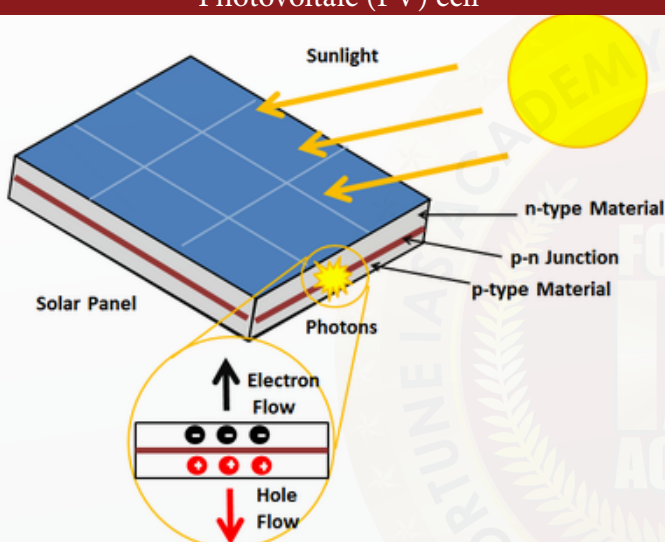


Stalin inaugurates India's single largest solar cell making unit

Prelims: General Studies Paper - 1
General Science.

Mains: General Studies - 3

Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues.



- A photovoltaic (PV) cell is a technology that **harnesses solar energy and converts it into electricity** using the **photovoltaic effect**.
- Various types of PV cells exist, all of which **utilize semiconductors** to absorb photons from the Sun and generate an electric current.
- A photovoltaic cell consists of multiple layers, **each serving a specific function**.
- The most crucial layer is the **specially treated semiconductor layer**, which is responsible for converting solar energy into electricity through the photovoltaic effect.
- This **semiconductor layer is made up of two distinct layers**.
- On either side of the semiconductor is a layer of conducting material which **"collects" the electricity produced**.

- The final layer, applied only to the illuminated/front side of the cell, is the **anti-reflection coating**.
- Since **semiconductors are inherently reflective**, this layer helps minimize reflection loss, which can otherwise be significant.

A call for chaos: On Donald Trump's Gaza Strip proposal

Prelims: General Studies Paper - 1

Current events of national and international importance

Mains: General Studies - 2

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

Six-Day War in 1967.

- The Six-Day War (June 5–10, 1967) was the **third Arab-Israeli war**, resulting in a **decisive Israeli victory**.
- Israel captured the **Sinai Peninsula, Gaza Strip, West Bank, East Jerusalem, and Golan Heights**, escalating the Arab-Israeli conflict.
- Tensions rose due to Palestinian attacks and Israeli retaliations.
- In May 1967, Egypt mobilized troops, expelled the UN force, and blocked Israeli shipping.
- Israel launched a preemptive airstrike on June 5, destroying Arab air forces.
- It quickly seized Sinai, Gaza, the West Bank, and East Jerusalem, and took the Golan Heights on June 9. A **ceasefire** followed on June 10.
- Arab casualties exceeded 18,000, while Israel lost 700 soldiers.
- The war **created Palestinian refugees** and placed over one million Palestinians under Israeli rule.
- In November 1967, the **UN passed Resolution 242**, calling for Israeli withdrawal in exchange for peace, shaping future peace efforts.

Nakba

- The Nakba, meaning “catastrophe” in Arabic, refers to the mass displacement and dispossession of Palestinian Arabs during the 1948 Palestine war.
- This event led to the expulsion of around 750,000 Palestinians from their homes, with many fleeing or being forced out due to violence and fear
- The **Nakba is commemorated annually on May 15th by Palestinians** and others who recognize the ongoing impact of this historical event on Palestinian society and identity

₹10,147-crore worth contracts signed for Pinaka ammunition

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 3
Achievements of Indians in science & technology; indigenization of technology and developing new technology.

Pinaka Multiple Rocket Launch System (MRLS)



- **Pinaka Multi-Barrel Rocket System (MBRS)**
The Pinaka MBRS is an advanced rocket launcher developed by the **Defence Research and Development Organisation (DRDO)** for the Indian Army.
- Development **commenced in 1986 at the Armament Research and Development Establishment (ARDE)** in Pune, with key contributions from Tata Power SED, Larsen & Toubro, and the Ordnance Factories Board.
- The original Pinaka system has a range of 38 km, while the upgraded **Pinaka Mk-II extends this to 60 km.**

- The Pinaka system comprises a **multi-tube launcher vehicle**, a **replenishment-cum-loader vehicle**, a **replenishment vehicle**, and a command post vehicle.
- Each launcher vehicle houses two pods, each containing six rockets, and is capable of firing all twelve rockets in a **salvo mode** within 48 seconds.
- Salvo mode enables the rapid or simultaneous launch of multiple rockets to saturate a target area with intense firepower in a brief period.
- Each rocket carries a **100 kg payload** and covers an area of 700 x 500 meters, with an impressive accuracy, maintaining an **error margin of only one to two percent** of the target distance.
- **First tested during the Kargil War in 1999**, Pinaka has been integrated into the Indian Army with several regiments formed.
- Internationally, countries like **Armenia have placed orders for the Pinaka system**, and other nations have shown interest, underscoring its global recognition and appeal.

Munitions India Limited (MIL)

- Munitions India Limited (MIL) is a **Defence Public Sector Enterprise (CPSE)** under the **Ministry of Defence**, Government of India.
- It is the **largest manufacturer of ammunition and explosives in India**, catering to the Army, Navy, Air Force, and paramilitary forces.
- Headquartered in Pune, MIL **operates 12 advanced manufacturing units across the country** with a workforce of around 25,000.
- The company has a **legacy of over 150 years** in producing small, medium, and high-caliber ammunition, mortars, rockets, and hand grenades.
- MIL also exports its products to various countries across **North America, South America, Europe, Africa, and Asia**, maintaining a strong reputation for quality and innovation.

No word from govt. on U.S.cancelling Chabahar waiver

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 2
Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Joint Comprehensive Plan of Action (JCPOA)

- The Joint Comprehensive Plan of Action (JCPOA), commonly known as the Iran nuclear deal, was **established in 2015** between **Iran** and major world powers, including the **United States, United Kingdom, France, Russia, China, and Germany (P5+1)**.
- The primary objective of the JCPOA is to **restrict Iran's nuclear program in exchange for relief from international sanctions**.
- Key provisions of the agreement include **limiting Iran's uranium enrichment to 3.67% purity**, reducing its stockpile of enriched uranium, and allowing inspections by the **International Atomic Energy Agency (IAEA)**.
- In return, sanctions related to Iran's nuclear activities were lifted, though other sanctions remained in place.
- U.S. President Barack Obama supported the agreement, but his successor, **Donald Trump, withdrew the United States from the JCPOA in 2018**, citing concerns over its limitations and reimposing sanctions.
- This led Iran to gradually violate the agreement's terms.
- Efforts to revive the deal under President Joe Biden have faced challenges due to regional tensions and internal Iranian unrest.

What ails India's massive diagnostics sector: putting labs under the lens

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 2
Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

National Accreditation Board for Testing and Calibration Laboratories (NABL)

- The National Accreditation Board for Testing and Calibration Laboratories (NABL) is an **autonomous body under the Quality Council of India (QCI)**.
- It was established in 1988.
- It is responsible for **providing accreditation to laboratories that perform testing and calibration services in India**.

- NABL is a Mutual Recognition Arrangement (MRA) signatory to **APAC (Asia Pacific Accreditation Cooperation) and ILAC (International Laboratory Accreditation Cooperation)**, ensuring global acceptance of accredited laboratories.
- NABL accreditation is crucial for ensuring that laboratories meet high standards of accuracy, reliability, and competence in India.

On the appointment of ad-hoc judges to High Courts

Prelims: General Studies Paper - 1
Current events of national and international importance

Mains: General Studies - 2
Structure, organization and functioning of the Executive and the Judiciary

Ad-hoc Judges in High Court

- An ad hoc judge is a **retired judge who is appointed on a temporary basis to High Courts for a specific vacancy or purpose only for a limited period of time**.
- The appointment of ad-hoc judges has been provided in the **Constitution under Article 224A (appointment of retired Judges at sittings of High Courts)**.
- The **Article 224A** of the Indian Constitution was **introduced by the 15th Constitutional Amendment Act of 1963**.
- The **Chief Justice of a High Court, with the President's prior consent, can request a retired judge of that or any other High Court to serve as a judge in that state's High Court**.
- Such judges will have **the same jurisdiction, powers, and privileges as regular judges but will not be considered permanent judges**.
- Their allowances will be determined by the President's order.

Lok Prahari versus Union of India

- In **Lok Prahari v. Union of India (2021)**, the **Supreme Court** invoked Article 224-A of the Constitution to **allow the appointment of ad hoc judges in High Courts** to address the backlog of cases.
- It set guidelines ensuring such appointments occur only after efforts to fill regular vacancies.

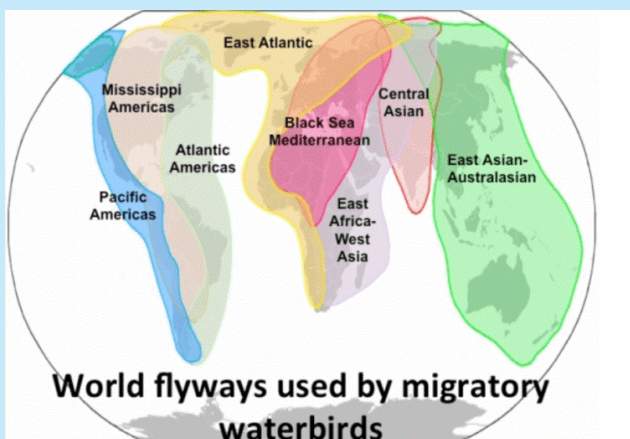
- The Chief Justice of a High Court may exercise this discretion if:
 - ▶ **Vacancies exceed 20% of the sanctioned strength,**
 - ▶ Cases in a category have been **pending for over five years,**
 - ▶ Over 10% of pending cases are older than five years, or
 - ▶ The disposal rate is lower than the rate of new case filings.
- However, recently the **Supreme Court has eased its previous condition** for appointing ad hoc judges in High Courts to clear pending criminal cases.
- It ruled that **ad hoc appointments can be made even if vacancies do not exceed 20%** of the sanctioned strength.

KEYWORDS

- Overground Worker (OGW)** is someone who assists militants or terrorists by providing logistical support, such as shelter, cash, and other resources. They play a crucial role in militant operations by offering real-time information, aiding in recruitment, and helping with propaganda

Places in News

Central Asian Flyway



- The Central Asian Flyway (CAF) is one of the nine major flyways used by migratory birds across the world.

- It covers a vast area extending from the **Arctic to the Indian Ocean, including 30 countries, with India playing a crucial role as a stopover site.**
- Over 279 species of migratory birds use this route, including bar-headed geese, Siberian cranes, flamingos, and raptors.
- The **Central Asian Flyway consists of the following countries:** Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, China, Georgia, India, Iran, Iraq, Kazakhstan, Kuwait, Kyrgyzstan, the Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Qatar, Russian Federation, Saudi Arabia, Sri Lanka, Tajikistan, Turkmenistan, United Arab Emirates, United Kingdom (British Indian Ocean Territory), Uzbekistan and Yemen.

Hyderabad



- Hyderabad is the largest and most populous city in Telangana, located in **south-central India.**
- From 1956 to 2014, Hyderabad was the capital of Andhra Pradesh, but with the formation of Telangana in 2014, it became the **joint capital of both states.**
- However, in 2024, Hyderabad ceased to be the capital of Andhra Pradesh, as the newly developed city of **Amaravati was designated as its replacement.**

- Hyderabad is **situated along the Musi River** in the heart of the Telangana Plateau, a prominent upland region of the Deccan.
- Over time, it has developed into a **major center for trade, commerce, and information technology (IT) on a global scale.**
- The city is also known for its **manufacturing industries**, including pharmaceuticals, cigarettes, and textiles.
- The rapid expansion of the **service sector, particularly in IT**, has come to dominate Hyderabad's economy.
- Additionally, **tourism has gained increasing importance** in the city's economic landscape.

