
Prelims Exam Topics

REASON FOR IRAN'S RESILIENCE IN THE FACE OF USA ISRAEL WAR

Context

- The ongoing confrontation between the **United States** and **Iran** has demonstrated Iran as a “**fortress state**”—a political system built with multiple layers of institutional, military and social protection.

Concept of the Fortress State

The idea resembles the theory of Italian political thinker **Antonio Gramsci**, who compared a modern state to a system of fortifications. In this model, the coercive power of the state (military or police) is only the **outer defensive ditch**, while civil society and social legitimacy form deeper defensive layers that make the system resilient during crises.

Features of Iran's Fortress State

Iran has developed this model to an extreme—creating **interlocking institutions, parallel security forces and social support networks** that collectively protect the political system.

- **Interlocking Political Institutions:** Iran's political system is designed with overlapping institutions that prevent concentration of power in a single office.
 - The **Supreme Leader of Iran** (Rehbar) exercises overarching authority.
 - The **President of Iran** manages day-to-day governance.
- **Dual Security Architecture:** Iran maintains parallel security institutions for both external defence and internal stability.
 - **The regular military under Artesh** handles traditional defence.
 - **Revolutionary military: Islamic Revolutionary Guard Corps (IRGC)** protects the Islamic revolution and oversees strategic operations. Within the IRGC:
 - **Quds Force** manages regional alliances and proxy networks.
 - **Basij** mobilises civilians and suppresses internal unrest.
- **Decentralised Command Structure:** Iran's security forces use decentralised command systems. If senior commanders are assassinated, mid-level officers retain operational autonomy and continue missions.
 - E.g. regional networks remained functional after the killing of **Qasem Soleimani** in 2020.
- **Ideological Legitimacy:** The political ideology of the Islamic Republic blends religious authority with narratives of social justice operations
- **Fragmented Opposition:** Opposition groups often remain divided or leaderless, ranging from diaspora organisations lacking domestic legitimacy
- **Parallel Welfare Networks:** Extensive welfare distribution through revolutionary foundations (bonyads) and social committees strengthens regime legitimacy.

S-400 DELIVERIES TO INDIA

Context

- India is set to receive the **remaining two squadrons** of the **S-400 Triumph** from **Russia** in **2026**, accelerating the strengthening of India's national air defence network.

About the Deal

- India signed a **\$5.43 billion agreement in 2018** with **Almaz-Antey** for **five S-400 squadrons**.
- **Delivery status:**
 - **3 squadrons already inducted** into service.
 - **4th squadron expected in April 2026.**
 - **Final squadron expected by November 2026.**
- **Delay reasons:** Earlier delivery delays were caused by **supply-chain disruptions and the Russia-Ukraine conflict.**

About S400

- **Long-range interception:** Engages aerial threats up to **400 km range** and **30 km altitude.**
- **Layered missile defence:** Uses four missile types with ranges **40, 120, 250 and 400 km.**
- **High target tracking:** Phased-array radar detects targets up to **600 km** and tracks about **300 targets.**
- **Hypersonic interception:** Missiles travel at around **Mach 14** to intercept fast aircraft and missiles.
- **Mobile system:** Mounted on **transporter-erector-launchers (TELs)** for rapid deployment and relocation.



System Components

- **Surveillance radar:** Detects incoming aerial threats at long distances.
- **Engagement radar:** Tracks targets and guides interceptor missiles.
- **Command and control centre:** Coordinates radar data, target prioritisation and missile launches.
- **Missile launchers:** Mobile launch vehicles carrying interceptor missiles.

S-400 in Indian Service

- **Indian designation:** The system is called "**Sudarshan Chakra**" in India, inspired by the mythological weapon of Sudarshan Chakra.
- **Additional Procurement:** The Defence Acquisition Council granted Acceptance of Necessity (AoN) for procurement of 288 additional S-400 missiles worth about ₹10,000 crore.

India's Air Defence System

India maintains an integrated system of **missiles, radars, aircraft and command-control networks** to detect and neutralise aircraft, drones, cruise missiles and ballistic missiles.

Layer / Component	System / Example	Key Features
Ballistic Missile Defence (BMD)	PAD – Prithvi Air Defence, AAD – Advanced Air Defence	Two-tier interceptor system; PAD intercepts at ~80 km (exo-atmosphere) and AAD at ~30 km (endo-atmosphere); counters ballistic missiles up to ~2000 km range.
Long-range Air Defence	S-400 Triumph	Intercepts aircraft, UAVs, cruise and ballistic missiles up to 400 km .
Medium-range Defence	Barak-8	Co-developed by India and Israel; provides area air defence (70–100 km) against aircraft, UAVs and cruise missiles
Short-range Defence	Akash missile system	Indigenous mobile SAM system with 30–35 km range ; protects military bases and strategic installations. Akash-NG version extends range to ~70 km.
Quick-reaction Defence	SPYDER air defence system	Rapid-reaction system capable of intercepting aircraft, UAVs and precision-guided weapons at 15–35 km .
Very Short-range Defence	Igla-S, Shilka, Tunguska	Protects troops and armoured units from low-flying aircraft, helicopters and drones within 10 km .

NMC ADVISORY ON STEM CELL THERAPY FOR AUTISM

Context

- The **National Medical Commission (NMC)** has directed medical practitioners and clinics **not to use stem cell therapy for treating autism**

Autism Spectrum Disorder (ASD)

- **Definition:** Autism Spectrum Disorder characterised by **deficits in social communication and restricted/repetitive behaviours**.
- **Onset:** Symptoms typically appear **before 3 years of age** and persist throughout life.
- **Prevalence:** **~1 in 100 children globally** (WHO); significantly increasing diagnosis rates worldwide.
- **Etiology:** Strong **genetic basis** with contributions from early brain development and environmental factors; not caused by vaccines.
- **Key features:** Impaired social interaction, delayed language development, repetitive movements, restricted interests and sensory sensitivities.
- **Diagnosis:** Based on **behavioural and developmental assessments**, not laboratory tests.
- **Management:** No cure, but **early intervention** (e.g., speech therapy, behavioral therapy) can greatly improve outcomes.
 - Support in education, social skills training, and sometimes medications for associated symptoms (like anxiety or hyperactivity).

- **Stem cell therapy (India):** Not approved for routine treatment; classified as **investigational under the National Guidelines for Stem Cell Research.**
- **Global Awareness:** April 2 is observed as **World Autism Awareness Day.**

Reasons for NMC Advisory:

- **Supreme Court direction:** The advisory follows a judgment in the case involving *Yash Charitable Trust vs Union of India*, where the court highlighted the **lack of scientific evidence supporting stem cell therapy for autism.**
- **ICMR recommendation:** Following the ruling, the Indian Council of Medical Research wrote to the NMC asking it to circulate an advisory to ensure compliance with the judgment and national stem-cell guidelines
- **Protection of patients:** The National Medical Commission issued the advisory to prevent **unsafe, costly and unproven treatments** being offered to vulnerable families.

Regulatory framework of Stem Cell Use

Stem cell use in India is governed by the **National Guidelines for Stem Cell Research (NGSCR)** issued by the Indian Council of Medical Research and the Department of Biotechnology.. It broadly classified stem cell use in humans into **two categories:**

- **Approved clinical use (32 diseases)(given in Annexure of NGSCR):** Routine clinical use of stem cell therapy is permitted for about **32 approved indications**, mainly blood cancers and severe blood disorders treated through **hematopoietic stem cell transplantation (HSCT)** (e.g., leukemia, thalassemia, aplastic anaemia, multiple myeloma).
- **Other diseases (research only):** For conditions outside this list—including Autism Spectrum Disorder—stem cell therapy **cannot be used as routine treatment** and is allowed only within regulated clinical research.

Regulatory Framework for Stem Cell Research

- **Institutional oversight:** Research must be approved by the **Institutional Committee for Stem Cell Research (IC-SCR)** and the **Institutional Ethics Committee (IEC).**
 - Both committees must be registered with national regulatory authorities.
- **Regulatory approval:** Depending on the type of stem cell trials :
 - **Central Drugs Standard Control Organisation** regulates clinical trials involving extensively manipulated stem cells.
 - **Department of Health Research (DHR)** oversees minimally manipulated stem cell therapies.

Research infrastructure and qualifications

- Clinical trials must be conducted only at **Good Manufacturing Practice (GMP) and Good Laboratory Practice (GLP) certified facilities**, and led by **qualified medical professionals registered with the National Medical Commission (earlier Medical Council of India).**

LIVING WILL

Context

The Supreme Court's ruling in the Harish Rana case, allowing withdrawal of life support for a patient in a long-term vegetative state, has revived debate on end-of-life rights. It builds on *Common Cause vs. Union of India* (2018) and has renewed focus on living wills or advanced medical directives.

About living will

A Living Will enables a person to outline the type of medical treatment they wish to receive—or refuse—if they become incapable of expressing their consent in the future. It ensures that their healthcare choices are respected even when they cannot actively participate in decision-making.

Legal Status in India

- Until 2018, Living Wills did not have legal recognition in India. This changed with the landmark judgment in **Common Cause vs. Union of India (2018)**, where the Supreme Court acknowledged the validity of advance medical directives.
- The Court permitted terminally ill patients and individuals in a persistent vegetative state to refuse medical treatment through such directives. It also legally recognised passive euthanasia and established detailed guidelines for the execution and implementation of Living Wills.

Who can create a living will?

An Advance Medical Directive can be made by:

- Any adult who is mentally sound and capable of understanding the implications of the document
- A person who can clearly communicate and comprehend the consequences
- It must be created voluntarily, without coercion

Key components of a living will

A valid Living Will should include:

- A written statement specifying when medical treatment may be withheld or withdrawn
- Clear instructions regarding treatments that may prolong life
- Unambiguous and precise directions
- A provision allowing the individual to revoke or modify the directive
- Details of a trusted person (guardian or relative) authorised to make decisions if the individual becomes incapacitated

Procedure for recording a living will

- The document must be signed by the individual in the presence of two independent witnesses
- It should be countersigned by a Judicial Magistrate First Class (JMFC)
- The JMFC is responsible for distributing copies to relevant authorities and informing the individual's family members

When and how is it implemented?

A Living Will comes into effect when the person is terminally ill with no reasonable chance of recovery. The process involves multiple safeguards:

- The treating doctor verifies the authenticity of the directive through the JMFC
- The patient (if possible) or their representative is informed about the medical condition and consequences
- The hospital forms a Medical Board to assess the situation

- If approved, the district administration constitutes another Medical Board for confirmation
- Upon agreement, the decision is communicated to the JMFC
- The JMFC reviews the case and grants final approval for implementation

PATERNITY LEAVE IN INDIA

Context

In a ruling on maternity leave for adoptive and surrogate mothers last week (Hamsaanandini Nanduri vs Union of India), the Supreme Court called on the Union government to examine the need for a formal law recognising paternity leaves for all fathers, adoptive or biological.

Key highlights of the judgment

- **Removal of Age-Based Restriction:** The Court read down Section 60(4) of the Code on Social Security, 2020.
 - It ruled that adoptive mothers are entitled to 12 weeks of maternity leave regardless of whether the child is younger or older than three months.
 - The earlier age-based limitation was held to violate Articles 14 (equality) and 21 (life and personal liberty)
- **Recognition of Motherhood Beyond Biology:** The judgment emphasised that maternity benefits arise from the role of caregiving, not merely childbirth.
 - Adoptive mothers were recognised as having responsibilities equivalent to biological mothers.
 - Adoption was acknowledged as an aspect of reproductive choice and personal autonomy under Article 21.
- **Maternity Leave as a Basic Right:** The Court described maternity protection as a fundamental human entitlement.
 - It highlighted its role in ensuring financial security, workplace inclusion, and enabling women to make reproductive choices without fear of losing employment.
- **Need for Paternity Leave:** The Court underlined the importance of both parents in early childcare.
 - It noted that the absence of paternity leave reinforces gender stereotypes and limits shared caregiving.
 - The government was urged to introduce paternity leave within the social security system.

About paternity leave

Paternity leave refers to a designated period, i.e. either paid or unpaid—granted to fathers after the birth or adoption of a child. It allows them to actively engage in early childcare and support the mother during the postnatal period.

Status in India:

While India does not have a comprehensive legal framework for paternity leave, the idea is not entirely absent.

- The Central Civil Services (Leave) Rules grant 15 days of paternity leave to male government employees.
- The proposed Paternity and Parental Benefit Bill, 2025 (a Private Member's Bill) suggests extending this to 8 weeks.

Need for paternity leave

- **Shared Parenthood:** Childcare is a joint responsibility; excluding fathers from early caregiving undermines this principle.
- **Hidden Inequality:** Caregiving has traditionally been viewed as a mother's duty, marginalising the father's role and normalising this imbalance.
- **Child Development:** Active involvement of both parents ensures better emotional support and overall well-being of the child.

Key Issues and challenges

- **Discriminatory Framework:** Unequal treatment persists between biological and adoptive mothers, and even among adoptive mothers based on the child's age.
- **Barriers in Adoption:** Lengthy procedures and legal formalities reduce the likelihood of early adoption.
 - Delays in declaring children legally free for adoption further complicate the process.
- **Absence of Paternity Leave:** Lack of a statutory policy perpetuates unequal caregiving roles and gender imbalance.
- **Impact on Women's Employment:** Increased maternity benefits have sometimes led to employer bias, affecting women's workforce participation.
- **Implementation Gaps:** Weak enforcement, especially in the unorganised sector.
 - Limited availability of crèche facilities and flexible work arrangements.

Way forward

- **Gender-Neutral Parental Leave:** Introduce statutory paternity leave and move towards a shared parental leave system.
- **Legal Harmonisation:** Align provisions of the Maternity Benefit Act, Code on Social Security, and Juvenile Justice Act to remove inconsistencies.
- **Strengthening Adoption Processes:** Simplify procedures and reduce delays in declaring children eligible for adoption.
- **Supporting Employers:** Provide fiscal incentives or subsidies to offset maternity-related costs and encourage inclusive workplace policies.
- **Focus on Informal Sector:** Expand social security coverage and ensure accessibility and portability of benefits for workers outside the formal sector.