DAILY CURRENT AFFAIRS 19-11-2025

GS-2

1. **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**

GS-3

2. **Adam Chini Rice**
3. **Ammonium Nitrate**
4. **Sentinel-6B Satellite**
5. **Lycodon irwini**

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Syllabus: GS-2: Government policies and Interventions

Context

- Recently, significant irregularities were uncovered in the implementation of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), prompting the Skill Ministry to blacklist 178 training partners.

1. Introduction

- **Launched:** 2015
- **Nodal Agency:** National Skill Development Corporation (NSDC)
- **Aim:** To provide industry-relevant **skill training** to youth and enhance employability.
- **Target Groups:** School/college dropouts, unemployed youth, and individuals seeking skill certification.

2. Objectives

- Encourage youth to undergo **industry-linked skill training**.
- Provide **skill certification** through Recognition of Prior Learning (RPL).
- Enable **better livelihood opportunities** through structured training and placement support.
- Train **~20 million youth** (overall multi-phase target).
- Focus on youth aged **15–29 years** (general eligibility 14–35 years).

3. Key Features

- **Short-Term Training (STT):** Quick, modular courses across sectors.
- **Recognition of Prior Learning (RPL):** Certification without retraining for pre-existing skills.
- **Placement Assistance:** Linkages with industry and Rozgar Melas.
- **Industry-aligned curriculum:** In partnership with Sector Skill Councils (SSCs).
- **Monitored Implementation:** Training centres registered via SMART portal.
- **Focus on inclusivity:** Dropouts, unemployed youth, and diverse educational backgrounds.

4. Phases of PMKVY

PMKVY 1.0 (2015)

- Initial launch aimed at training **50 lakh (5 million)** youth.
- Introduced monetary rewards for skill certification.

PMKVY 2.0 (2016–2020)

- Expanded under *Make in India, Digital India, Swachh Bharat*.
- Target: **1 crore (10 million)** youth.
- Included **school dropouts**, **greenfield projects**, **internship improvements**, and **trainer training**.

PMKVY 3.0 (2021–2022)

- Target: **1.5–2 crore (15–20 million)** youth.
- Focus on **new-age skills**: AI, robotics, 3D printing, Business Intelligence, etc.
- Launched **Kaushal Daksh Portal** for skilled worker database.
- Emphasis on **innovation, research, and strengthened Kaushal Kendras**.

5. Benefits

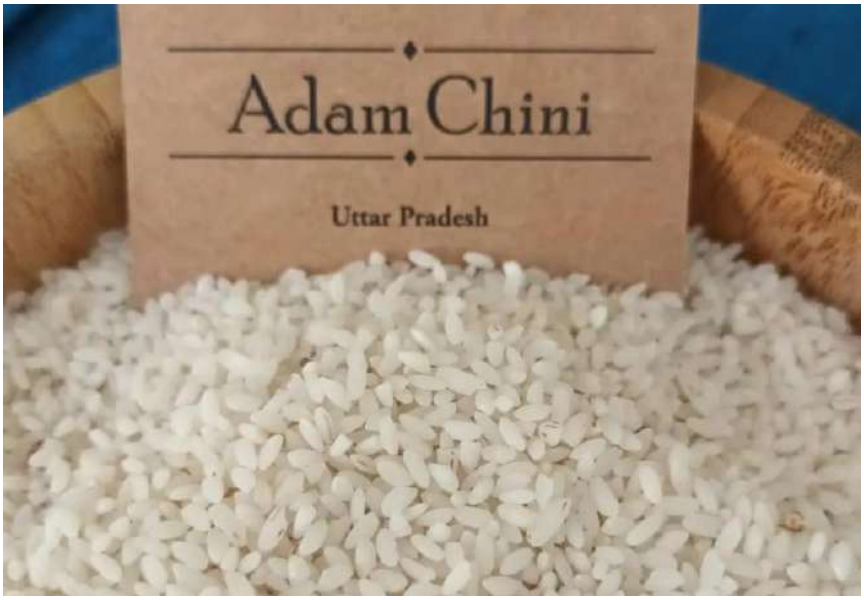
- Combines **theoretical + practical** skill training.
- Provides **nationally recognized certification**.
- Enhances employability through **Rozgar Melas and placement support**.
- Training is **monitored and quality-assured** through NSDC and SSCs.
- Offers opportunities for **upskilling, reskilling, and formal recognition** of existing skills.

Adam Chini Rice

Syllabus: GS-3; Agriculture

Context

- Agricultural scientists at **Banaras Hindu University (BHU)** have successfully developed improved variants of the **Adam Chini Rice** variety using **mutagenesis**, enhancing its resilience, maturity period, and yield.



About Adam Chini Rice

- Aromatic **black rice** variety known for its pleasant fragrance and excellent cooking quality.
- Primarily grown in **Eastern Uttar Pradesh** – *Chandauli, Varanasi, and Vindhya region*.
- Received **GI Tag in 2023**.

Key Characteristics

- Grains resemble **sugar crystals**; known for drought tolerance and disease resistance.
- Plant height: **up to 165 cm**.
- Grain type: **short-bold**, scented; intermediate alkali digestion value.
- **Long maturity period:** ~155 days.
- **Low yields:** 20–23 quintals/ha.
- **Intermediate amylose content** → rice remains soft and fluffy after cooling.
- Highly valued for **flavor and aroma**.

Improved Features (Mutant Lines Developed by BHU)

- Researchers used **mutagenesis** to develop improved lines without altering the signature aroma:

Mutant-14

- Reduced height: **105 cm** → better lodging resistance.
- Higher yield: **30–35 q/ha**.

Mutant-19

- **Early maturity:** 120 days → faster cropping cycle.
- Higher yield: **30–35 q/ha**.

Mutants 14, 15, 19 & 20

- All show **higher productivity (30–35 quintals/ha)**.

Ammonium Nitrate

Syllabus: GS-3; Science & Technology

Context

- Ammonium nitrate, one of the substances involved in the recent **Delhi explosion**, has a history of misuse in India.

About Ammonium Nitrate

- **Chemical Formula:** NH_4NO_3
- **Appearance:** Crystal-like white solid, produced on a large industrial scale.
- **Composition:** Salt of **ammonia** and **nitric acid**.

- **Primary Uses:**
  - Widely used in **agriculture** as a high-nitrogen fertilizer.
  - Functions as a powerful **oxidizing agent** in industrial explosives.
- **Melting Point: 170°C**
- **Solubility:** Highly soluble in water; heating its aqueous solution releases **nitrous oxide (laughing gas)**.
- **Industrial Importance:**
  - Essential ingredient in **commercial explosives**.
  - Key component of **slurry explosives** commonly used in mining operations.

What Makes Ammonium Nitrate Explosive?

- **Not explosive on its own.**
- Becomes explosive only when mixed with **fuel-based substances** (e.g., diesel).
- Requires **initiators like detonators** to trigger an explosion.
- Acts as an **oxidizer**, increasing the intensity of combustion in explosive mixtures.

Legal Controls on Ammonium Nitrate in India

- **Regulated under the Ammonium Nitrate Rules, 2012 (amended 2021).**
- Any mixture containing **more than 45% ammonium nitrate** is legally classified as an **explosive**.
- **Storage Limits:**
  - **Up to 30 metric tonnes**: Allowed with permission from the **District Magistrate**.
  - **More than 30 metric tonnes**: Requires approval from the **Petroleum and Explosives Safety Organisation (PESO)**.
- **Licensing by PESO:**
  - Mandatory for **manufacture, storage, transport, and use** of large quantities of ammonium nitrate.

Sentinel-6B Satellite

Syllabus: GS-3; Space Technology

Context

- The **Sentinel-6B** satellite was recently launched from the **Vandenberg Space Force Base in California**.

About Sentinel-6B Satellite

- **Joint Mission:** Collaboration between **NASA**, **NOAA**, and the **European Space Agency (ESA)**.
- **Objective:** Designed to **track global sea levels**, monitor ocean topography, and study the impacts of **climate change**.
- **Legacy:** Continues the work of **Sentinel-6 Michael Freilich**, launched in **November 2020**.
- **Orbit & Speed:**
  - Orbits Earth in a **non–Sun-synchronous orbit**.
  - Travels at **7.2 km per second**.
  - Completes **one revolution every 112 minutes**.
- **Measurement Capability:** Provides **high-precision sea level data**, accurate to **about an inch**, covering **90% of the global oceans**.

Components of Sentinel-6B

- Equipped with **six onboard science instruments**.
- Includes:
  - **Two fixed solar arrays**
  - **Two deployable solar panels**

- Expected **mission life: 5.5 years**.

Significance of Sentinel-6B

- Enhances **ocean monitoring**, enabling better understanding of **sea level rise**.
- Improves **weather forecasting** and **flood prediction accuracy**.
- Supports:
  - **Public safety**
  - **Coastal protection**
  - **Commercial industries** dependent on ocean data
- A crucial tool for **climate science** and **global environmental monitoring**.

Lycodon irwini

Syllabus: GS-3; New Species Discovery

Context

- Researchers have recently confirmed the discovery of a new species of wolf snake, **Lycodon irwini**, found on **Great Nicobar Island**.

About Lycodon irwini

- **Newly discovered species** of snake belonging to the *Lycodon subcinctus* group.
- Found on the **remote Great Nicobar Island**, at the southernmost part of the Nicobar Islands.
- Named in honour of **Stephen Robert Irwin**, the late Australian conservationist and TV personality.
- It is a **glossy, uniform black wolf snake**, which led to misidentification for years because it closely resembles other widespread species.
- The latest research confirms that the **Great Nicobar population is a distinct, endemic species** known only from this island.
- **Key morphological features:**
    - Uniform glossy-black colour (unlike relatives with white bands or patches)
    - Slender and **nocturnal**
    - Can grow up to **1.2 metres**
    - Exhibits **higher belly and tail scale counts** compared to similar species