive Economic Partnership' often appears in the news in the context of the affairs of a group of countries known as (2016)

- (a) G20
- (b) ASEAN
- (c) SCO
- (d) SAARC

Ans: (b)

Exp:

- Regional Comprehensive Economic Partnership (RCEP) is a Free Trade Agreement (FTA) between the ten member states of the Association of Southeast Asian Nations (ASEAN) and the five countries (Australia, China, Japan, South Korea and New Zealand) with which ASEAN has existing FTAs.
- **Therefore, option (b) is the correct answer.**

[Source: TH](#)

New Defence Systems For Indian Army

For Prelims: F-INSAS, the Nipun mines, the Landing Craft Assault (LCA), DRDO

For Mains: Significance of advanced Defence Systems in India

Why in News?

Recently, the Ministry of Defense has handed over **several new defence systems**, including the **F-INSAS, the Nipun mines, the Landing Craft Assault (LCA), to the Indian Army** as a part of Army's Modernization Plans.

What is the F-INSAS system?

- **About:**
 - F-INSAS stands for **Future Infantry Soldier as a System**.
 - It is a **programme for infantry modernisation**, which is aimed at **increasing the operational capability of the soldier**.
 - Under the project, **soldiers are being equipped with modern systems** that are lightweight, all-weather-all-terrain, cost-effective and low maintenance.
 - They have been indigenously designed by the Indian entities, including the [DRDO \(Defense Research and Development Organisation\)](#) and the [ordnance factories](#) ecosystem.
- **Items Under F-INSAS System:**
 - **AK-203 assault rifle:**
 - It is a Russian-origin gas-operated, magazine-fed, select-fire assault rifle.
 - It has a range of 300 metre.

- **Multi-Mode Hand Grenade:**
 - It can be used in **defensive and offensive** modes.
 - In defensive mode, the grenades are to be hurled when the thrower is in a shelter or has a cover.
 - In the offensive mode, the **grenades do not fragment and the adversary is harmed by the blast** or is stunned.
- **Ballistic Helmets and Ballistic Goggles:**
 - It provides soldiers with **ballistic helmets and ballistic goggles** for protection **against small projectiles and fragments**, along with a bullet-proof vest.
 - The helmet and the bullet-proof jacket are capable of protecting the soldier against 9 mm bullets and ammunition fired from AK-47 rifles.
- **Other Items:**
 - It also comes with hands-free, secured advanced communications set for real-time exchange of information with the command post and fellow soldiers for enhanced situational awareness.
- **Related Systems with other Countries:**
 - The US has Land Warrior, while the UK has FIST (Future Integrated Soldier Technology).
 - Over 20 armies around the world are following such programmes.

What are Nipun mines?

- Nipun mines are **indigenously designed and developed anti-personnel mines**, termed by the DRDO as 'soft target blast munition'.
 - Anti-personnel mines are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles.
 - **Russia's PFM-1 and PFM-1S** are commonly referred to as '**Butterfly mines**' or 'Green Parrots'. Butterfly mine is a very sensitive anti-personnel landmine.
- These mines are meant **to act as the first line of defence against infiltrators and enemy infantry**.
- They are smaller in size and can be deployed in large numbers.
- They provide protection to the troops on the borders and are more potent and effective than the existing anti-personnel mines in their arsenal.

What is the Landing Craft Assault?

- The **Landing Craft Assault (LCA)** is meant to serve as **a replacement for the boats with limited capabilities** currently in use in the [Pangong Tso lake](#).
- It has better launch, speed and capacity to operate across water obstacles in eastern Ladakh.
- Similar vessels are already in operation in the [Indian Navy](#).

What are the other Defence Systems?

- **Solar Photovoltaic Energy Project:** One of the most challenging terrain and operational sectors of the country is the [Siachen Glacier](#).
 - The complete power requirement in the area to operate various equipment was met only through captive generator supply. A solar photo-voltaic plant has been installed to improve the overall energy requirements and also obviate dependence on fossil fuels.
- The Ministry of Defence also handed over to the Army a thermal imaging sight for T-90 tanks; hand held thermal imager; and frequency-hopping radio relay for tactical communication across much longer ranges.
- Further, Downlink Equipment with Recording Facility to help helicopters in surveillance missions was also handed over.
 - Using this system, reconnaissance data is recorded and can be accessed only when the helicopter returns to the base.
- Some other defence systems included, Infantry Protected Mobility Vehicles; Quick Reaction Fighting Vehicles and Mini Remotely Piloted Aerial System surveillance, detection and reconnaissance at the infantry battalion and mechanised units level.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

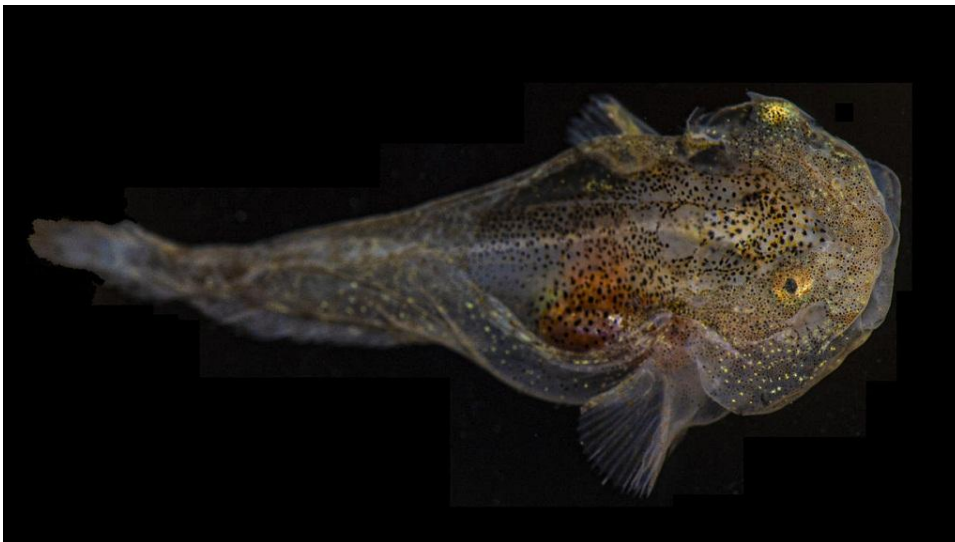
Q. How is S-400 air defence system technically superior to any other system presently available in the world?

[Source: IE](#)

Snailfish to Survive Sub-Zero Temperatures

Why in News?

Recently, a study has found a **Snailfish** that lives in an [iceberg habitat in Greenland](#) can survive in icy Arctic waters due to the presence of antifreeze proteins in its bloodstream.



What are Snailfish?

▪ About:

- The name **snailfish** can refer to any of the more than 400 species found in the family Liparidae.
- Sometimes they're also called **sea snails**—not to be confused with gastropod sea snails (which are the animals).
- The Snailfish releases **biofluorescence, which allows it to glow green and red in the dark arctic waters.**
 - Snailfish is the only polar fish reported to have biofluorescence.
 - Biofluorescence is the ability of an organism to convert blue light into green, red, or yellow light.
 - It is rarely found in Arctic fish due to prolonged periods of darkness in the region.

▪ Habitat:

- They are found all over the world, including in [Antarctica](#).
- Although they're found in shallow waters, the deep-sea species are the ones that stand out.

What are the Key highlights of the Study?

- Snailfish found on an iceberg habitat in Greenland can survive in icy Arctic waters due to the presence of 'antifreeze' proteins in their bloodstream.
 - Further, scientists also discovered the most highly expressed genes were related to **antifreeze proteins**.
 - This extraordinary feature, which is rare among sea organisms, allows snailfish to prevent ice crystals from accumulating in their cells and body fluid.
- The **climate change** could affect its survivability, as with rising ocean temperature icebergs would melt at a faster rate.
- The increase **biodiversity** that warmer waters bring to higher latitudes can increase competition, thereby jeopardizing its position in the food chain.
- The findings demonstrate how marine life can sustain in sub-zero temperatures using their unique **adaptation** mechanisms.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Which one of the following is a filter feeder?

- (a) Catfish
- (b) Octopus
- (c) Oyster
- (d) Pelican

Ans: (c)

Exp:

- **Filter feeders are a subdivision of suspension-feeding entities which feed by straining suspended matter and food particles from water**, bypassing the water over a specialized filtering structure. Filter feeders are known to mitigate diseases by removing pathogens.
- Some animals that use this method of feeding are clams, krill, sponges, oysters, baleen whales, and many fish (including some sharks). Some birds, such as flamingos and certain species of duck, are also filter feeders. **Therefore, option (c) is the correct answer.**

Source: DTE

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