

DAILY CURRENT AFFAIRS

By



SOURCES



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Important News Articles

GS II

1. Centre and Cong. spar over Katchatheevu issue -The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- The controversy over **India "ceding" the island of Katchatheevu to Sri Lanka in 1974** escalated recently.

Katchatheevu

- it is a 285-acre **uninhabited speck in the Palk Strait**, between India and Sri Lanka, an island located about 14 nautical miles off Rameswaram, India.
- In 1974, Prime Ministers Indira Gandhi of India and Sirima R.D. Bandaranaike of Sri Lanka signed an agreement that recognized Katchatheevu as part of Sri Lanka's territory, resulting in a change of ownership.
- The agreement also **allowed Indian fishermen to fish around the island**, dry their nets on it, and permitted Indian pilgrims to visit the Catholic shrine located on the island.
- The 1976 agreement was **aimed at defining maritime boundaries and exclusive economic zones** for both countries, while also imposing restrictions on fishing vessels and fishermen from either nation, prohibiting fishing in each other's waters without explicit permission from either of the two countries.
- The Indian government, in 2013, stated that the question of retrieval did not arise as no Indian territory was ceded.
- The demand evolved over the years, with suggestions of a "lease in perpetuity (a lease deed in which no specified time period)" for the island.

Prelims Takeaway

- MAP BASED QUESTION



2. SC notice to EC on plea to check EVM, VVPAT counts- The Hindu

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

Prelims Takeaway

- EVMs
- ECI

News:

- The Supreme Court issued notice to the Election Commission (EC) seeking a direction **to mandatorily cross-verify the count in electronic voting machines (EVMs)** with votes verifiably recorded as cast by counting all voter verifiable paper audit trail (VVPAT) slips.

VVPAT

- It is an independent verification printer machine attached to electronic voting machines (EVMs) that allows voters to verify that their votes have been recorded accurately.
- As soon as the voter presses the **button on the EVM, the VVPAT machine prints the slip** that contains the name and symbol of the party they have voted for, for around 7 seconds.
- VVPAT Machines were first **introduced in India in the 2014 Lok Sabha** elections and were introduced to increase transparency and eliminate doubts about the accuracy of the EVMs.
- VVPAT machines can be accessed by polling officers only.
- According to ECI, EVMs and VVPATs are separate entities and are not connected to any network.

EVMs

- These are electronic voting machines which enable the voter with a button for each choice of candidate.
- It comprises two units – **control unit and balloting unit**.
- It can even be used in areas that have no electricity.
- The control unit is with the **Election Commission selected polling officer**.
- The Balloting Unit is in the voting section into which the voter enters to cast their vote in secret by pressing the button against the name and sign of the candidate of their choice

3. India- US conduct joint naval exercise, Tiger Triumph 2024 to enhance HADR operations – The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Prelims Takeaway

- HADR
- NDMA

News:

- The bilateral tri-service **humanitarian assistance and disaster relief (HADR) amphibious exercise between India and the US, Tiger Triumph 2024**, was held on recently.
- The exercise aimed at sharing best practices and Standard Operating Procedures in joint HADR operations

HADR

- These are the exercises that Indian armed forces and Disaster response forces conduct to rescue civilians or demonstrate the capacity to conduct such operations.
- **The Ministry of Home Affairs** generally coordinates these with the Ministry of Defense.

Disaster Management in India:

- In India, NDMA is the apex statutory body for disaster management.
- It was formally constituted on 27th September 2006, in accordance with the Disaster Management Act, 2005 with the Prime Minister as its Chairperson.
- Indian defence forces, under the aegis of Headquarters Integrated Defence Staff (HQ IDS), have been carrying out HADR operations within the country as well as outside the country.
- The defence forces can deliver during various HADR contingencies because of their expertise in damage assessment, evacuation
 - setting up of relief infrastructure, restoring communication and providing medical facilities, distributing ration supplies, clothing etc.

GS III

4. In an all-time high, defence exports cross ₹21,000 crore- the hindu

Relevance: Various Security forces and agencies and their mandate.

News:

- **India's defence exports crossed ₹21,000 crore** for the first time, Defence Minister said.
- The figures indicated that defence exports had grown by 31 times in the past 10 years compared with FY 2013-14, the Defence Ministry said.
- "Delighted to inform that defence exports have scaled to unprecedented heights and crossed ₹21,000-crore mark for the first time in the history of Independent India

Prelims Takeaway

- Akash missile
- Dhruv helicopter

Major Exports:

- Defence exports have reached the level of ₹21,083 crore in the financial year 2023-24 which is a spectacular growth of 32.5% over the previous fiscal."
- India has exported **BrahMos cruise missiles** to countries like Vietnam, the Philippines, and Indonesia.
- The **Dhruv helicopter** is a multi-role helicopter developed by Hindustan Aeronautics Limited (HAL).
- It has been exported to several countries, including **Nepal, Maldives, Ecuador, and Peru.**
- The Akash missile system is a surface-to-air missile system developed by the Defense Research and Development Organization (DRDO) of India.
- India has exported sonar systems to several countries, including Vietnam and Myanmar.
- India has exported bulletproof jackets to several countries, including Nepal, UAE, and Malaysia.
- These jackets are used by military and law enforcement agencies to protect their personnel from gunfire and shrapnel.



5. SC scraps govt notification exempting green nod for extraction of ordinary earth in linear projects- the hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

Prelims Takeaway

- Article 14
- NGT

News:

- The Supreme Court has struck down a March 2020 notification of the Union environment ministry that **exempted green clearance for extraction of ordinary earth for linear projects such as laying of roads and pipelines.**

India's Environment Ministry and a Controversial Exemption

- The Ministry exempted certain activities from needing environmental approval before starting. This exemption included borrowing soil for road and pipeline construction.
- The government argued this was for the public good, benefiting potters, farmers, and others.
- It also aligned with changes to mining laws.
- Critics challenged the exemption in court.
- They argued it allowed uncontrolled soil extraction, violated environmental laws, and bypassed public consultation procedures.
- The court agreed and struck down the exemption.
- It criticized the lack of clear guidelines and definitions in the notification.
- The court questioned the urgency of the exemption during a lockdown when construction was halted.
- This is not the first time the Ministry's exemptions faced legal challenges.
- Similar exemptions for construction and other activities were previously struck down by courts.

6. IMD warns of heatwave spells lasting 10-20 days in April-June -The HINDU

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

Prelims Takeaway

- HEAT WAVES
- IMD

News:

- The India Meteorological Department (IMD) has forecast a harsh and arid summer over a majority of regions of the country during April- June, with a high probability of heatwave episodes lasting as long as 10 to 20 days during the period.

India's Weather Watchdog: The IMD

- The IMD is a government agency that tracks weather, earthquakes, and collects weather data.

FUNCTION

- Observing weather conditions across India
- Providing weather forecasts and warnings
- Keeping weather records
- Conducting weather research

Heat Waves in India

- Heat waves are stretches of unusually hot weather.
- They typically hit India between March and June, sometimes lasting into July.
- Northern India experiences around five or six heat waves a year.
- Heat waves are declared when temperatures reach specific thresholds:
 - Plains: 40°C (104°F) or higher
 - Hills: 30°C (86°F) or higher
- The severity of a heat wave is determined by how much temperatures exceed normal levels or by how high they actually climb.
- Heat waves can be dangerous because they make it hard for the body to regulate temperature, leading to health problems like cramps, exhaustion, and heatstroke.

7. RBI 90 years ceremony | PM Modi calls for greater economic self-reliance, making rupee more acceptable, accessible globally -The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Prime Minister said **India needs to increase its economic self-reliance in the next 10 years** to mitigate the impact of global crises, and make rupee more accessible and acceptable throughout the world.

Key Highlight

- PM Modi was addressing the opening ceremony of the 90th anniversary celebrations of the Reserve Bank of India (RBI) in Mumbai.
- The RBI commenced **its operations on April 1, 1935.**

The RBI: India's Central Bank

- The RBI is the central bank of India, controlling the country's banking system and currency.
- Established in 1934, it's now fully owned by the government.

Function

- **Monetary Policy:** The RBI sets interest rates and manages the money supply to keep inflation stable and promote economic growth.
- **Banking Watchdog:** The RBI regulates banks to ensure they operate safely and protect customer deposits.
- **Foreign Exchange Manager:** The RBI oversees foreign currency exchange to support international trade and a healthy foreign exchange market.
- **MONETARY AUTHORITY:** The RBI prints rupees and takes care of damaged or old currency.
- A 21-member board, including a governor and deputy governors, runs the RBI. The board also has government representatives and regional directors.

Prelims Takeaway

- RBI
- MONETARY POLICY

8. Tejas Mk-1A carries out its maiden flight but delivery to IAF is delayed.- the Print

Relevance: Various Security forces and agencies and their mandate.

News:

- The first aircraft of the **Tejas Mk-1A series, LA 5033**, took to the skies from the Hindustan Aeronautics limited (HAL) facility in Bengaluru, marking an important milestone for the fighter that the Indian Air Force (IAF) is desperately waiting for.

BACKGROUND

- When the LCA programme was first initiated in 1983, **the plan was to release the first aircraft by 1994.**
- But the prototype of the LCA flew only in 2001 — 18 years after the project started.
- In December 2013, Tejas got initial operational clearance and in 2019, **the IAF was given the first aircraft with final clearance.**
- The Tejas Mk-1A will have an advanced electronic radar, warfare communication systems, additional combat capability with Beyond Visual Range Missiles and improved maintenance features.

LCA Mk-1A aircraft.

- The manufacturer of Tejas LCA Mk.1A be Hindustan Aeronautics Ltd (HAL).
- Tejas LCA Mk.1A will be superior over previous variants of LCA Tejas, in terms of avionics, performance, and weapons capabilities.
- Tejas LCA Mk.1A will be able to fire different types of Beyond Visual Range (BVR) missiles.
- This proves LCA Tejas Mk.1A will be flexible enough for smooth hardware and software integration, that would be required for carrying a variety of BVR missiles, which are available in the inventory of the Indian Air Force (IAF).

Prelims Takeaway

- TEJAS
- LCA programme

Editorials, Gists and Explainers

9. AI in elections, the good, the bad and the ugly- the hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- In an effort to broaden Prime Minister reach to a variety of linguistic groups, the Party (BJP) has **used Artificial Intelligence (AI) to translate his speeches** into eight different languages ahead of the Lok Sabha elections
- It may potentially be considered India's "**first AI election**".

Social media and campaigns

- Its spread can be traced to the extensive usage of phonecalls in the 1990s, the Uttar Pradesh Assembly election in 2007 that saw the first "mass mobile phone" elections, the use of holograms in 2014, and, now, the current AI era.
- The 2019 general election was widely dubbed the "first WhatsApp election" in India.
- WhatsApp is "an effective political platform because it allows for targeted delivery of information to voters and also because it allows an excellent tool to organize and mobilize party workers".

Global elections, AI, the dangers

- The global elections of 2024, in contrast, are "AI elections".
- fake accounts that amplify particular messages and generate artificial trends can be orchestrated by AI-powered bots to flood social media sites
 - yielding the false impression that a particular politician or subject is widely supported.
- Social media, the old instrument, is, therefore, interwoven with AI technology.

The political landscape is changing

- However, AI can play a far wider role in elections than just disseminating disinformation.
- With real-time analytics on campaign performances, AI is raising the bar for political campaigns with its data-driven and effective micro-targeting strategy.
- The political landscape is changing quickly due to GenAI technology, which presents both the potential and challenges for the 2024 elections.

Global example

- The United States government has outlawed robocalls using AI-generated voices in its response to the Biden robocall incident.
- Technology behemoths including Microsoft, Google, OpenAI, and Meta have vowed to combat AI content that aims to deceive voters.
- There is general concern that, similar to Slovakia, election-related generated contents may shape last-minute attempts to deter voters from exercising their right to vote
 - or create an event with a manufactured portrayal of a candidate that is challenging to swiftly debunk.
- AI will be far more efficient five years later, in 2029, but as one might perceive, the world will also be more resilient, accustomed, and prepared for AI's deceptive effects.

10. Solar surge : India's solar industry must grow without compromising on quality -the hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- The new financial year has begun with the government finally bringing into **effect a policy that will discourage solar power project developers from relying on imported panels.**
- The Approved Models and Manufacturers of **Solar Photovoltaic Modules (Requirement for Compulsory Registration) Order, 2019**, requires module makers to submit to an inspection of their manufacturing facilities by the National Institute of Solar Energy.

Key Points	India's commitment
<ul style="list-style-type: none"> • Being on the list as an 'approved' manufacturing facility certifies a company as legitimately manufacturing solar panels within its premises and not importing modules. • The major advantage is eligibility to compete for the government's tenders for its flagship solar energy programmes. • This includes the recently announced PM solar rooftop scheme. 	<ul style="list-style-type: none"> • The creation of such a list was also aimed at restricting imports from China, which controls nearly 80% of the global supply, amid the downturn in diplomatic relations. • India has ambitious plans of sourcing about 500 GW, nearly half its requirement of electricity, from non-fossil fuel sources by 2030. • This would mean at least 280 GW from solar power by that year or at least 40 GW of solar capacity being annually added until 2030. • In the last five years, this has barely crossed 13 GW <ul style="list-style-type: none"> ◦ Though the government has claimed that the COVID-19 pandemic affected this trajectory and the country was on track to add between 25 GW-40 GW annually. • The difficulty is that meeting the targets requires many more panels and component cells than India's domestic industry can supply. • In recent years, a significant fraction of India's solar installations has been met by imports. • This affects the interests of domestic panel manufacturers who have to pay the government to be certified while at the same time losing out on orders to the cheaper Chinese panels. • To meet demand, the Centre, which has kept postponing the implementation of the approved list, has now decreed that this will take effect from April 1. • The yardstick of success is when India meets its 2030 commitment while also ensuring that solar power is affordable to most Indians.

Conclusion

- Domestic manufacturers should be subject to stringent quality checks and not be allowed to compromise on cost and quality merely on nationalistic grounds.
- While the Indian solar industry must grow and gain a reputation for being a high quality exporter, it should not forget that this is a road with no easy shortcuts.

Quick Look

1. Hypersonic weapon

- They are normally defined as fast, low-flying, and highly manoeuvrable weapons designed to be quick and agile for traditional missile defence systems to detect in time.
- Unlike ballistic missiles, hypersonic weapons don't follow a predetermined, arched trajectory and can manoeuvre on the way to their destination.
- The term hypersonic describes any speed faster than five times that of sound, which is roughly 760 miles (1,220 km) per hour at sea level.
- On the other hand, a supersonic missile travels at the speed between Mach 1 and Mach 5.

2. Atal Tunnel

- Atal Tunnel, formerly known as Rohtang Tunnel, is the world's longest high-altitude tunnel, situated at an elevation of approximately 3,100 meters (10,171 feet) above sea level.
- It is located in the Pir Panjal Range of the Himalayas, in Himachal Pradesh. It passes through Rohtang pass.
- It stretches 9.02 km, connecting Manali to Lahaul and Spiti Valley throughout the year, previously cut off for about six months each year due to heavy snowfall.
- The tunnel features a semi-transverse ventilation system, emergency exits every 500 meters, evacuation lighting, broadcasting systems and fire hydrants for safety.

3. Red Sea

- It is a semi-enclosed inlet (or extension) of the Indian Ocean between the continents of Africa and Asia. It is one of the world's warmest seas.
- It is connected to the Arabian Sea and the Indian Ocean to the south through the Gulf of Aden and the narrow strait of Bab El-Mandeb.
- The northern portion of the Red Sea is bifurcated by the Sinai Peninsula into the Gulf of Aqaba and the Gulf of Suez, where it is connected to the Mediterranean Sea via the famous Suez Canal.
- IT IS BORDERED BY Yemen and Saudi Arabia to the east.
- It is bordered by Egypt to the north and west and by Sudan, Eritrea, and Djibouti to the west.

4. Asteroid

- Asteroids, sometimes called minor planets, are rocky remnants left over from the early formation of our solar system about 4.6 billion years ago.
- Most of this ancient space rubble can be found orbiting the Sun between Mars and Jupiter within the main asteroid belt.
- Asteroids orbit the sun in highly flattened or "elliptical" circles, often rotating erratically, tumbling and falling through space.
- The total mass of all the asteroids combined is less than that of Earth's Moon.
- Many large asteroids have one or more small companion moons.
- An example of this is Didymos, a half-mile (780 meters) wide asteroid that is orbited by the moonlet Dimorphos, which measures just 525 feet (160 m) across.

5. Statins

- Statins are prescription medications that people take to bring their cholesterol down to normal levels.
- It works by blocking the action of the liver enzyme that is responsible for producing cholesterol.
- Too much cholesterol in the blood can cause a buildup of plaque on the walls of the arteries.
- That buildup can eventually cause the arteries to narrow or harden. Sudden blood clots in these narrowed arteries can cause a heart attack or stroke.
- Some statins can decrease your LDL (low-density lipoprotein, or “bad”) cholesterol by 50% or more.
- Providers often call LDL “bad” because it builds up inside your arteries, making it harder for blood to move through them.
- These medicines also have been linked to a lower risk of heart disease and stroke. Statins may also help reduce the risk of certain blood clots.



Mentorship
India

Prelims Track Question

Q1. Consider the following pairs :

Area of conflict mentioned in news : where it is located

- | | |
|-----------------|----------------|
| 1. Donbas | : Syria |
| 2. Katchatheevu | : Palk Strait, |
| 3. Tigray | : North Yemen |

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q2. Consider the following statements

1. Election Commission has authority to transfer senior officials in various States to assure free and fair elections
2. During “election silence” period holding public meetings by political parties to influence voters are also prohibited.
3. The model code of conduct was enacted by parliament after LPG reform 1991 to ensure free and fair elections

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q3. Consider the following pairs : Joint Military Exercises : participating countries

1. **Tiger Triumph** : India and the US
2. **Yudh Abhyas** : India and the US
3. **Indra**: India and the china

How many of the pairs given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q4. Consider the following statements

1. The Akash missile system is a surface-to-air missile system developed by the Defense Research and Development Organization (DRDO) of India.
2. India has exported sonar systems to several countries, including Vietnam and Myanmar.

3. India has exported bulletproof jackets to several countries, including Nepal, UAE, and Malaysia.

How many of the statements given above is/are INcorrect?

- A. Only one
- B. Only two
- C. All three
- D. None

Q5. Consider the following statements about Mines and Minerals (Development and Regulation) (MMDR) Act, 1957.

1. The Act allows the only State agencies in the exploration of the atomic minerals such as lithium, beryllium, niobium, titanium, tantalum and zirconium
2. The MMDR Act, 1957 was amended in 2015 to introduce auction-based mineral concession allocation for transparency,
3. District Mineral Foundation (DMF) was created for the welfare of affected communities

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q6. Consider the following statements

1. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects.
2. It works as an agency of the Ministry of Earth Sciences of the Government of India.
3. IMD is also one of the six Regional Specialized Meteorological Centres of the World Meteorological Organization.

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q7. Consider the following statements regarding fiscal deficit in India:

1. It is calculated by RBI subtracting the total revenue of the government from its total expenditure.
2. A high fiscal deficit can lead to inflation and decrease foreign investment.
3. Reducing revenue expenditure has a larger impact on lowering the fiscal deficit compared to reducing capital expenditure.

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q8. Consider the following statements about LCA Mk-1A aircraft.

1. Tejas LCA Mk.1A will be superior over previous variants of LCA Tejas, in terms of avionics, performance, and weapons capabilities.
2. Tejas LCA Mk.1A will be able to fire different types of Beyond Visual Range (BVR) missiles.
3. LCA Tejas Mk.1A will be flexible enough for smooth hardware and software integration, that would be required for carrying a variety of BVR missiles, which are available in the inventory of the Indian Air Force (IAF).

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q9. Consider the following statements regarding OpenAI:

1. OpenAI is a for-profit company solely focused on developing artificial intelligence for commercial applications.
2. OpenAI is a research institute dedicated to developing safe and beneficial artificial general intelligence (AGI).
3. OpenAI releases all its research and development findings publicly.

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q10. Consider the following statements regarding photovoltaic cells:

1. Photovoltaic cells directly convert light energy into electrical energy using the photovoltaic effect.
2. Photovoltaic cells are made of a single layer of semiconductor material.
3. Photovoltaic cells generate only Alternating Current (AC) electricity.

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Prelims Track Answer

Answer 1 Option A is correct

Explanation

- The Donbas is a historical, cultural, and economic region in eastern Ukraine. It has two heavily industrialised regions of Donetsk and Luhansk which were occupied by Russian forces last year. **Hence pair 1 is not correctly matched.**
- Katchatheev: it is a 285-acre uninhabited speck in the Palk Strait, between India and Sri Lanka, an island located about 14 nautical miles off Rameswaram, India.
- In 1974, Prime Ministers Indira Gandhi of India and Sirima R.D. Bandaranaike of Sri Lanka signed an agreement that recognized Katchatheevu as part of Sri Lanka's territory, resulting in a change of ownership. **Hence pair 2 is correctly matched.**
- Tigray is Ethiopia's northernmost region. The region is at the center of an ongoing civil conflict involving ethnoregional militias, the federal government, and the Eritrean military that has attracted the concern of humanitarian groups and external actors since November 2020. In October 2022, the first formal African Union-led peace talks between an Ethiopian government team and Tigray forces happened in South Africa.

Hence pair 3 is not correctly matched

Answer 2 Option A is correct

Explanation

- Within 48 hours of announcing the election schedule, the Election Commission instructed the state government to transfer a host of senior officials in various States. **Hence, statement 1 is incorrect.** EC does not have authority to transfer.
- The Model Code of Conduct was agreed to by all the political parties in 1968.
- The Election Commission first effectively put to use the Model Code of
- Conduct in the year 1991 to ensure fair elections and a level playing field.
- Holding public meetings during the 48-hour period before the hour fixed for the closing of the poll is also prohibited. The 48-hour period is known as "election silence". **Hence, statement 2 is correct.**

- The MCC evolved as part of the ECI's drive to ensure free and fair elections and was the result of a consensus among major political parties.
- It has no statutory backing. **Hence, statement 3 is incorrect.**

Answer 3 Option B is correct

Explanation

- Yudh Abhyas is an annual bilateral military exercise between the Indian and United States armies.
- It focuses on enhancing interoperability and cooperation in counterterrorism and disaster relief operations.
- Indra is a bilateral military exercise between India and Russia.
- The exercise focuses on joint training in counterterrorism, peacekeeping, and humanitarian assistance operations. **Hence option C is incorrect**

Answer 4 Option D is correct

Explanation

- The Akash missile system is a surface-to-air missile system developed by the Defense Research and Development Organization (DRDO) of India.
- India has exported sonar systems to several countries, including Vietnam and Myanmar.
- India has exported bulletproof jackets to several countries, including Nepal, UAE, and Malaysia.
- These jackets are used by military and law enforcement agencies to protect their personnel from gunfire and shrapnel. **Hence, all statements are correct**

Answer 5 Option C is correct

Explanation

- The MMDR Act, 1957 was amended in 2015 to introduce auction-based mineral concession allocation for transparency, create District Mineral Foundation (DMF) for the welfare of affected communities, establish National Mineral Exploration Trust (NMET) to promote exploration, and impose stricter penalties for illegal mining.
- The Act allows the only State agencies in the exploration of the atomic minerals such as lithium, beryllium, niobium, titanium, tantalum and zirconium. **Hence, all statements are correct**

Answer 6 Option C is correct**Explanation**

- IMD was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects.
- It works as an agency of the Ministry of Earth Sciences of the Government of India.
- It is headquartered in New Delhi.
- IMD is also one of the six Regional Specialized Meteorological Centres of the World Meteorological Organization.
- Roles and Responsibilities:
- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
- To warn against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property.
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
- To conduct and promote research in meteorology and allied disciplines. **Hence, all statements are correct**

Answer 7 Option B is correct**Explanation**

- Fiscal deficit is the difference between government revenue and expenditure. High deficit can trigger inflation and deter foreign investment. **Hence, statement 1 is correct.**
- Reducing capital expenditure, which is for creating assets, might limit future growth. **Hence, statement 2 is incorrect.**
- Revenue expenditure (day-to-day expenses) has a more immediate impact on the deficit compared to capital expenditure (investments). **Hence, statement 3 is correct.**

Answer 8 Option C is correct**Explanation**

- The manufacturer of Tejas LCA Mk.1A is Hindustan Aeronautics Ltd (HAL).

- Tejas LCA Mk.1A will be superior over previous variants of LCA Tejas, in terms of avionics, performance, and weapons capabilities.
- Tejas LCA Mk.1A will be able to fire different types of Beyond Visual Range (BVR) missiles.
- This proves LCA Tejas Mk.1A will be flexible enough for smooth hardware and software integration, that would be required for carrying a variety of BVR missiles, which are available in the inventory of the Indian Air Force (IAF). **Hence, all statements are correct**

Answer 9 Option B is correct**Explanation**

- OpenAI is a non-profit research company, not primarily focused on commercialization. While it does explore potential applications, its primary goal is responsible AI development. **Hence, statement 1 is incorrect**
- OpenAI is dedicated to researching and developing safe and beneficial AGI. This involves exploring various techniques and ensuring AI aligns with human values. **Hence, statement 2 is correct**
- OpenAI emphasizes open access and transparency. It releases most of its research findings and code publicly to foster collaboration and responsible development in the field of AI. **Hence, statement 3 is correct**

Answer 10 Option A is correct**Explanation**

- Photovoltaic cells indeed utilize the photovoltaic effect to directly convert light energy (photons) into electrical energy (current). This is the core principle behind solar panels. **Hence, statement 1 is correct**
- Photovoltaic cells typically consist of two or more layers of doped semiconductor materials, creating a p-n junction which facilitates the flow of electrons. **Hence, statement 2 is incorrect**
- Photovoltaic cells initially generate Direct Current (DC) electricity. Inverters are often used to convert this DC output to AC for grid connection or specific applications. **Hence, statement 3 is incorrect**

Mentorship India

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