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Daily News Analysis

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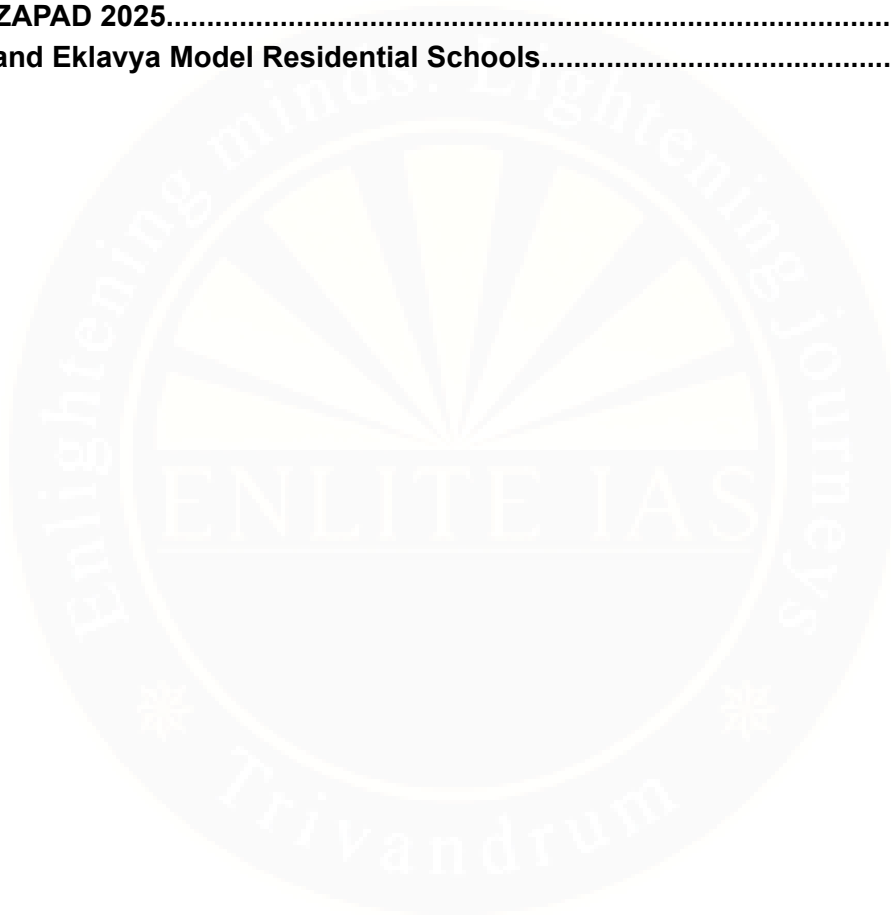
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1. Adi Sanskriti Platform

- Prelims - Adi Sanskriti
- Mains - GS 2 - Governance

Why in the news?

- The Ministry of Tribal Affairs launched the beta version of Adi Sanskriti platform.

Adi Sanskriti Platform

- **What is it?:** It is a digital platform launched by the Ministry of Tribal Affairs, Government of India.
- **Aim:** Aimed at preserving, promoting, and disseminating India's tribal culture, traditional knowledge, and art forms.
- **Objective:** Adi Sanskriti is being envisioned as the **world's first Digital University** aimed at preserving tribal culture and knowledge while simultaneously providing a global marketplace for tribal artisans.
- **Components:** Adi Sanskriti comprises three integrated components-
 - **Adi Vishwavidyalaya (Digital Tribal Art Academy)**
 - ★ Offers around **45 online courses** focused on tribal dance, crafts, music, and folklore.
 - ★ Aims to document, teach, and share tribal art forms and cultural traditions.
 - **Adi Sampada (Socio-Cultural Repository)**
 - ★ A **digital archive** with more than 5,000 curated documents.
 - ★ Encompasses themes like paintings, textiles, artifacts, livelihoods, oral histories, music, dance, and crafts.
 - **Adi Haat (Digital Marketplace)**
 - ★ An online marketplace linked with **TRIFED** (Tribal Cooperative Marketing Development Federation of India).
 - ★ Enables tribal artisans to directly sell products, boosting visibility and livelihoods.
- **Key Features:**
 - Developed in partnership with **Tribal Research Institutes** across **15 states**, including Kerala, Assam, Odisha, Rajasthan, Tamil Nadu, and others.



- The platform is envisioned to evolve into a full-fledged **Tribal Digital University**, offering **certifications, advanced learning programs, and research pathways**.
- Builds upon earlier tribal initiatives like **Adi Vaani**- an AI-based translator for tribal languages.



2. Yemen

- **Prelims** - Location of Yemen
- **Mains** - GS 1 - Geography

Yemen



Why in the news?

- Israel launched deadly strike on Yemen's Houthis.

Yemen

- **Location:** Yemen is a West Asian country and it is located in the southern end of the Arabian Peninsula.
- **Capital:** Sana
- **Bordering Countries:** Saudi Arabia, Oman.
- **Maritime Borders:** Eritrea, Djibouti and Somalia.
- **Important Waterbodies:**
 - Coastline along Red Sea, Gulf of Aden and Arabian Sea.
 - Controls Bab-el-Mandeb Strait.
- **Groupings:** Yemen is a member of the Arab League, the United Nations, the Non-Aligned Movement and the Organisation of Islamic Cooperation.



Houthis

Houthis are a large clan belonging to the Zaidi Shia sect.
Zaidis make up around 35% of Yemen's population.



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3. Poland

- Prelims - Location of Poland
- Mains - GS 1 - Geography

Poland



Why in the news?

- Poland shot down Russian drones entered its airspace since the start of Ukraine - Russia conflict and Poland invokes Article 4 of NATO.

Poland

- **Location:** Country in **central Europe**.
- **Capital:** Warsaw
- **Border countries:** Lithuania, Russia, Belarus, Ukraine, Slovakia, Czech Republic and Germany
- **Maritime Border:** Adjoins **Baltic Sea**.
- **Climate:** Transitional Temperate Climate.



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4. Vaccine Technology

- Prelims - Vaccine Technology
- Mains - GS 3 - Science and Technology

Why in the news?

- Russia developed a new mRNA vaccine named Enteromix to treat cancer, which showed 100% efficacy in clinical trials.

Vaccines

- **Definition:** A biological preparation that stimulates the immune system to develop adaptive immunity against a pathogen (virus, bacteria, toxin).

- **Types of Vaccines:**

- **Conventional Vaccines:**

- ★ **Live Attenuated:** Weakened form of pathogen (e.g., MMR, BCG).
 - ★ **Inactivated (Killed):** Chemically/heat-inactivated pathogen (e.g., Polio – IPV).
 - ★ **Toxoid:** Inactivated toxins (e.g., Tetanus, Diphtheria).
 - ★ **Subunit/Protein-based:** Selected antigens (e.g., Hepatitis B).

- **Modern Vaccines:**

- ★ **Conjugate Vaccines:** Combine weak antigen with strong carrier protein (e.g., Hib).
 - ★ **Recombinant Vector Vaccines:** Harmless virus/bacteria as delivery system (e.g., Sputnik V).
 - ★ **DNA Vaccines:** Encode antigen via plasmid DNA (e.g., ZyCoV-D).
 - ★ **mRNA Vaccines:** Encode antigenic proteins via messenger RNA (e.g., Pfizer, Moderna for COVID-19).
 - ★ **Peptide Vaccines:** Short antigenic peptides.

- **Significance:**

- Prevents infectious diseases, reduces mortality & morbidity.
 - Economic benefits: reduces healthcare costs, improves productivity.
 - Critical for **public health security** and **pandemic preparedness**.
 - Aids in achieving **SDG-3 (Good Health & Well-being)**.



- **Challenges:**

- Vaccine hesitancy & misinformation.
- Cold-chain logistics in rural/remote India.
- Rapid mutation of viruses (e.g., influenza, SARS-CoV-2).
- Equitable access & affordability (TRIPS waiver debate, COVAX).
- Manufacturing scalability & quality assurance.

mRNA Vaccine Technology

- **What is it?:**

- **mRNA vaccines** use a **synthetic messenger RNA sequence** that codes for a disease-specific antigen like spike protein in the case of SARS CoV-2.
- Once inside the body, host cells use the mRNA to produce the antigen, which then triggers an **immune response**.
- Unlike traditional vaccines, they **do not use live pathogens** or protein subunits.

- **How it Works:**

- **Design:** mRNA sequence is created in the lab using the pathogen's genetic code.
- **Delivery:** Encapsulated in lipid nanoparticles (LNPs) to protect from degradation.
- **Translation:** Host ribosomes read the mRNA and synthesize antigenic proteins.
- **Immune Response:** Antigen presented initiates the action of B-cells (antibody production) and T-cells (cellular immunity).
- **Degradation:** mRNA naturally breaks down, leaving no trace in the body.

- **Global Examples:**

- **Pfizer-BioNTech (BNT162b2):** First approved mRNA COVID-19 vaccine (Dec 2020).
- **Moderna (mRNA-1273):** COVID-19 vaccine with similar technology.
- **CureVac, Sanofi:** Developing next-gen mRNA vaccines.

- **India in mRNA Vaccine Research:**

- **Gennova Biopharmaceuticals (Pune):** Developed **HGCO19**, India's first indigenous mRNA vaccine (in collaboration with DBT).



- Ongoing research on **multivalent mRNA vaccines** (for flu, COVID variants).
- Government push under **Atmanirbhar Bharat & Biotechnology Innovation Mission**.
- **Advantages:**
 - **Rapid Development:** Can be designed in weeks once the pathogen genome is known.
 - **Flexibility:** Easily adaptable for new variants (e.g., COVID-19 mutations).
 - **No Risk of Infection:** As no live pathogen is used.
 - **Strong Immune Response:** Induces both humoral and cellular immunity.
 - **Scalability:** Lab-based production, faster than egg/cell culture methods.
- **Challenges:**
 - **High Cost:** Advanced tech & storage increase vaccine price.
 - **Vaccine Hesitancy:** Misinformation about genetic alteration.
 - **Stability Issues:** mRNA is fragile, prone to degradation.
 - **Cold Chain Dependency:** Require ultra-low temperatures (-70°C for Pfizer initially).
 - **Equity Concerns:** Limited availability in developing countries.



5. Innovations for Defence Excellence (iDEX)

- **Prelims** - Innovations for Defence Excellence(iDEX)
- **Mains** - GS 3 - Science and Technology

Why in the news?

- The iDEXe - Defence Innovation Organisation has inked an MoU with EdCIL (India) Limited to foster the development of dual-use cutting-edge technologies , driven by the new ASPIRE (Accelerating Strategic Progress in Research and Education) program.

Innovations for Defence Excellence (iDEX)

- **Launch:** 2018
- **Nodal Ministry:** Ministry of Defence
- **Purpose:** To engage startups, MSMEs, individual innovators, academia, and R&D institutions, encouraging them to develop high-technology solutions tailor-made for India's defence & aerospace needs.
- **Objectives:**
 - Foster co-innovation between armed forces, startups, and academia.
 - Accelerate Atmanirbhar Bharat in defence production.
 - Reduce dependency on imports through rapid indigenization.
- **Funding:** iDEX is funded and managed by "Defence Innovation Organisation (DIO)".
- **Components:**
 - Defence India Startup Challenge (DISC) – Problem statements from armed forces, solved by startups/MSMEs.
 - Open Challenges – Innovators can pitch solutions beyond predefined areas.
 - SPARK Grants – Funding for R&D and prototype building.
 - Integration with DAP 2020 – Successful solutions get fast-tracked for procurement.
- **Significance:**
 - Strengthens defence ecosystem through innovation.
 - Promotes Make in India & Atmanirbhar Bharat.
 - Builds synergy between industry, academia, and armed forces.
 - Encourages dual-use technologies (civil & military).



6. Exercise ZAPAD 2025

- Prelims - Exercise ZAPAD 2025
- Mains - GS 2 - International Relations

Why in the news?

- An Indian Armed Forces contingent departed to Russia, to participate in the military exercise ZAPAD 2025, scheduled to be conducted from 10 to 16 September 2025.

Exercise ZAPAD 2025

- **What is it?:** The Zapad exercise is a multilateral exercise series, which began during the Soviet era, has been conducted by Russia since 2009.
- **Host:** Russia
- **Participants:**
 - 7 Countries including India are directly participating in the exercise- India, Bangladesh, Burkina Faso, Congo, Iran, Niger and Tajikistan.
 - 13 countries are participating as Observers.
- **Objectives:**
 - The main focus is to enhance military cooperation, improve interoperability.
 - To provide a platform for participating nations to exchange tactics and techniques in conventional warfare and counter-terrorism operations.
 - The exercise will focus on joint company-level operations in open and plain terrains.
 - To integrate emerging technologies and improve joint operational capabilities in a multinational combat environment.
- **Significance:**
 - Strengthens **India–Russia defence cooperation**.
 - Reinforces **mutual trust and camaraderie** among participating forces.
 - Provides valuable exposure to **multinational operational frameworks**.
 - Enhances India's preparedness for **joint global security operations**.



7. NSTDFC and Eklavya Model Residential Schools

- **Prelims** - National Scheduled Tribe Finance and Development Corporation and Eklavya Model Residential Schools
- **Mains** - GS 2 - International Relations

Why in the news?

- An MoU was signed between NSTDFC and Coal India to empower 30000 tribal students with Digital Learning, Mentorship & Better Infrastructure in Eklavya Model Residential Schools.

National Scheduled Tribe Finance and Development Corporation(NSTDFC)

- **What is it?:** A fully owned Government of India enterprise which Provides concessional financial assistance for **economic development of Scheduled Tribes (STs)**.
- **Establishment:** Established in 2001
- **Nodal Ministry:** Ministry of Tribal Affairs
- **Objectives:**
 - Promote **self-employment** and entrepreneurial ventures among Scheduled Tribes.
 - Provide financial assistance at **concessional rates** for income-generating activities.
 - Upgrade the **skills** of tribal youth through training and capacity-building programmes.
 - Support socio-economic upliftment in line with **Tribal Sub-Plan (TSP)** strategy.
- **Functions:**
 - Functions as a **Non-Banking Financial Company (NBFC)** under the **Companies Act, 1956**.
 - Extend concessional loans to **eligible Scheduled Tribe individuals/SHGs/Cooperatives**.
 - Implement special schemes in **priority sectors** such as agriculture, minor forest produce, small industries, transport, and services.
 - Undertake **training and skill-development programmes**.
 - Provide **marketing support** for tribal products and services.

● Challenges:

- Low **awareness** among tribal communities and Limited reach in **remote tribal areas**.
- Delays in fund disbursement via SCAs.
- Issues of loan recovery and sustainability.

● Way Forward:

- Expanding outreach through NGOs, **cooperatives**, and **tribal federations**.
- Strengthening **digital platforms** for loan processing and monitoring.
- Greater integration with **Skill India** and **Digital India** initiatives.

Eklavya Model Residential Schools



Why in news?

- An MoU was signed between NSTDFC and Coal India to empower 30000 tribal students with Digital Learning, Mentorship & Better Infrastructure in Eklavya Model Residential Schools.

Eklavya Model Residential Schools

- **What is it?:** EMRS is a scheme for making model residential schools for Scheduled Tribes across India.
- **Ministry:** Ministry Tribal Affairs
- **Aim:** To give impetus to quality education in nearby tribal areas.
- **Features**
 - It aim not only academic education but all-round development of tribal students.
 - The EMR School follows the CBSE curriculum.
 - At present, there are 384 functional schools spanned across the country established at par with Navodaya Vidyalaya



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