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- 1. Earth was hit by a massive burst of energy. It came from outside Solar System India Today
- 2. Modi launches mission for most backward of the Scheduled Tribes-The Hindu
- 3. FATF team in India to hold on-site review meetings-The Hindu
- 4. Major setback for UK Govt as UK Supreme Court rejects Rwanda Migration plan-Livemint
- 5. Three years jail for possessing phone in draft prison law Indian Express
- 6. Gold drives trade deficit to new high-The Hindu
- 7. Inspire Faculty fellow decodes molecular mechanism behind intriguing green alga DST
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Ionosphere

gamma-ray

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bursts



#### **Important News Articles**

#### **GSI**

## 1. Earth was hit by a massive burst of energy. It came from outside Solar System - India Today

**Relevance:** Important Geophysical phenomena

#### News

- A **groundbreaking event** occurred when lightning detectors in India picked up a **major burst of energy** that slammed into Earth.
- This **massive burst** is now believed to be of extraterrestrial origin and had its **origin outside** of our Solar System.
- **Earth's ionosphere** experienced a significant disturbance due to an intense gamma-ray burst (GRB) from a distant exploding star.
- This cosmic occurrence is named GRB 221009A.
- The burst hailed from a **galaxy nearly two billion light-years away**, making it one of the most powerful GRBs ever recorded.

#### **Significance**

- This discovery is significant as it demonstrates that cosmic events occurring billions of light-years away can still have tangible effects on Earth.
- The disturbance impacted the lowest layers of Earth's ionosphere, similar to the effects of a major solar flare.
- The increase in **ionization** in the **bottom-side ionosphere** affected very low frequency radio signals, causing them to bounce differently along the ionosphere.
- The implications of such a GRB occurring within our own galaxy could be dire, potentially damaging the ozone layer and allowing harmful ultraviolet radiation to reach Earth's surface.
- This scenario has been **speculated** as a possible cause for **past mass extinction** events on Earth.

#### What are gamma-ray bursts?

- **Gamma-ray bursts** (GRBs) are the most **powerful and violent explosions** in the known universe.
- These brief **flashes** of **high-energy light** result from some of the universe's **most explosive events**, including the birth of black holes and collisions between neutron stars.
- Lasting a few **milliseconds to several minutes**, GRBs can be hundreds of times brighter than an average **supernova**, making them as luminous as a million trillion suns.
- Thus, when a **GRB erupts**, it briefly **becomes** the **brightest source** of **electromagnetic radiation** in the observable universe.
- The **first observation** of a GRB came in 1967, through the **Vela 4A satellite**, part of a series of X-ray, gamma-ray, and neutron-detecting spacecraft designed to monitor any nuclear testing by the Soviet Union or other nations.

#### What causes a gamma-ray burst?

- The cause of a **gamma-ray burst** depends on how long it lasts.
- **GRBs** that last less than **two seconds** are caused by the **merger of two neutron stars** or the merger of a neutron star and a black hole.
- Longer GRBs, which can last hours, are **triggered** when a massive star collapses and **births a black** hole.

#### How powerful are gamma-ray bursts?

• In just a few seconds, a **gamma-ray burst** can **emit** as much **energy as** the **sun** will put out over its **entire 9 billion-year lifetime.** 











#### **GSII**

## 2. Modi launches mission for most backward of the Scheduled Tribes-The Hindu

**Relevance:** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes

#### News:

- The Prime Minister of India launched the ₹24,000-crore Pradhan Mantri Particularly Vulnerable Tribal Groups (PM-PVTG) Mission.
- This mission is for the holistic development of around **28 lakh** PVTGs in the country.

#### Prelims Take Away

- Particularly
   Vulnerable
   Tribal Groups
- PM-KISAN

#### **Facts on the Launch of Mission**

- The Prime Minister launched the mission from Birsa College ground in **Jharkhand's Khunti district**.
- The mission was launched on the occasion of tribal icon **Birsa Munda's birth anniversary** and the **third 'Janjatiya Gaurav Diwas'**.

#### Features of the Mission

- Under the mission, basic facilities will be provided to PVTG habitations.
- These facilities include
  - Road and telecom connectivity
  - Electricity
  - Safe housing
  - Clean drinking water and sanitation
  - Improved access to education
  - Health and nutrition
  - Sustainable livelihood opportunities

#### **Tribal Welfare through PM Kisan Scheme**

- The Prime Minister released ₹18,000 crore as the 15th instalment of the PM Kisan scheme which also helps tribal groups.
- The instalment will benefit more than eight crore beneficiary farmers across the country.
- The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) is **one of the world's largest** Direct Benefit Transfer (DBT) schemes
- The scheme aims to support farmers in meeting their **agricultural** and other **incidental** needs.
- Under the scheme, a financial assistance of ₹6,000 per year is transferred into the **bank accounts of** beneficiary farmers through DBT in three equal instalments.

#### Visit to tribal legend Birsa Munda's birthplace

- The Prime Minister visited tribal icon Birsa Munda's **birthplace** Ulihatu in Jharkhand's Khunti district
- He paid floral tributes to him **on his birth anniversary,** which is celebrated as Janjatiya Gaurav Diwas.
- The Prime Minister was welcomed with locals dancing to the tunes of traditional instruments such as dhol and mandar.

#### 3. FATF team in India to hold on-site review meetings-The Hindu

**Relevance:** Important International institutions, agencies and fora- their structure, mandate. **News:** 

- A Financial Action Task Force (FATF) team is in India as part of the process to conduct the **country's mutual evaluations**.
- The evaluation process will ascertain if the authorities have put in place and effectively implemented the required legal framework against
  - Money-laundering
  - o Terrorist financing.

#### **Prelims Take Away**

- Enforcement Directorate
- Narcotics Control Bureau
- National Investigation Agency
- FATF











#### **Details of the Visit**

- The team will meet **both** the senior government officials and representatives of the private sector.
- They may meet senior functionaries of the Department of Revenue under the **Finance Ministry** and officials of various **enforcement agencies**, such as
  - Enforcement Directorate (ED)
  - Narcotics Control Bureau (NCB)
  - National Investigation Agency [as it enforces the anti-terror Unlawful (Activities) Prevention Act
     (NIA)
  - Financial regulators.
- The FATF, which is likely to visit Mumbai as well, may also meet **civil society** representatives.
- The mutual evaluations under FATF are peer reviews where members from different countries assess another country.
- The process starts with the **selection of** the legal, financial and law enforcement experts for the assessment team.
- The country concerned provides to them **all relevant laws and regulations** that are in place to prevent criminal abuse of the financial system.

#### **Procedure of FATF On-Site Review Meetings**

- Assessors analyse the information, primarily looking at the technical requirements of the FATF standards
- A draft report is then prepared identifying areas of focus for the on-site visit.
- After the visit, a draft mutual evaluation report covering both the elements of technical compliance and effectiveness is brought out.
- It goes through various **cycles of discussions** and review by the assessed country and independent reviewers.
- The FATF plenary discusses the **findings include** the ratings, and adopts the final report for publication.
- In India's case, the report may be discussed during the June 2024 plenary.

## 4. Major setback for UK Govt as UK Supreme Court rejects Rwanda Migration plan-Livemint

**Relevance:** Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

#### News:

- The UK Government suffered **a fresh blow** as the UK Supreme

   Rwanda Migration Plan
  Court rejected plans to send migrants to Rwanda.
- A five-judge panel said asylum-seekers would be "at real risk of ill-treatment" after their relocation.

#### **Developments before the Judgement**

- The development comes **mere hours after** former Home Secretary accused the PM of having no "Plan B" if the government lost the Supreme Court case.
- The UK had **signed an agreement with Rwanda** in April 2022 for the relocation of some migrants.
- The government argues that this policy **will deter people** from risking their lives crossing one of the world's busiest shipping lanes.
- This would also break the business model of people-smuggling gangs.

#### Plan of the Policy

- Anyone **who arrived in Britain illegally** after January 1, 2022 faces deportation under this scheme.
- Their claims would **then be assessed** in Rwanda some 6,400 km away.
- However, the first deportation flight was stopped at the last minute in June 2022 when the European Court of Human Rights intervened.

#### Options to the UK Government in the Current Situation

- There are options, including
  - o negotiating a new deal with Rwanda
  - $\circ$  upgrading the agreement from a memorandum of understanding





**Prelims Take Away** 



- o including new safeguards.
- o a new treaty passed by parliament would make it harder for the courts to intervene.

#### 5. Three years jail for possessing phone in draft prison law - Indian Express

**Relevance:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

#### News

• The **Union Home Secretary** had sent a **letter** to all states and Union territories in May, 2023 which consisted of the **'Model Prisons Act, 2023'.** 

**Prelims Take Away** 

Model Prisons Act

• The letter was uploaded recently on the Union Ministry of Home Affair's website.

#### Prisons Act, 1894 and the Need for a new Law:

- The present 'Prisons Act, 1894' is a pre-independence era Act and is almost 130 years old.
- The Act mainly focuses on keeping the criminals in custody and enforcement of discipline and order in prisons.
- There is no provision for reform and rehabilitation of prisoners in the Act.
- In the last few decades, an altogether new perspective has evolved about prisons and prison inmates, globally.
- Prisons today are not looked as places of retributive deterrence but are considered as reformative and correctional institutions where the prisoners are transformed and rehabilitated back into society as law abiding citizens.
- As per the provisions of Constitution of India, 'prisons'/ 'persons detained therein' is a 'State' subject.
  - The responsibility of prison management and prisoners' administration solely vests with State Governments who alone are competent to make appropriate legislative provisions in this regard.
- However, given the critical role that efficient prison management plays in the criminal justice system, the Government of India attaches high degree of importance to supporting the States/UTs in this regard.

#### **Model Prisons Act, 2023**

- A need was felt to revise and upgrade the Act in tune with modern day needs and requirements of prison management.
- Hence, a decision was taken to by the Central government to review and revise colonial-era outdated Prison Act, in tune with contemporary modern day needs and correctional ideology.
- The Ministry of Home Affairs assigned the task of revision of the Prisons Act, 1894 to the Bureau of Police Research and Development.
- The Bureau, after holding wide ranging discussions with State Prison authorities, correctional experts etc. prepared a draft.
- Along with Prisons Act, 1894, 'The Prisoners Act, 1900' and 'The Transfer of Prisoners Act, 1950' have also been reviewed by the Ministry of Home Affairs and relevant provisions of these Acts have been assimilated in the 'Model Prisons Act, 2023.'
- State Governments and Union Territory Administrations can benefit from the Model Prisons Act, 2023 by adopting it in their jurisdictions, with such modifications which they may consider necessary, and repeal the existing three Acts in their jurisdictions.

### Salient Features of the new Model Prisons

- Provision for security assessment and segregation of prisoners, individual sentence planning.
- Grievance redressal, prison development board, attitudinal change towards prisoners.
- Provision of separate accommodation for women prisoners, transgender, etc.
- Provision for use of technology in prison administration with a view to bring transparency in prison administration.
- Provision for video conferencing with courts, scientific and technological interventions in prisons, etc.
- Provision of punishment for prisoners and jail staff for use of prohibited items like mobile phones etc. in jails.
- Provision regarding establishment and management of high security jail, open jail (open and semi open),
- Provision for protecting the society from the criminal activities of hardened criminals and habitual offenders, etc.
- Provision for legal aid to prisoners, provision of parole, furlough and premature release etc. to incentivize good conduct.
- Focus on vocational training and skill development of prisoners and their reintegration into the society.







**Prelims Take Away** 

FY 2023-24

Trade Deficit of India in



#### **GS III**

#### 6. Gold drives trade deficit to new high-The Hindu

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

#### News:

- The trade deficit touched **a record high** of \$31.46 billion in October, 2023.
- The **gold imports surged** on account of festive demands.

#### More Rise of Imports as Compare to Exports in Festive Season

- Meanwhile, India's **merchandise exports rose** 6.21 per cent to \$33.57 billion in October, 2023.
- Imports **increased by** 12.3 per cent to \$65.03 billion in October, 2023
  - with gold imports rising to \$7.23 billion, which is almost double compared to October, 2022.
- **Oil imports** also increased by 8 per cent to \$17.66 billion during October, 2023. A trade deficit means more imports than exports.
- It impacts the **current account deficit**, which, in turn, affects currency.

#### **Trade deficit and Exports-Imports Trend**

- The country's **trade deficit** in goods in October 2022 stood at \$26.31 billion. The deficit in October, 2023 is the 'highest' because of the largest import figures.
- The **trade numbers** in October, 2023 reflect 'green shoots' of recovery in outbound shipments.
- The country's **exports** were in a negative zone during **February-July**, **2023**.
- After a revision of the numbers by the ministry, the shipments showed 3.88 per cent positive growth in **August, 2023.**
- In **September**, **2023** they contracted by 2.6 per cent.
- Imports have turned positive after ten months of negative growth between December 2022 and September 2023.
- **Exports** during the **April-October** period this fiscal contracted by 7 per cent to \$244.89 billion, while imports fell 8.95 per cent to \$391.96 billion.
- The **trade defici**t during the **seven-month period** was \$147.07 billion, compared to \$167.14 billion in the corresponding period in 2022.
- **Gold imports** during the period rose 23 per cent to \$29.5 billion.
- **Crude oil imports** dipped by 18.72 per cent to about \$100 billion during April–October 2023
- **Service exports** in October were estimated at \$28.7 billion, compared to \$25.3 billion a year ago.
- **Imports stood** at \$14.32 billion against \$13.51 billion.
- The e**stimated value of services** exported in April–October 2023 was \$192.65 billion, compared to \$181.37 billion in April–October 2022.

## 7. Inspire Faculty fellow decodes molecular mechanism behind intriguing green alga - DST

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

 Recently, a young researcher has divulged the secret of how the Picocystis Salinarum survives the harshest of conditions by resorting to physiological adaptation to highly salinealkaline/hyperosmotic conditions.

#### **Prelims Take Away**

- Sambhar Lake
- Picocystis Salinarum

#### **Picocystis Salinarum:**

- It is a globally **widespread picoplanktonic green algae** of saline lakes.
- It is one of the **smallest green algae**.
- It is found in **hypersaline soda lake** Sambhar, Rajasthan, to survive extreme environments. Though the algae had been widely found in **saline-soda lakes** around the world, it was spotted for the first time in India only in the Sambhar Lake.











- The unique organism apparently **enhances photosynthesis** and ATP synthesis along with chaperone proteins as key response to high salinity-alkalinity.
- Enhanced photosynthetic activity exhibited by **P. salinarum** in highly saline-alkaline condition is noteworthy as **photosynthesis is suppressed** under hyperosmotic conditions in most photosynthetic organisms.

#### Sambhar Lake

- It is **India's largest saline wetland** located in Rajasthan.
- It is a **ephemeral salt lake**,
- It is also a designated **Ramsar Site** (recognized wetland of international importance).
- It represents the **depression of the Aravalli Range**.
- This inland lake **receives water from five rivers**, namely Samaod, Khari, Mantha, Khandela, Medtha, and Roopangarh.

#### 8. India, U.S., 12 other IPEF members ink supply chain resilience agreement

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

#### News:

 India, the U.S. and 12 other members of the Indo-Pacific Economic Framework For Prosperity (IPEF) grouping have signed a supply chain resilience agreement.

#### **Prelims Take Away**

- Indo-Pacific Economic Framework for Prosperity
- Asia Pacific Economic Cooperation

#### **IPEF**

- IPEF was **launched jointly by** the U.S. and other partner countries of the Indo-Pacific region on May 23, 2022 in Tokyo.
- Australia, Brunei Darussalam, Fiji, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, the U.S. and Vietnam are members of the bloc.
- It would come into force after the implementation of the agreement by any of the five member countries.

#### Four Pillars of the Agreement

- The framework is structured around four pillars relating to
  - o **Trade**
  - supply chains
  - clean economy
  - o fair economy (issues such as tax and anti-corruption).
- **India** has joined all the pillars **except** the trade one.

#### **Benefits of the Agreement**

- The agreement would provide benefits such as
  - o potential **shifting** of production centres in critical sectors
  - o mitigating **risks** of economic disruptions from supply chain shocks.
- The agreement would help member countries, including India, to **reduce** its **dependence on China**.
- The agreement will foster **adaptability**, **stability** and **sustainability**.

- The **other benefits** of the pact include
  - supply chain diversification
  - o mobilisation of investments
  - o deeper integration of India in global value chains
  - support to MSMEs
  - o creation of a seamless regional trade ecosystem,
- These developments would **facilitate the flow** of Indian products.

#### **Supply Chain Perspective of the Agreement**

- Under the agreement, IPEF partners seek to provide
  - o a framework to build their collective understanding of significant supply chain risks;
  - o improve crisis coordination and response to supply chain disruptions;
  - facilitate cooperation,
  - mobilise investments,











- o promote regulatory transparency in sectors
- goods critical to national security
- o public health and safety.
- The critical sectors **would be identified by** the member countries.
- To implement and monitor the agreement, the bloc would set up **The IPEF Supply Chain Council**.
- The council will meet every year and all the members would have to report on the **progress of implementation** of the agreement.
- Besides the council, the block would set up
  - o The IPEF Supply Chain Crisis Response Network
  - The IPEF Labour Rights Advisory Board.

#### The IPEF Supply Chain Crisis Response Network

- The network would deal with
  - Emergency issues
  - Help partners to seek support during a supply chain disruption
  - o To facilitate information sharing and collaboration among IPEF partners during a crisis
  - o Enabling a faster and more effective response
  - o Minimising negative effects on their economies.

#### The IPEF Labour Rights Advisory Board.

• The advisory board would help members in **promoting labour rights** in their supply chains.











### **Editorials, Gists and Explainers**

#### 1. The price of persistent federal frictions-The Hindu

**Relevance:** Issues and challenges pertaining to the federal structure

#### Context:

- **Disputes** between the Centre and States regarding economic policies have a long history in India.
- However, in recent years the **frequency** and **intensity** of such disputes have increased.
- These disputes have assumed the character of 'persistent frictions' in the federal system.

#### The Impact on the Economy

- The current context of **economic relations** between the Centre and States is very different from the 1980s and 1990s.
- Continuing economic reforms since 1991 has led to
  - o the **relaxation** of many controls on investments.
  - giving some room to States.

#### **Loss of Cooperative Federalism**

- The **autonomy regarding public expenditure** policies is not absolute as State governments depend on the Centre for their revenue receipts.
- The federal friction between the Centre and the States has given way to a **more hardened stand by both**, leaving little room to negotiate.
- The increasingly fractious Centre-State ties have chipped away at the edifice of cooperative federalism.
- Other areas of this conflict
  - The homogenisation of social sector policies
  - Functioning of regulatory institutions
  - The powers of central agencies.

#### **Utopia to Realism to Federal Structure**

- Ideally bulk of the policies in these spheres should be at the discretion of States.
- An apex central body **overseeing** the process of resource allocation.
- However, the apex bodies have often attempted to increase their influence.
- They have pushed States in directions that are amenable to the Centre.

#### Impact of Marine heatwaves

- Can have debilitating effects on both marine ecosystems and humans.
- Can make storms stronger and severely affect coastal communities.
- May also fuel the growth of invasive alien species, which can be destructive to marine food webs.
- May force species to change their behaviour in a way that puts wildlife at increased risk of harm — MHWs have been linked to whale entanglements in fishing gear.
- Higher ocean temperatures, which are associated with MHWs, can make storms like hurricanes and tropical cyclones stronger.
- With warmer temperatures, the rate of evaporation escalates and so does the transfer of heat from the oceans to the air.
- When storms travel across hot oceans, they gather more water vapour and heat. This results in more powerful winds, heavier rainfall and more flooding.

#### Impact of marine heat waves on ocean life

- Can cause the deaths of several marine species, alter their migration patterns, lead to coral bleaching and even impact weather patterns.
- MHWs can destroy kelp forests and fundamentally alter the ecosystem of the coast.
- Kleps usually grow in cooler waters, providing habitat and food for many marine animals.
- Coral bleaching: A 2010 study has showed that more than 80% of surveyed corals had bleached and over 40% of the total surveyed had died.

#### Impact on coral bleaching

- When a coral bleaches, it is not dead. Corals can survive a bleaching event, but they are under more stress and are subject to mortality.
- Reduces the reproductivity of corals and makes them more vulnerable to fatal diseases.
- · Thousands of marine animals depend on coral reefs for survival and damage to corals could, in turn, threaten their existence.











#### **Inevitable Interdependence**

- For securing the **implementation** of many of its laws and policies, the Centre depends on the States
   particularly in the concurrent spheres.
- The States also entrust **their executive function**s, with the consent of the Centre, to the government or agencies of the Centre (Article 258A).

## 2. Abolition of death penalty should form the core of any reform in justice system - The Hindu

**Relevance:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

#### Context

 As the panel formed for review of recently passed criminal justice code, they ignored to review regarding the abolition of the death penalty and must form the core of any reform in the justice system.

#### The Bharatiya Nyaya Sanhita (BNS) and Death Penalty

- **Lack of Strong Recommendation**: The parliamentary committee examining the Bharatiya Nyaya Sanhita (BNS), set to replace the IPC left the matter for the government to consider.
- **Judicial Fallibility**: The committee acknowledges concerns about the fallibility of the judicial system, leading to the possibility of an innocent person being wrongly sentenced to death.
- **Contradictions in Sentencing Trends**: While the Supreme Court awarded the death penalty to only seven individuals from 2007 to 2022, all death sentences were either set aside or commuted to life in 2023.

#### Call for Reform

- **Ineffectiveness as a Deterrent:** Members dissenting from the committee's report argue that capital punishment has been proven ineffective as a deterrent.
- **Redundancy of Proposed Bills**: The dissenting voices underscore the redundancy of the three proposed Bills, asserting that they mirror the existing IPC, Code of Criminal Procedure, and Evidence Act.
- **Socioeconomic Considerations**: The dissenting members further emphasize the socioeconomic aspect of death penalty recipients, pointing out that a significant number hail from underprivileged backgrounds.

#### **Recommendations for Reform and Policy Change**

- **Default Alternative to Death Sentences**: The 'life imprisonment,' defined by the BNS as the term for the remainder of one's natural life, should be the default alternative to death sentences. This recommendation aligns with the dissenting voices urging reconsideration and reform in the justice system.
- **Premature Release and Political Controversy**: The case for abolition gains strength with a call to address the trend of seeking premature release of life convicts for political reasons.
- Substantive Reform: The editorial concludes by proposing the removal of capital punishment from the statute book and the introduction of a rational and universal remission policy.









#### **Quick Look**

### 1. MQ-4C Triton

- Built for both the U.S. Navy and the Royal Australian Air Force, the MQ-4C Triton stands as the sole uncrewed, high-altitude, long-endurance aircraft designed for persistent maritime intelligence, surveillance, reconnaissance, and targeting.
- It was developed by the Northrop Grumman Corporation, an American multinational aerospace and defense technology company.
- Features:
- Its autonomous operations are supported by land-based command and control mission planners and sensor operators.
- The aircraft can fly over 24 hours at a time, at altitudes higher than 10 miles, with an operational range of 8,200 nautical miles.
- It has a length of 14.5m, a height of 4.7m, and a wingspan of 39.9m.
- It can hold a maximum internal payload of 1,452kg and an external payload of 1,089kg.
- It has a maximum speed of 600 km/hr.
- Triton will be equipped with a unique and robust mission sensor suite that provides 360-degree coverage on all sensors.
- Triton also incorporates a reinforced airframe for increased internal payload and a wing for hail, bird strike, and gust load protection.
- These features allow the aircraft to descend and ascend through harsh maritime weather environments to gain a closer view of ships and other targets at sea when needed.

#### 2. Igla-S

- It is a man-portable air defence system (MANPADS) developed by Russia.
- It is known in the West as SA-24 Grinch.
- It entered service with the Russian Army in 2004.
- It can be fired by an individual or crew to bring down an enemy aircraft.
- It has the capability of bringing down low-flying aircraft. It can also identify and neutralise air targets, such as cruise missiles and drones.
- Features:
- The Igla-S system comprises of combat equipment, including the 9M342 missile and the 9P522 launching mechanism, along with maintenance equipment, including the 9V866-2 mobile test station and the 9F719-2 test set.
- It has an effective range upto 6 km.
- The limiting altitude of effective target destruction for the "Igla-S" complex is 3.5 km.
- It has a heavier, more powerful warhead to maximize damage capabilities, as well as contact and timed fuzes for increased attack range.
- The warhead is a high-explosive fragmentation (HE-FRAG) and weighs 2.5 kg.
- Guidance is homing via infrared.

#### 3. Kangri

- The Kangri, also known as Kanger or Kangid, is earthenware filled with glowing embers and encased in pretty handmade wicker baskets.
- It is a portable and moving heater that Kashmiris keep in their pheran, a long woollen cloak reaching down to the knees worn by people during the frosty winters.
- A pot can hold about 250 grams of charcoal, and the fire, lasts for hours, under a pheran.
- It keeps people warm during the harsh winter months, when temperatures can drop below minus 20 degrees.
- How is it made?











- It is known for its outer shell made of willow wicker reeds that grow abundantly in the wetlands of north Kashmir's Ganderbal district.
- These reeds can reach eight feet in height and are harvested during autumn, just before demand for the fire pots swells.
- These then go through a multi-layered process of scraping and peeling to get rid of the bark, soaking, boiling, and drying before they are ready to be woven around a bowl-shaped clay pot.
- The earthenware is decorated with colourful threads, mirrorwork, and sequins and is about six inches (150 mm) in diametre.

#### 4. Trishakti Prahar

- It is a joint military exercise involving the Indian Army, the Indian Navy, and the Indian Air Force.
- · Objectives:
- It aims to enhance mutual coordination and operational efficiency.
- It seeks to create new strategies and assess operational capabilities in the context of modern warfare.
- During the exercise, all three wings of the Indian Army actively engage in live practice sessions, simulating real war scenarios with complete coordination.
- The exercise includes long-range attacks by reconnaissance aircraft, emphasizing precision and high-volume attacks to effectively neutralize hypothetical adversaries.
- It involves a diverse array of military assets, including various types of howitzers, helicopters, and weaponry. This encompasses the deployment of the Army's T-90s and Arjun main battle tanks.
- A major highlight of the exercise is the demonstration of the operational capability and readiness of the Pune-based Southwestern Command of the Indian Air Force. This segment showcases the Air Force's preparedness for integrated air-land operations, combined arms operations, and its fast mobility and deep strike offensive capabilities.
- Fighter aircraft, Apache attack helicopters, Chinook heavy lift helicopters, and various Navy aircraft contribute to the multifaceted nature of the exercise.
- It serves as a platform to evaluate the effectiveness of modern warfare technologies such as unmanned aerial vehicles, precision-guided missiles, loiter munitions, counter-drone systems, communication systems, and automatic spectrum monitoring systems in a simulated operational environment.











#### **Prelims Track Question**

## Q1. With reference to the Gamma-Ray bursts (GRBs), consider the following statements:

- GRBs are powerful astronomical cosmic bursts of high-energy gammaray.
- 2. GRB emits more energy in a few seconds than our Sun will emit in its lifetime.
- 3. The prompt emission of GRBs are automatically discovered by space-based gamma-ray missions

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

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

## Q2. With reference to Birsa Munda and the Munda rebellion, consider the following statements:

- 1. The movement was initiated against the Chhota Nagpur Tenancy Act of 1908.
- 2. Birsa Munda was also known as Dharti abba.

## 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

## Q3. Consider the statements about Financial Action Task Force:

- 1. The FATF Secretariat is housed at the headquarters of the OECD in Paris.
- 2. India is a member of this task force.
- 3. The mandate of the organisation includes stopping terrorist financing and money laundering.

### Which of the above statements is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

# Q4. With reference to the Rwanda Migration Plan, which has remained in news recently, consider the following statements

- 1. The plan has been presented by the United Kingdom.
- 2. The Rwandan Government has been granted the final rights to decide the asylum and resettlement petitions.
- 3. No appeal from the process can be made to the parent country.
- 4. The deal is for five years.
- 5. The deal is uncapped.

### Which of the above statements is/are correct?

- A. Only two
- B. Only three
- C. Only four
- D. All five

## Q5. With reference to "Model Prisons Act, 2023" consider the following statements:

- 1. The Act proposes separate accommodation for women prisoners and transgender prisoners.
- 2. It provides for video conferencing with the courts and scientific and technological interventions in prisons as part of reforming prison management.
- 3. The Act includes the provision that allows the use of mobile phones by the prison inmates.

## How many of the statements given above are correct?

- A. One only
- B. Two only
- C. All three
- D. None of the Above

### Q6. Consider the following statements with reference to trade deficit::

- When money spent on imports exceeds that spent on exports in a country, a trade deficit occurs.
- 2. Trade deficit can decrease a country's currency value.
- 3. Trade deficits allow countries to consume less than they produce.





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

- A. One only
- B. Two Only
- C. All Three
- D. None of the Above

#### **07.** Consider the following statements regarding Sambhar Lake

- It is India's largest saline wetland located in Rajasthan.
- It is a ephemeral salt lake,
- This inland lake receives water from Seven rivers

#### How many of the above given statements is/are Correct?

- A. One Only
- B. Two Only
- C. All Three
- None of the Above D.

#### Q8. With reference to the Indo-Pacific Economic Framework (IPEF) consider the following statements:

- IPEF is like a Free Trade Agreement (FTA) which involves reducing tariffs on the imports and exports made between the member countries.
- It has four pillars and the supply chain is one of the pillars of IPEF.

#### Which of the statements given above is/are correct?

- A. 1 only
- В.
- 2 only
  Both 1 and 2
  Neither 1 per 2 C.
- Neither 1 nor 2

#### Q9. Consider the following

- Three List of the Constitution of India
- All India Services
- Supremacy of the Constitution of India 3.
- **Emergency Powers**

#### **Independent Judiciary**

#### How many of the above are the Federal Features of the Indian Union?

- Only two
- Only three
- C. Only four
- All five D.
- Q10. Capital punishment, also known as the death penalty, is a legal process whereby a person is put to death as a punishment for a crime. The death penalty is a highly controversial issue, with strong arguments both for and against its use.

#### Which of the following is NOT a common argument in favour of the death penalty?

- The death penalty deters crime.
- The death penalty is a just punishment for certain crimes.
- The death penalty is necessary to protect society from dangerous criminals.
- The death penalty is a way to seek revenge on behalf of the victims of crime.









#### **Prelims Track Answer**

## Ans:1 Option C is Correct Explanation

- Photometric observations recently taken with the 3.6 m Devasthal Optical Telescope have provided vital information on the earliest phase of a kilonova ever detected, radically changing the understanding of scientists about the origin of GRBs.
- GRBs are powerful astronomical cosmic bursts of high-energy gamma-ray.
- GRB emits more energy in a few seconds than our Sun will emit in its lifetime.

#### It has two distinct emission phases

- The short-lived prompt emission (the initial burst phase that emits gamma-rays), followed by a long-lived multi-wavelength afterglow phase.
- The prompt emission (initial gamma-ray emission) of GRBs are automatically discovered by space-based gamma-ray missions such as NASA's Fermi Gamma-ray Space Telescope, Neil Gehrels Swift Observatory, and India's AstroSat.

## Ans:2 Option B is Correct Explanation

- It was led by Birsa Munda. It was a revolt against the colonial masters and exploitative dikus(outsiders) and was aimed at establishing Munda Raj or Munda rule in this region.
- The revolt later came to be known as The Ulgulan or "the Great Tumult".
- Reason for Munda Revolt: In 1874, the British replaced the Khuntkari system of Munda tribals with the zamindari system. The introduction of the zamindari system created the classes of zamindars (landlords) and ryots (tenants).
- It also intensified the forced labour (veth bigari) in the forested tribal areas and made tribals depend on money lenders for money.
- Impact of the Munda Revolt: The movement compelled the British to take cognisance of the plight and exploitation of tribals and bring in the Chhota Nagpur Tenancy Act of 1908 for their protection.
- This Act restricted the transfer of tribal land to non-tribals giving Adivasis a huge relief and became a landmark legislation for the protection of tribal rights.

### Ans:3 Option D is Correct Explanation

- The Financial Action Task Force (on Money Laundering) (FATF), also known by its French name, Groupe d'action
- financière (GAFI), is an intergovernmental organization founded in 1989 on the initiative of the G7 to develop policies to combat
- money laundering. In 2001 the purpose expanded to act on terrorism financing. It monitors countries' progress in implementing the
- FATF Recommendations by 'peer reviews' ('mutual evaluations') of member countries.

  The FATF Secretariat is housed at the
- headquarters of the OECD in Paris. India is a member.

## Ans:4 Option B is correct Explanation Rwanda Migration Plan

- Under this deal, Rwanda will commit to taking in asylum seekers who arrive in the U.K. on or after January 1, 2022, using "illegally facilitated and unlawful cross border migration." Hence, Statement 1 is correct.
- Rwanda will function as the holding centre where asylum applicants will wait while the Rwandan government makes decisions about their asylum and resettlement petitions in Rwanda. Hence, Statement 2 is correct.
- Rwanda will, on its part, accommodate anyone who is not a minor and does not have a criminal record.
- A migrant in the U.K. will be given five days' notice to pursue an appeals process, failing which they will be given a one-way ticket to Rwanda and will become the responsibility of the Rwandan government. Hence, Statement 3 is incorrect.
- The duration of the deal is for five years. **Hence, Statement 4 is correct.**
- The deal is "uncapped", i.e., there is no upper limit to how many migrants will be sent to Rwanda. Hence, Statement 5 is correct.
- The U.K. will pay Rwanda £120 million as part of an "economic transformation and integration fund" and will also bear the operational costs for each migrant.







### Ans:5 Option A is Correct Explanation

- The Act proposes separate accommodation for women prisoners and transgender prisoners.
- It provides for video conferencing with the courts and scientific and technological interventions in prisons as part of reforming prison management. Hence Statement 1 and 2 are correct.
- Model Prisons Act has a provision for punishment of prisoners and jail staff for use of prohibited items like mobile phones etc. in jails.Hence Statement 3 is incorrect.

## Ans:6 Option A is Correct Explanation:

- When money spent on imports exceeds that spent on exports in a country, a trade deficit occurs. Trade deficit can decrease the local currency's value because when imports exceed exports, a country's currency demand in terms of international trade is lower. Lower demand for currency makes it less valuable in the international markets. Hence Statement 1 and 2 are correct.
- Trade deficits allow countries to consume more than they produce because trade deficit means importing more and exporting less which means increased consumption. Hence Statement 3 is incorrect.

## Ans:7 Option B is Correct Explanation

#### Sambhar Lake

- It is **India's largest saline wetland** located in Rajasthan.
- It is a ephemeral salt lake,
- It is also a designated Ramsar Site (recognized wetland of international importance).
- It represents the **depression of the Aravalli** Range.
- This inland lake receives water from five rivers, namely Samaod, Khari, Mantha, Khandela, Medtha, and Roopangarh.

## Ans:8 Option B is Correct Explanation

• The US has said that the IPEF is not a Free Trade Agreement (FTA) like the Regional Comprehensive Economic Partnership (RCEP) and Comprehensive and Progressive Trans-Pacific Partnership (CPTPP).

- It has not involved, nor has it promised to involve in the future, negotiations to remove tariffs or increase market access. Hence Statement 1 is incorrect.
- The Indo-Pacific Economic Framework (IPEF) was launched by United States (US) President Biden in Tokyo on May 23, 2022. The IPEF has four pillars: Trade; supply chains; clean energy, decarbonisation and infrastructure; tax and anticorruption. Hence Statement 2 is Correct

#### **Ans:9 Option B is correct**

#### **Explanation**

#### Federal Features of the Indian Union

- Governments at two levels centre and states
- Division of powers between the centre and states – there are three lists given in the Seventh Schedule of the Constitution which gives the subjects each level has jurisdiction in:
  - Union List
  - State List
  - o Concurrent List. Hence Statement 1 is correct.
- Supremacy of the constitution the basic structure of the constitution is indestructible as laid out by the judiciary. The constitution is the supreme law in India.

#### Hence, Statement 3 is correct.

- Independent judiciary The courts in India are subjected to the Constitution of India not any other organ of the Government of India. **Hence, Statement 5 is correct.**
- All India Services and Emergency Powers defined in the Constitution of India are the Unitary Features not the Federal Features of the Indian Union . Hence, Statements 2 and 4 are incorrect.

## **Ans:10 Option D is Correct Explanation**

- The death penalty is a way to seek revenge on behalf of the victims of crime.
- While some people believe that the death penalty is a just punishment for certain crimes, most supporters of the death penalty argue that it is necessary to deter crime and protect society from dangerous criminals. Revenge is not a legitimate reason for punishment, and the death penalty is not an effective way to deter crime.













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