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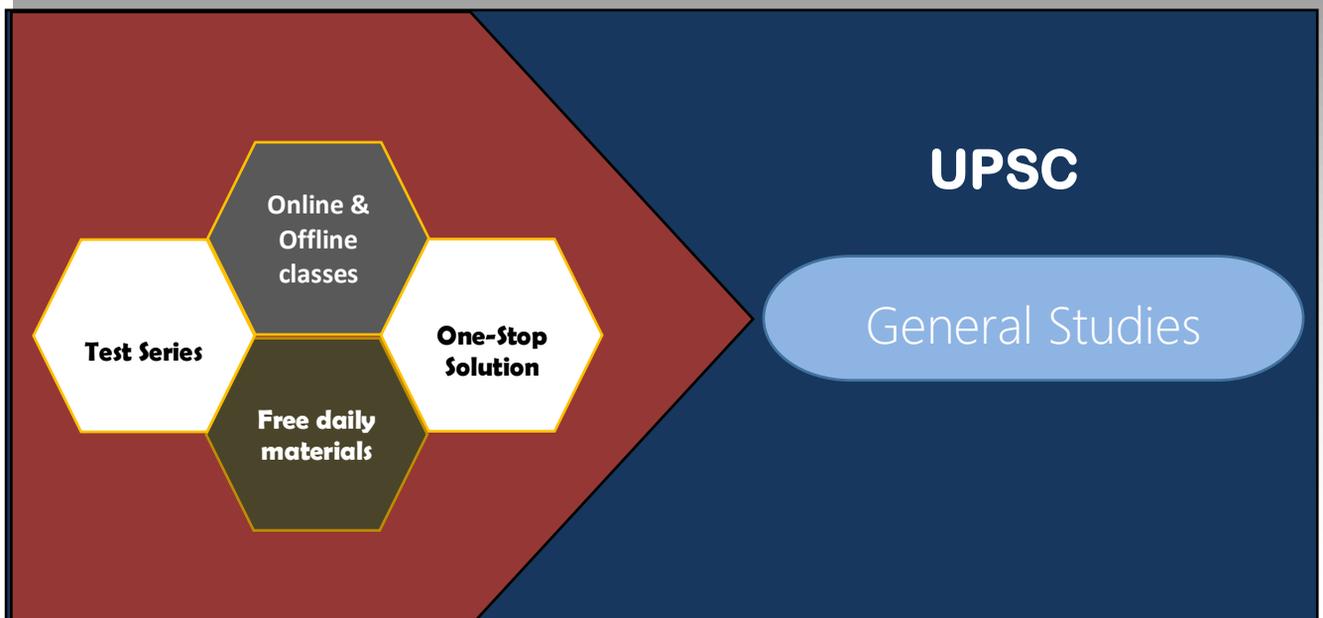
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**Articles of the day
THE HINDU & INDIAN EXPRESS**



GS 2 : Polity, Governance, International Relations

1. Swine fever hits four Mizoram districts

What's in News?

Certain areas in **four districts of Mizoram** have been declared as **epicentres of the African swine fever (ASF)**.

African swine fever (ASF):

- African Swine Fever (ASF) is **different from swine flu**. The virus **does not affect people** and there is no impact on human health.
- Swine influenza or swine flu is a **respiratory disease of pigs**, which is caused by **type A influenza virus**.
- ASF is a **severe viral disease** that affects wild and domestic pigs typically resulting in an **acute haemorrhagic fever**.
- ASF is caused by a large **DNA virus of the Asfarviridae family**.

2. Israel strikes Syria after attack near nuclear site

What's in News?

Syria fired a **surface-to-air missile** to a secretive nuclear site in **Israel's southern Negev**.

Details:

- The missile was fired to southern Israel, where the **Dimona nuclear reactor** is located.
 - Dimona has for long been identified as the epicentre of the Israeli regime's military nuclear program.
- In response strikes were launched by Israel.
- The exchange of fire comes less than two weeks after Iran accused its arch-foe Israel of terrorism following an explosion at the Islamic republic's Natanz nuclear facility.

Note:

- Syria and Israel are technically at war, due to **Tel Aviv's (Israel) occupation of the former's Golan Heights**.

- Since the outbreak of Syria's civil war in 2011, Israel has routinely carried out aerial raids on the country, mostly targeting Iranian and Lebanese Hezbollah forces as well as government troops.

3. 'U.S. will cut emissions by 52% by 2030'

Context:

Leaders' Summit on Climate was hosted by US President Joe Biden.

Details:

- **40 world leaders**, including the Prime Minister of India, Presidents of China and Russia **have been invited** to the virtual Leaders' Summit on Climate to underscore the **urgency of stronger climate action**.
- The US is seeking to bring America back into a leadership role on climate action after Mr. Trump had withdrawn the country from the Paris Agreement.
- President Biden and his administration have linked climate action and clean technology to jobs and economic growth.
- This is seen as a key milestone on the road to the **United Nations Climate Change Conference (COP26)** in November 2021 in Glasgow.

Key Takeaways:

- It was announced that the **U.S. would cut its greenhouse gas emissions by 50%-52% by 2030** relative to 2005 levels.
- It was also announced that the **U.S. would double its annual financing commitments to developing countries by 2024**, including a **tripling of its adaptation finance by 2024**.
- The **emissions targets** which are part of the Paris Agreement on climate **are non-binding**.
- Biden's financing announcements are **part of a \$100 billion a year commitment from developed countries to developing countries** for the period 2020-25.

4. Australia ends China deals on national interest grounds

Context:

Australia has cancelled two accords between Victoria State and China on the Belt and Road Initiative because they were out of line with the federal government's foreign policy.

- It was asserted that Australia sees a "free and open Indo-Pacific" as a key goal.

Note:

- In Australia, under a new process, **States must consult with the Foreign Minister before signing agreements with other nations.**

Details:

- A **Chinese Foreign Ministry** spokesman responded by **urging Australia to abandon its Cold War mentality and ideological bias** and immediately correct its mistakes and change course.
- The China-Australia relationship is already facing serious difficulties.
- China blocked imports of Australian coal, beef, wine, lobsters and other goods after Australia called for an investigation into the coronavirus.

Note:

- **China is Australia's No. 1 foreign market.**
- **Chinese steel mills still buy Australian iron ore**, the country's most valuable export.
- The vast Chinese steel industry and its need for iron ore would likely restrain China from taking drastic action in response.

5. Centre cracks down on curbs to oxygen movement

What's in News?

The **Centre invoked the Disaster Management Act**, making the District Magistrates and Senior Superintendents of Police personally liable to ensure unhindered inter-State movement of vehicles carrying medical oxygen and to not restrict the supply to a particular State where the oxygen plant is located.

Disaster Management Act:

- The Disaster Management Act of 2005 (DMA 2005) is an act passed by the government of India for the **efficient management of disasters and other matters connected to it.**
- The **stated object and purpose** of the DM Act is **to manage disasters, including preparation of mitigation strategies, capacity-building and more.**

Features of the Disaster Management Act 2005?

The following governing bodies are established by DMA 2005.

1. National Disaster Management Authority (NDMA): The National Disaster Management Authority is headed by the Prime Minister of India as the chairperson and will have no more than nine members including a Vice-Chairperson. All the members will have a tenure of five years.

The main responsibility of the NDMA is to lay down the policies, plans and guidelines for disaster management to ensure an effective response in the event of any disaster.

2. National Executive Committee: The DMA empowers the Central Government to create a National Executive Committee (NEC) to assist the National Disaster Management Authority. The NEC consists of Secretary level officers of the government in the home, health, power, finance and agricultural ministries. The NEC is responsible for the preparation of the National Disaster Management Plan for the whole country and to ensure that it is “reviewed and updated annually”.

3. State Disaster Management Authority: The State Disaster Management Authority (SDMA) is responsible for drawing the disaster plan for its respective state. It consists of the Chief Minister who is the chairperson and 8 members appointed by the Chief Minister.

The SDMA is mandated under section 28 to ensure that all the departments of the State prepare disaster management plans as prescribed by the National and State Authorities.

4. District Disaster Management Authority: The Chairperson of District Disaster Management Authority (DDMA) will be the Collector or District Magistrate or Deputy Commissioner of the district.

To know what role the National Disaster Management Plan (NDMP) plays in disaster mitigation in India, visit the linked article

5. National Disaster Response Force (NDRF): The National Disaster Response Force is tasked with responding to a threatening disaster or a situation similar to it. The NDRF is led by a Director-General appointed by the Central Government. The NDRF has played a major role in rescuing people from many disaster-related events in the past such as the Kashmir floods of 2014 and the Kerala floods of 2018

6. Chinese Defence Minister Wei Fenghe to visit Sri Lanka

What's in News?

China's Minister of Defence Wei Fenghe will visit Sri Lanka in the second high-level visit from Beijing to Colombo in the past six months.

- China has provided crucial support to Sri Lanka in the pandemic year, by way of a **\$1 billion loan**, as well as a **\$1.5 billion currency swap facility** to help the Colombo government boost its foreign reserves.
- The visit assumes significance in the wake of heightened scrutiny within Sri Lanka, over **China's role and presence in the country, through infrastructure projects.**

- Sri Lanka's Supreme Court is currently hearing a case, of nearly 20 petitions **challenging a Bill, of proposed, special laws to govern the China-funded \$1.4- billion Port City** coming up on reclaimed land on Colombo's seafront.

7. Modi announces climate partnership with U.S.

Context:

The Prime Minister of India announced that India and the U.S. were launching an energy and climate partnership during the Leaders' Summit on Climate.

Details:

- **"India-U.S. climate and clean energy agenda 2030 partnership"** will help mobilise investments, demonstrate clean technologies, and enable green collaborations.
- The partnership will proceed along two main tracks which will build on and subsume a range of existing processes:
 - the strategic clean energy partnership and the climate action
 - finance mobilisation dialogue

India's Climate Targets:

- India is targeting a **2030 GDP emissions intensity** (i.e., volume of emissions per unit of GDP) that is **33%-35% below 2005 levels**.
- It also seeks to have **40% of power generated from non-fossil fuel sources by 2030**.

Note:

NDCs or **Nationally Defined Contributions** are **targets defined by each country** to help **achieve the Paris Agreement's objective** of keeping global warming to considerably below 2 degrees Celsius, preferably 1.5 degrees Celsius.

8. Judges pro tem

Context

- Under Article 224A of the Constitution, the Supreme Court has cleared the way for the appointment of retired judges as ad-hoc judges in High Courts to deal with the mounting backlog of cases.

Constitutional Provisions

224A. Appointment of retired Judges at sittings of High Courts

- The Chief Justice of a High Court for any State, may with the **previous consent of the President**, request any person who has **held the office of a Judge of that Court or of any other High Court** to sit and act as a Judge of the High Court for that State, and every such person so requested shall, while so sitting and acting, be entitled to such allowances as the President may by order determine and have all the jurisdiction, powers, and privileges of, **but shall not otherwise be deemed to be, a Judge of that High Court**

The appointment of the judges to the high courts is governed by Article 217 of the Constitution.

Memorandum of Procedure (MoP)

In addition to the constitutional provisions, the process of appointments is outlined in the Memorandum of Procedure (MoP).

- It is initiated by the Chief Justice of the concerned high court who recommends the nominees to the state government. Ideally, this process should begin six months prior to the occurrence of the vacancy.
- The state government then sends the recommendation to the Union Law Ministry, which then sends it to the Supreme Court Collegium.
- It is a cumbersome procedure and while timelines for certain stages are contemplated in the MoP, they are rarely adhered to in the absence of an overall time limit for the completion of the process.

A look at numbers – Pendency and Vacancy

- High courts currently have a sanctioned strength of 1,080 judges and are working with only 661 judges, leaving 419 posts **vacant**. This approximates to a 39 per cent vacancy.
- An estimated 57 lakh cases are **pending in** the 25 high courts across the country.

Supreme Court guidelines for the appointment of ad-hoc judges in High Courts

The Court has made a beginning by directing that the trigger point for such an appointment will be when-

- The vacancies are more than 20% of the sanctioned strength.
- The cases in a particular category are pending for over five years.
- More than 10% of the backlog of pending cases are over five years old.
- The rate of disposal is slower than the rate of the institution of fresh cases.

Pre-recommendation process

- Past performance of recommendees in both quality and quantum of disposal of cases should be factored in for selection as the objective is to clear the backlog.

Tenure of Appointment

- The tenure for which an ad hoc Judge is appointed may vary on the basis of the need but suffice to say that in order to give an element of certainty and looking at the purpose for which they are appointed, generally, the appointment should be for a period between two to three years.

Emoluments and Allowances

- The emoluments and allowances of an ad hoc Judge should be at par with a permanent Judge of that Court at the relevant stage of time minus the pension.
- Emoluments to be paid would be a charge on the Consolidated Fund of India consisting of salary and allowances.

Concerns

- Extraordinary delay in filling up judicial vacancies.

Clarification from the top court

- The Court has clarified that this is a “transitory methodology” and does not constrain the regular appointment process.

Way forward

- As for the judiciary, it should ensure that only retired judges with experience and expertise are offered temporary positions, and there is no hint of favouritism.
- The judiciary and executive should work together to address the shortage of judges and the mounting backlog of cases.

9. Should election campaigns be made virtual?

What if campaigning is restricted to virtual mode?

Concerns:

- It will disadvantage candidates from deprived socioeconomic communities, and candidates in rural India.
- In a virtual campaign, there will be unevenness with regard to the Internet and social media access, and the ability to use new technology to one's advantage.

If the pandemic situation doesn't improve, does the Election Commission (EC) have the powers to mandate a virtual campaign?

- The EC has the powers to set the terms and conditions of the campaign. If those are very tough, political parties may go to court against the EC's decision.
- But the EC does have the powers to set the rules for how an election is to be conducted. For instance, campaigning normally stops 48 hours before polling, but now in Bengal EC has extended the silence period from 48 hours to 72 hours.

GS 3 : Economy, Science and Technology, Environment

10. Brucellosis

Why in News

Recently, Kerala launched preventive measures after a few cases of **brucellosis**, a **zoonotic infection**, have been detected in some dairy animals.

- Earlier in **September 2020** **Brucella abortus S19Δ per vaccine**” was developed by the **Indian Council of Agricultural Research's** -Indian Veterinary Research Institute (ICAR-IVRI) for brucellosis prevention in the dairy sector.

Zoonotic Diseases

- It is a disease that **passes into the human population from an animal** source directly or through an intermediary species.
- Zoonotic infections **can be bacterial, viral, or parasitic** in nature, with animals playing a vital role in maintaining such infections.
- Examples of zoonoses include **HIV-AIDS, Ebola, Malaria**, and the current **Covid-19 disease**.

Key Points

- **About:**
 - It is a **bacterial disease** caused by various *Brucella* species, which mainly **infect cattle, swine, goats, sheep and dogs**.
 - It is also known as **Malta fever or Mediterranean fever**.
 - Brucellosis is **endemic in India** causing huge economic losses to dairy industry due to:
 - Infertility

- Abortion
- Birth of weak off springs
- Reduced productivity
- **Infection to Humans:**
 - **Infection:**
 - Brucellosis has **infected over 3000 people in China.**
 - Humans generally **acquire the disease through:**
 - Direct contact with infected animals.
 - Eating, drinking contaminated animal products, unpasteurized milk.
 - Inhaling airborne agents.
 - The **US Centers for Disease Control and Prevention** states that person-to-person transmission of brucellosis is “**extremely rare**” but some symptoms may reoccur or never go away.
 - **Symptoms:**
 - **Fever, sweats, malaise, anorexia** (psychological disorder in which one eats less due to fear of weight gain), **headache and muscle pain.**
 - **Treatment and prevention:**
 - It is usually **treated with antibiotics**, including rifampin and doxycycline.
 - **Avoiding unpasteurised dairy products** and taking safety precautions such as wearing rubber gloves, gowns or aprons, when handling animals or working in a laboratory can help prevent or reduce the risk of getting brucellosis.
 - Other preventive measures include **cooking meat properly, vaccinating domestic animals, etc.**

11.Snow Leopard

Why in News

Just days before celebrating **Earth Day**, the internet was going viral over a photo of a snow leopard.

Key Points

▪ **About:**

- **Scientific Name:** Panthera uncia
- **Top Predator:** Snow leopards act as an indicator of the health of the mountain ecosystem in which they live, due to their position as the top predator in the food web.

▪ **Habitat:**

- Mountainous regions of **central and southern Asia**.
- **In India, their geographical range encompasses:**
 - **Western Himalayas:** Jammu and Kashmir, Himachal Pradesh.
 - **Eastern Himalayas:** Uttarakhand and Sikkim and Arunachal Pradesh.
- **Snow Leopard capital of the world:** Hemis, Ladakh.
- **Hemis National Park** is the biggest national park in India and also has a good presence of Snow Leopard.

▪ **Protection Status:**

- The snow leopard is listed as **Vulnerable** on the **IUCN-World Conservation Union's Red List** of the Threatened Species.
- In addition, it is also listed in **Appendix I** of the **Convention on International Trade of Endangered Species (CITES)**.
 - Making trading of animal body parts (i.e., fur, bones and meat) illegal in signatory countries.
- It is listed in **Schedule I of the Indian Wildlife (Protection) Act 1972**.
- It is also listed in the **Convention on Migratory Species (CMS)**, affording the highest conservation status to the species, both globally and in India.
- It is also protected by several national laws in its range countries.

▪ **Conservation Efforts by India:**

- The Government of India has identified the snow leopard as a **flagship species** for the high altitude Himalayas.
- India is also party to the **Global Snow Leopard and Ecosystem Protection (GSLEP) Programme since 2013**.

- HimalSanrakshak: It is a community volunteer programme, to protect snow leopards, launched in October 2020.
- In 2019, **First National Protocol** was also launched on Snow Leopard Population Assessment which has been very useful for monitoring populations.
- **SECURE Himalaya: Global Environment Facility (GEF)-United Nations Development Programme (UNDP)** funded the project on conservation of high altitude biodiversity and reducing the dependency of local communities on the natural ecosystem.
- **Project Snow Leopard (PSL)**: It was launched in 2009 to promote an inclusive and participatory approach to conserve snow leopards and their habitat.
- Snow Leopard is on the list of **21 critically endangered species for the recovery programme** of the Ministry of Environment Forest & Climate Change.
- Snow Leopard conservation breeding programme is undertaken at **Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal.**

Global Snow Leopard and Ecosystem Protection (GSLEP) Programme

- The GSLEP is a high-level inter-governmental alliance of all the 12 snow leopard range countries.
 - The snow leopard countries namely, India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.
- It majorly focuses on the need for awareness and understanding of the value of Snow Leopard for the ecosystem.

Living Himalaya Network Initiative

- Living Himalayas Initiative (LHI) is established as one of WWF's global initiatives to bring about transformational conservation impact across the three Eastern Himalayan countries of Bhutan, India (North-East) and Nepal.
- Objectives of LHI include adapting to climate change, connecting to habitat and saving iconic species.

12. Exploring best way to resolve Cairn issue: FM

Context:

Finance Minister said that the government was looking at how best it could sort out the issue arising out of **New Delhi being ordered to return \$1.2 billion-plus interest and costs to the U.K.'s Cairn Energy Plc.**

Details:

- In the latest development, Cairn Energy Plc has threatened that, unless the government resolves the issue, it may be forced to begin attaching Indian assets including bank accounts in different world capitals.
- In a letter to the Indian High Commission in London Cairn's top leadership has said that the necessary preparations have been made for the verdict to be enforced against Indian assets in jurisdictions around the world if India failed to discuss paying the amount awarded.
- The assets already under consideration could include Embassy bank accounts, non-diplomatic premises, Air India planes and state-owned ships in several places including the U.K., Holland, France, Canada and the U.S.
- The move would be similar to the action against a Pakistan International Airlines (PIA) plane that was seized in Malaysia over a dispute with an Irish company, or the seizure of a Venezuelan ship ordered by a court in favour of U.S. company ConocoPhillips in 2018.
- Cairn has stressed in the letter that it would only consider this extreme option if the Indian government did not respond.
- It has cited clauses in the U.K.-India Bilateral Investment Treaty, the UNCITRAL arbitration rules, and the New York Convention to which India is a signatory, that would be breached if India fails to pay the dues.
 - The dues include about \$220 million in accrued interest in addition to the \$1.2 billion award.

Note:

In a similar arbitration case, India lost against Vodafone, the government has filed an appeal in a Singapore court to defend the retrospective tax demand on the telecom firm. The officials have stressed that the government's sovereign right to levy taxes cannot be questioned under bilateral pacts.

13. Making education accessible

Context

- The article analyses the challenges with respect to quality education and suggests measures to be taken by the Government at the earliest.

Use of Airwaves

- The Government of India owns the airwaves. Prasar Bharati is India's broadcasting corporation handling both radio and television in India.

- All India Radio (AIR) is blessed with 470 broadcasting centres which cover 92% of the country's geographical area and 99.19% of our population.
- Doordarshan (DD) handles television, online and mobile broadcasting across our country and the world with 34 satellite channels, 17 well-equipped studios in State capitals and 49 studio centres in other cities.

Suggestion

- With such resources, AIR and DD can be used to broadcast lessons, given that education is one of the three functions of the two agencies under the Prasar Bharati Act.
- If regular radio is not enough, we also have digital radio spawning FM stations leased out to private players for a fee and several FM stations that are run by NGOs, universities and such agencies.
- These agencies can be reinvented to cater to the needs of the education sector.

Significance

- With AIR and DD being free, the heavy drain on financial resources will be drastically reduced.

Free hours of Internet

- The Government can request the Internet Service Providers to provide the teachers and students after verification few hours of free Internet usage.

Conclusion

- These steps will not be easy to implement but the government should take a firm decision that is in the interest of the people.
- Therefore, adequate public financial resources must be allocated for providing access to online educational facilities, in particular, for the students belonging to the economically weaker sections in order to overcome the prevalent digital divide.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Why single price of vaccine across the country is good idea

Understanding the positive and negative externalities

- Vaccines have a **positive externality**; it is a good whose consumption benefits not just the one who has it.
- A vaccinated person is not only relatively protected against the disease himself/herself, but also less likely to transmit it to others.
- Usually, a person getting vaccinated takes into account only his/her own cost and benefit, while ignoring the fact that he/she lowers the chances of infecting others.
- It is the opposite of smoking, which has “**negative externality**”.
- Since every individual ignores the full set of benefits/costs from consuming goods with positive/negative externalities, the market isn't always the most **efficient mechanism for allocation of such goods**.
- That is a key reason why governments treat goods having large positive externalities as “public goods” and provide these while factoring in the full costs and benefits to society.

Analysing the issues with vaccine policy

1) Vaccine inequality

- It requires vaccine manufacturers to supply 50 per cent of their production to the **Centre at controlled prices**, while allowing them to **sell the remaining half in the open market** including to state governments at pre-announced “self-set” prices.
- To start with, the new policy can **lead to differential access to the vaccine**.
- Manufacturers are supposed to “transparently declare” their prices in advance for their 50 per cent supply to the open market.
- But there is **no limit per se on the retail price** they would charge.
- This could lead to a whole range of prices and **vaccine inequality**, apart from **diversion of supplies** from the controlled low-price government centres to the open market.
- So, we may well have scarcity in the “mass” segment co-existing with a glut in the “elite” segment.
- There is also concerns about **economic efficiency and the potential for market failure**.

2) Economic efficiency and potential for market failure

- Imagine there are two sets of people in India.
- The first consists of those who are better off and can afford to stay back or work from home.
- This lot is also **less likely to cause infection to others**.
- The second set is mostly blue-collar workers, small traders, vendors and agriculturists.
- The nature of their work – on the shop floor or in the field – **makes them naturally prone to infect others**.
- It follows, then, **that society gains from first vaccinating the latter**, as they have a higher negative externality.
- The market will ignore those with **lower purchasing power**, despite them having a higher probability of spreading the disease.
- In fact, the bigger the income difference between the two segments, the **greater will be the extent of market failure** from simultaneous over-provisioning and under-provisioning.

Way forward

- The solution could be a **single price to be paid to vaccine makers for all the doses that they supply**.
- The price should be high enough **to stimulate them to rapidly ramp up production**.
- Those government should pay directly to the vaccine maker or the hospital administering the dose for those without sufficient means.
- The suggested solution is similar to the fertiliser subsidy, which is now disbursed to companies only after actual sales to farmers.

Conclusion

A single price for Covid-19 vaccines will stimulate production, ensure efficient vaccination.

2. AIM-PRIME

Why in News

Recently, the **Atal Innovation Mission (AIM)**, NITI Aayog launched **AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship)**.

Atal Innovation Mission

- **About:**

- AIM is Government of India's **flagship initiative to promote a culture of innovation and entrepreneurship in the country.**
- **Objective:**
 - **To develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee the innovation ecosystem of the country.**
- **Major Achievement:**
 - AIM's initiatives have played an important contributory role in the advancement of India from a position of **81** in the **Global Innovation Index** in 2015 to a position of **48** in 2020.

Key Points

- **Aim:**
 - Promoting **science based, deep technology ideas** to market through training and guidance over a period of 12 months.
 - **Deep technology** is based on **tangible engineering innovation** or scientific advances and discoveries. Deep Tech is often set apart by its **profound enabling power**, the differentiation it can create, and **its potential to catalyse change.**
- **Focus Area:**
 - Science-based, knowledge-intensive, deep technology entrepreneurship.
- **Launching & Implementing Agency:**
 - AIM has collaborated with **Bill & Melinda Gates Foundation (BMGF)** to launch this nationwide programme which will be implemented by **Venture Centre** - a non-profit technology business incubator hosted by **Council Of Scientific And Industrial Research-National Chemical Laboratory (CSIR-NCL)**.
- **Beneficiaries:**
 - **Technology developers** (early-stage deep tech start-ups, and scientists/engineers/clinicians) with strong science-based deep tech business ideas.
 - Chief Executive Officers and Senior incubation managers of **AIM Funded Atal Incubation Centers** that are supporting deep tech entrepreneurs.

- **Significance:**
 - **Candidates** selected for the programme **will get access to in-depth learning** via a comprehensive lecture series, live team projects, exercises, and project-specific mentoring.
 - They will also **have access to a deep tech start-up playbook, curated video library, and plenty of peer-to-peer learning opportunities.**

3. Disaster Management Act, 2005 Invoked

Why in News

Recently, the Ministry of Home Affairs invoked **Disaster Management Act, 2005 (DM Act)** and ordered **free inter-state movement of oxygen carrying vehicles.**

- Earlier in **March 2020 various government authorities invoked** their respective powers under the DM Act to deal with the novel **coronavirus (Covid-19)** outbreak in the country.

Key Points

- **About:**
 - The DM Act was **passed by the government of India in 2005** for the 'efficient **management of disasters** and other matters connected to it. However it **came into force in January 2006.**
- **Objective:**
 - To **manage disasters, including preparation of mitigation strategies, capacity-building** and more.
 - Definition of a "disaster" in **Section 2 (d)** of the DM Act states that a **disaster means a "catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made causes.**
- **Major Features of The Act:**
 - **Nodal Agency:**
 - The Act designates the **Ministry of Home Affairs** as the nodal ministry for steering the overall national disaster management.

- **Institutional Structure:** It puts into place a systematic structure of institutions at the national, state and district levels.
- **National Level Important Entities:**
 - **The National Disaster Management Authority (NDMA):**
 - It is tasked with **laying down disaster management policies and ensuring timely and effective response mechanisms.**
 - **The National Executive Committee (NEC):**
 - It is constituted under **Section 8 of the DM Act** to assist the National Disaster Management Authority in the performance of its functions.
 - The NEC is **responsible for the preparation of the National Disaster Management Plan** for the whole country and to ensure that it is “reviewed and updated annually.
 - **The National Institute of Disaster Management (NIDM):**
 - It is an **institute for training and capacity development programs** for managing natural calamities.
 - **National Disaster Response Force (NDRF):**
 - It refers to **trained professional units** that are called upon for specialized response to disasters
- **State and District level:**
 - The Act also provides for state and district level authorities responsible for, among other things, **drawing plans for implementation of national plans and preparing local plans.**
 - **State Disaster Management Authority**
 - **District Disaster Management Authority.**
- **Finance:**
 - It contains the provisions for financial mechanisms such as the creation of funds for emergency response, **National Disaster Response Fund** and similar funds at the state and district levels.
- **Civil and Criminal Liabilities:**

- The Act also devotes several sections various **civil and criminal liabilities resulting from violation** of provisions of the act.
- Under **Section 51 of the Act**, anyone refusing to comply with orders is liable for punishment with **imprisonment up to one year, or fine, or both**. In case this refusal leads to death of people, the person liable shall be **punished with imprisonment up to two years**.
- **Challenges:**
 - **Absence of Disaster Prone Zones:**
 - One of the most glaring inadequacies in the Act is the absence of a provision for declaration of 'disaster- prone zones'.
 - Almost **all disaster related legislations in the world have mapped out disaster- prone zones** within their respective jurisdictions.
 - The **state cannot be expected to play a pro- active role unless an area is declared 'disaster- prone'**. Classification helps in determining the extent of damages as well.
 - **Neglects Progressive Behavior of Disasters:**
 - The Act portrays every disaster as a sudden occurrence and completely fails to take into account that disasters can be progressive in nature as well.
 - In 2006, over 3,500 people were affected by **dengue**, a disease with a history of outbreaks in India, yet no effective mechanism has been put in place to check such an ordeal.
 - **Tuberculosis** is known to kill thousands of people in the country each year but since its occurrence is not sudden or at once, it has not found a place in the Act.
 - **Overlapping Functions:**
 - The Act calls for establishment of multiple- national level bodies, the functions of which seem to be **overlapping, making coordination between them cumbersome**.
 - The **local authorities**, who have a very valuable role to play in the wake of any disaster as first responders, **barely find a mention at all**. There are no **substantive provisions to guide them**, merely a minor reference to taking 'necessary measures'.
 - **Procedural Delays and Inadequate Technology:**
 - Added to that, **delayed response, inappropriate implementation of the plans and policies, and procedural lags** plague the disaster management scheme in India.
 - Inadequate technological capacity for accurate prediction and measurement of the disaster **result in large scale damage**.

Way Forward

- Although the DM Act has undoubtedly **filled a huge gap in the scheme of governmental actions towards dealing with disasters**. Laying down elaborate plans on paper doesn't serve the purpose **unless they are translated into effective implementation**.
- Civil society, private enterprises and **Non-governmental Organizations (NGOs)** can play a valuable role towards building a safer India.

GS 3 :Economy, Science and Technology,Environment

4. India's Falling Crude Oil & Natural Gas Production

Why in News

According to the latest government data India's **crude oil production and natural gas output declined** in the **Financial Year (FY) 2020-2021**.

- India's crude oil and natural gas production have been **falling consistently since 2011-12**.

Key Points

- **Decline in Production:**
 - **Crude Oil Production:**
 - **Declined by 5.2%** as private and public firms produced **30.5 million tonnes** in 2020-21 compared to **32.17 million tonnes** produced during the same period in 2019-2020.
 - **Natural Gas Production:**
 - **Declined by 8.1%** and in 2020-21 only **28.67 billion cubic meters** was produced compared to **31.18 billion cubic meters** in 2019-20.
- **Reason for Decline:**
 - **Ageing Sources:**
 - Most of India's crude oil and natural gas production comes from **ageing wells that have become less productive over time**.

- **Need of Intensive Technology:**
 - There is **no more easy oil and gas available** in India and that producers would have to invest in extracting oil and gas using **technologically intensive means** from more **difficult fields** such as **ultra deepwater fields**.
- **Domination of State Owned Companies:**
 - Crude oil production in India is dominated by two major state-owned exploration and production companies, **Oil and Natural Gas Corporation Limited (ONGC) and Oil India**.
 - These companies are the key bidders for hydrocarbon blocks in auctions and were the only successful bidders in the fifth and latest round of auctions under the **Open Acreage Licensing Policy (OALP)** regime with ONGC bagging seven of the eleven oil and gas blocks on offer and Oil India acquiring rights for the other four.
- **Low Interest of Foreign Companies:**
 - India's **efforts to attract foreign energy giants** into hydrocarbon exploration and production **haven't been quite fruitful**.
 - The **government has asked ONGC to boost its investments in explorations and increase tie-ups with foreign players** to provide technological support in extracting oil and gas from difficult oil and gas fields.
 - The government is also **reaching out to major foreign players** to convey that the **current system of auction and regulation is much more "open and transparent"** than before.
- **Climate Change:**
 - Mounting pressure due to **climate change** is prompting oil and gas players to diversify into clean energy.
- **Reason for Less Private Participation:**
 - **Operationalisation Delays:**
 - One of the key reasons cited by experts for low private participation in India's upstream oil and gas sector are **delays in the operationalisation of**

hydrocarbon blocks due to delays in major clearances including environmental clearances and approval by the regulator of field development plans.

- **High Cess:**
 - Industry players have been calling for a reduction in the cess on domestically produced crude oil to **10% from the current 20%**.
- **Limit on maximum Production:**
 - Internal maximum production levels set by oil and gas majors to address climate change had also lowered interest by oil majors to expand operations in India.
- **Impact:**
 - **Reliance on Imports:**
 - Low domestic production of crude oil and natural gas makes India more **reliant on imports**.
 - The share of imports as a proportion of overall crude oil consumption in India has risen from 81.8% in FY2012 to 87.6% in FY2020.
 - **Not in Favouring of India's Vision:**
 - Boosting oil and gas production has also been a key part of the government's **Atma Nirbhar Bharat initiative** and its goal to boost the use of natural gas in India's primary energy mix from the current 6.2% to 15% by 2030.
- **Some Government Initiatives to Improve Production:**
 - **Reforming Exploration & Licensing:**
 - In October 2020 **Cabinet Committee on Economic Affairs (CCEA)** approved the **Policy framework on reforms** in the exploration and licensing sector for **enhancing domestic exploration and production of oil and gas**.
 - **National Data Repository (NDR):**

- The NDR was established by the Government in 2017 to **assimilate, preserve and upkeep the vast amount of data which could be organized and regulated for use in future exploration and development**, besides use by R&D and other educational institutions
- It is an integrated data repository of Exploration and Production (E&P) data of Indian sedimentary basins.
- **Hydrocarbon Exploration and Licensing Policy (HELP):**
 - It replaced the erstwhile New Exploration Licensing Policy (NELP) in 2016 and provides for a **single License for exploration and production of conventional as well as non-conventional Hydrocarbon resources**; Pricing and Marketing Freedom; reduced rate of royalty for offshore blocks.

Way Forward

- A variety of **new technologies can prolong the life of ageing oil fields** but the acquisition, testing and application of these technologies is capital-intensive. Thereby, the **fiscal framework must ensure adequate returns for producers** to deploy Enhanced Oil Recovery mechanisms.
- The current **approval processes must be simplified** with stipulated timelines for each sign-off, thereby avoiding cost escalations due to delays.
- Potential of **Unconventional Hydrocarbons (UHC)** such as **Shale Oil and gas, tight oil/gas and gas hydrates must be opened now for commercial exploitation.**

5. Tough Corals

Why in News

A recent study has suggested that **coral structures may withstand climate change** owing to their impressive process of **forming rock-hard skeletons.**

Key Points

- **The Study:**
 - It studied *Stylophora pistillata*, a common stony coral in the Indo-Pacific revealing that **coral structures consist of a biomineral** containing a highly organized organic mix of proteins that resembles human bones.
 - It highlighted that **several proteins are organized spatially** – a process that's critical to forming a rock-hard coral skeleton.

- The study highlighted that corals have survived global climate change over millions of years by the process called **Biomineralization**.
- **Biomineralization** is the study of processes that lead to the formation of hierarchically structured organic-inorganic materials generated by living organisms, such as shells, bone and teeth.
- **Coral:**
 - Corals are made up of genetically **identical organisms called polyps**. These polyps have **microscopic algae called zooxanthellae** living within their tissues.
 - The corals and algae have a **mutualistic relationship**.
 - The coral provides the zooxanthellae with the compounds necessary for photosynthesis. In return, the **zooxanthellae supply the coral with organic products of photosynthesis**, like carbohydrates, which are utilized by the coral polyps for the synthesis of their calcium carbonate skeletons.
 - In addition to providing corals with essential nutrients, zooxanthellae are responsible for the **unique and beautiful colors of corals**.
 - They are also called the “rainforests of the seas”.
 - There are **two types of corals**:
 - Hard, shallow-water corals – the kind that builds reefs.
 - Soft corals and deepwater corals that live in dark cold waters.
- **Benefits of Coral:**
 - **Habitat:** Corals are home to over 1 million diverse aquatic species, including thousands of fish species.
 - **Income:** Coral reefs and related ecosystems have a global estimated value of ‘\$2.7 trillion per year, or 2.2% of all global ecosystem service values’, this includes tourism and food.
 - **Coastal Protection:** Coral reefs reduce shoreline erosion by absorbing energy from the waves. They can protect coastal housing, agricultural land, and beaches.
 - **Medicine:** Reefs are home to species that have the potential for treatments for some of the world’s most prevalent and dangerous illnesses and diseases.
- **Threat to Corals:**

- **Overfishing:**
 - Overfishing of certain species on or adjacent to coral reefs can affect the reef's ecological balance and biodiversity. For example, overfishing of herbivorous fish can lead to high levels of algal growth.
- **Destructive Fishing Methods:**
 - Fishing with dynamite, cyanide, bottom trawling and Muro Ami (banging on the reef with sticks) can damage entire reefs and is unsustainable.
- **Recreational Activities:**
 - Unregulated recreational activities and tourism cause damage to the very environment upon which the industries depend. Physical damage to the coral reefs can occur through contact from careless swimmers, divers, and poorly placed boat anchors.
- **Coastal Development:**
 - Coastal areas have some of the fastest rates of growth in tropical countries. Airports and buildings are often built on land reclaimed from the sea. Sensitive habitats are destroyed or disturbed by the dredging of deep-water channels or marinas, and through the dumping of waste materials.
- **Pollution:**
 - Urban and industrial waste, sewage, agrochemicals, and oil pollution are poisoning reefs. These toxins are dumped directly into the ocean or carried by river systems from sources upstream. Some pollutants, such as sewage and runoff from farming, increase the level of nitrogen in seawater, causing an overgrowth of algae, which 'smothers' reefs by cutting off their sunlight.
- **Climate Change:**
 - **Coral Bleaching:**
 - **Coral bleaching** is the loss of the algae and a rapid whitening of the coral. This is a stress response by the coral host that can be caused by various factors such as the rise in sea surface temperature. If the temperature decreases, the stressed coral can recover; if it persists, the affected colony can die.

- **Ocean Acidification:**
 - The decrease in the pH of the Earth's oceans, caused by their uptake of anthropogenic CO₂ from the atmosphere is known as Ocean Acidification. The decrease in pH has negative consequences for oceanic calcifying organisms such as coral reefs.
- **Initiatives to Protect Corals:**
 - A number of global initiatives are being taken to address the issues, like:
 - **International Coral Reef Initiative**
 - Global Coral Reef Monitoring Network (GCRMN)
 - Global Coral Reef Alliance (GCRA)
 - The Global Coral Reef R&D Accelerator Platform
 - Similarly, the Ministry of Environment and Forests and Climate Change (MoEF&CC), India has included the studies on coral reefs under the **Coastal Zone Studies (CZS)**.
 - In India, the **Zoological Survey of India (ZSI)**, with help from Gujarat's forest department, is attempting a process to restore coral reefs using "**biorock**" or **mineral accretion technology**.
 - **National Coastal Mission Programme** to protect and sustain coral reefs in the country.

6. Madhu Kranti Portal & Honey Corners

Why in News

Recently, the Union Minister for Agriculture and Farmers' Welfare has launched "**Madhu Kranti Portal & Honey Corners**."

Key Points

- **Madhu Kranti Portal:**
 - It is an initiative of **National Bee Board (NBB)**, Ministry of Agriculture and Farmers Welfare under **National Beekeeping & Honey Mission (NBHM)**.
 - This portal is being developed for online registration to achieve a traceability source of Honey and other beehive products on a digital platform.

- The platform will help in **checking the quality and source of adulteration of honey.**
- **Significance:**
 - The portal will help in increasing income of the farmers, boost exports and increase employment generation.
 - The portal will hold the database of all the stakeholders involved in honey production, marketing chains, hive production and sales.
 - It will increase the reach of honey to international markets.
- **Honey Corners:**
 - Honey Corners are special spaces for the marketing and sale of honey.
 - It is operated by **National Agricultural Cooperative Marketing Federation of India Ltd (NAFED).**

National Agricultural Cooperative Marketing Federation of India Ltd.

- The **NAFED** is registered under the Multi State Cooperative Societies Act.
- It was set up in 1958 with the objective to promote cooperative marketing of Agricultural Produce to benefit the farmers.

National Bee Board

- **Small Farmers' Agribusiness Consortium (SFAC)** registered the NBB as a society under the Societies Registration Act, 1860 in 2000 and it was reconstituted (with the secretary as chairman) in June 2006.
- **Objective:**
 - Overall development of beekeeping by promoting scientific beekeeping in India to increase the productivity of crops through pollination and increase the honey production for increasing the income of the beekeepers/farmers.
 - Presently NBB is implementing **National Horticulture Mission (NHM)** and Horticulture Mission for North East and Himalayan State (HMNEM)

National Beekeeping & Honey Mission (NBHM)

- The mission was announced as part of the **AtmaNirbhar Bharat scheme.** It is a central sector scheme.
- NBHM aims for the overall promotion & development of scientific beekeeping in the country to achieve the goal of 'Sweet Revolution' which is being implemented through the National Bee Board (NBB).

Honey Mission

- The Honey Mission was launched in August 2017 in line with the ‘**Sweet Revolution**’.
 - The 'Sweet Revolution' was launched in 2016 to promote beekeeping and associated activities.
- Under the Honey Mission, **Khadi and Village Industries Commission (KVIC)** provides awareness, training and ‘Bee Boxes’ along with Bee Colonies to the farmers.

7. Protest Against Blue Flag Beaches

Why in News

Recently Odisha government’s plan to get Blue Flag Certification for five beaches was opposed by the fishermen.

- Odisha planned to develop five more beaches in three districts to meet **international standards** after receiving the certification for Puri’s Golden Beach in 2020.

Key Points

- **Fishermen’s Demands:**
 - The proposed land for the certification is used by the fishermen to anchor their boats.
 - They want a permanent sea mouth to anchor the fishing boats.
 - Protection of livelihood should be ensured and protected.
 - Reopening of a new fishing jetty.
- **Blue Flag Certification:**
 - **Blue Flag** beaches are considered the **cleanest beaches of the world**.
 - The Blue Flag is one of the world’s most recognised **voluntary eco-labels** awarded to beaches, marinas, and sustainable boating tourism operators.
 - **Criteria for Certification:**
 - In order to qualify for the Blue Flag, a series of stringent environmental, educational, safety, and accessibility criteria must be met and maintained.

- There are around **33 criteria** that are to be met to qualify for a **Blue Flag certification**,
- Such as the water meeting certain quality standards, having waste disposal facilities, being disabled- friendly, having first aid equipment, and no access to pets in the main areas of the beach.
- Some criteria are voluntary and some compulsory.

○ **Organisations:**

- The Blue Flag Programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education).
- **FEE (the Foundation for Environmental Education) was established in France in 1985.**
- **On the lines of Blue Flag certification, India has also launched its own eco-label BEAMS (Beach Environment & Aesthetics Management Services).**

BEAMS

- **Beach Environment & Aesthetics Management Services** that comes under **ICZM (Integrated Coastal Zone Management)** project.
- This was launched by the **Society of Integrated Coastal Management (SICOM)** and the **Union Ministry of Environment, Forest and Climate Change (MoEFCC)**.
- The objectives of **BEAMS program** is to:
 - **Abate pollution** in coastal waters,
 - **Promote sustainable** development of beach facilities,
 - **Protect & conserve coastal** ecosystems & natural resources,
 - **Strive and maintain** high standards of cleanliness,
 - **Hygiene & safety for** beachgoers in accordance with coastal environment & regulations.
- **There are eight beaches in India which have received Blue Flag Certification:**
 - Shivrajpur in Gujarat,
 - Ghoghla in Daman & Diu,
 - Kasarkod in Karnataka and,

- Padubidri beach in Karnataka,
- Kappad in Kerala,
- Rushikonda in Andhra Pradesh,
- Golden beach of Odisha,
- Radhanagar beach in Andaman and Nicobar.



Prelims Practice Questions

1. Which of the following reports are published by the United Nations Environment Programme (UNEP)?

1. Emission Gap Report

2. Global Environment Outlook
3. Invest into Healthy Planet

Select the correct answer using the code given below:

- A 1 and 3 only
- B 2 and 3 only
- C 1 and 2 only
- D 1, 2 and 3

Answer : D

Explanation

- **United Nations Environment Programme (UNEP)** is a leading global environmental authority established on 5th June 1972.
 - It sets the **global environmental agenda**, promotes the sustainable development within the United Nations system, and serves as an **authoritative advocate for global environment protection**.
- It publishes the reports of **Emission Gap Report, Global Environment Outlook, Frontiers, Invest into Healthy Planet. Hence, option D is correct.**
- **Major Campaigns:** Beat Pollution, UN75, World Environment Day, Wild for Life.

2) Which of the following countries share borders with *Republic of Chad*?

1. Libya
2. Sudan
3. Egypt
4. South Sudan

Select the correct answer using the codes given below:

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

Answer : a

- Chad's President Idriss Deby Itno died in combat after three decades in power.

- Mr. Deby had died from injuries sustained as he led his troops against rebels who launched an offensive against his regime from Libya last week.

Chad

- Chad is a landlocked state in north-central Africa.
- It is bounded on the north by Libya, on the east by Sudan, on the south by the Central African Republic, and on the west by Cameroon, Nigeria, and Niger.

3. Consider the following statements:

1. The Pradhan Mantri JI-VAN Yojana aims to boost research and development in the 2G Ethanol.
2. In India, the current permissible level of blending is 20% of ethanol with gasoline.

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 : A

Explanation

- **Ethanol Blending Programme (EBP)** aims at blending ethanol with petrol, thereby bringing it under the category of biofuels and saving millions of dollars by cutting fuel imports and decreasing carbon emissions.
 - E20 Fuel: Earlier, the Indian government had invited public comments for introducing adoption of E20 fuel (a blend of 20% ethanol with gasoline).
 - The target is to **achieve 20% blending of ethanol by 2025**. The current permissible level of blending is 10% of ethanol, though India reached only 5.6% of blending in 2019. **Hence, statement 2 is not correct.**
- **Pradhan Mantri JI-VAN Yojana, 2019:** The objective of the scheme is to create an ecosystem for setting up commercial projects and **to boost research and development in the 2G Ethanol sector. Hence, statement 1 is correct.**
- **National Biofuel Policy 2018:** The Policy categorises biofuels as "Basic Biofuels" viz. First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels" - Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.

4. The term “Bio Bubbles” which is recently in news related to

- a. Adaptative mechanism by certain insects to protect them from predators
- b. A new innovative green technology to reduce CO2 emission
- c. Sanitised area to contain the spread of Covid-19
- d. None of the above

Answer : c

Bio Bubbles

- Bio-Bubbles are sanitised areas that can be accessed only by a certain set of people who are not infected with the virus.
- The bubble entails being confined to certain areas and limits who one can meet and interact with.
- Thus nobody can enter or leave the bubble is in effect.
- International sport requires frequent travel and bio bubbles create a safe environment for players.
- The bubble can be parts of a hotel or stadium.
- For example at the US open the parking area of the hotel was outside the bubble and players could travel only from the hotel to the stadium and back

5. Consider the following statements:

1. The Nagi-Nakti Bird Sanctuaries is located in Bihar.
2. The Kalrav bird festival was recently held at the Nagi-Nakti bird sanctuaries.

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 : C

Explanation

- Recently, Bihar's **first state-level bird festival 'Kalrav'** started at the Nagi-Nakti bird sanctuaries. It is a 3-day event and is expected to draw experts and bird lovers from all over the country. **Hence, statement 2 is correct.**
- The Nagi Dam and Nakti Dam are two sanctuaries so close to each other that they can be taken as one bird area.
- The Nagi- Nakti Bird Sanctuaries is located in the Jamui district, Bihar. It has been the home of a wide variety of indigenous species of birds and of migratory birds that turn up during the winters from places like Eurasia, Central Asia, the Arctic Circle, Russia and Northern China. **Hence, statement 1 is correct.**

6. Consider the following statements about Thiruvalluvar:

1. The classic Tamil language text Thirukkural was written by Thiruvalluvar.
2. Valluvar kottam temple in Chennai is built in the memory of Thiruvalluvar.

Which of the statements given above is/are not correct?

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

Answer : D

Explanation

- Thiruvalluvar, also called Valluvar, **was a Tamil poet-saint.**
 - He is regarded as a cultural and moral icon for Tamils across caste and religious lines.
 - Some people consider Thiruvalluvar as a Hindu, some trace his past to Jainism while the **Dravidian groups count him as a saint, as he dismissed the caste system.**
 - His primary work **Thirukkural** (contribution to Tamil Literature) contains 1330 couplets (kurals).
 - The text is divided into three parts with teachings on dharma, artha, and kama (virtue, wealth and love). **Hence, statement 1 is correct.**
- The Thiruvalluvar University was established in Vellore district of Tamilnadu by the Government of Tamilnadu in October 2002.

- In 1976, a **temple-memorial called Valluvar Kottam was built in Chennai** and houses one of the largest auditoriums in Asia. **hence, statement 2 is correct.**
- In the early 16th century, a temple dedicated to Thiruvalluvar was built within the Ekambareswarar temple complex in Mylapore, Chennai.



MAINS PRACTICE QUESTIONS

1Q. ISRO's role has been impeccable in making India a global space power, however, there are many challenges and opportunities in the new space age that ISRO needs to address. Discuss. (250 words)

Approach

- Briefly mention about ISRO's role in making India a global space power.
- Explain 'new space age' and mention the challenges and opportunities for ISRO.
- Conclude by mentioning the need for regulation in space sector.

2Q. Highlight the socio-political conditions of the Sangam period with special mention of three literary assemblies. (250 words)

Approach

- Mention about the time period of Sangam age and the literary assemblies held during that period.
- Explain the socio-political conditions including Sangam polity, administration, society, the position of women, religion, etc.
- Conclude by mentioning about the decline of Sangam period.

