# 7. Short News

## 1. Discovery of Life Origin Organic Molecules

Recently, astronomers detected multiple complex early life origin organic molecules around a young star ST6 in the Large Magellanic Cloud, 160,000 light-years away using the James Webb Space Telescope.

### Key Highlights of the Discovery

**Discovery Site -** Protostar ST6 in the Large Magellanic Cloud (LMC), a metal-poor dwarf galaxy near the Milky Way.

**Detected Molecules -** Methanol, acetaldehyde, ethanol, methyl formate, and acetic acid. This is the first confirmed detection of acetic acid in space.

**Method Used -** Infrared spectroscopy by JWST in March 2024.

**Chemical Significance -** Indicates the presence of carbon-rich compounds crucial for prebiotic chemistry.

**Ongoing Investigation -** Tentative signs of glycolaldehyde, a precursor to ribose (RNA backbone), pending confirmation.

### Significance

**Life's Origins -** Provides insight into how life's building blocks may form even in primitive, low-metal environments.

**Cosmic Chemistry -** Shows dust grains can drive complex organic reactions in early galaxies.

**Astronomical Advancement -** Marks a leap in understanding molecular formation beyond the Milky Way.

**Future Research Path -** Encourages exploration of similar protostars across the Milky Way and distant galaxies to trace the chemistry of life's origins.

## 2. International Aryan Summit 2025

Prime Minister Narendra Modi will attend the International Aryan Summit 2025 in New Delhi, marking 200 years of Maharshi Dayanand Saraswati and 150 years of Arya Samaj's legacy.

### About International Aryan Summit 2025

**Introduction** - It is held at Rohini, New Delhi, and forms part of the Jyāna Jyoti Festival.

**Title** - The Summit is titled "150 Golden Years of Service", reflecting Arya Samaj's sustained contribution to education, social reform, and moral upliftment over a century and a half.

**Focus -** Reviving Vedic wisdom, Swadeshi values, and nation-building ideals in alignment with the Viksit Bharat 2047 vision.

### Significance

1. Reinforces Maharshi Dayanand's reformist and educational philosophy in modern India.
2. Recognises Arya Samaj's role in strengthening India's moral, cultural, and social fabric.
3. Encourages youth participation in ethical leadership and self-reliance inspired by Vedic ideals.

### About Arya Samaj

It was established with the aim to restore the purity of Vedic teachings and reform Hindu society by rejecting idolatry, superstitions, and caste discrimination**.**

**Establishment -** Founded on April 10, 1875, in Bombay (now Mumbai) by Swami Dayanand Saraswati

**Mission and Core Values -** Advocated a return to Vedic principles based on monotheism, morality, and equality. Promoted education, women's empowerment, and social justice through the Dayanand Anglo Vedic (DAV) institutions. Stressed service to humanity (seva) and truthfulness (satya) as fundamental duties.

## 3. 3I/ATLAS

Recently , the interstellar comet 3I/ATLAS reached its closest point to the Sun (perihelion) on October 30, 2025, marking its brightest and most active phase, monitored by NASA and global missions.

## About 3I/ATLAS

3I/ATLAS is an interstellar comet, meaning it is not bound to the Sun's orbit and will make a one-time pass through the inner solar system before exiting into interstellar space.

**Close to Sun -** The comet reached perihelion at 1.35 AU (125 million miles) from the Sun, triggering intense outgassing and coma formation as solar heat sublimates surface ice.

**Cometary Activity -** The outgassing process during perihelion generates two distinct tails — a dust tail and an ion tail, driven by solar radiation and solar wind.

**Observation Network -** Multiple spacecraft including NASA's Psyche, Lucy, and ESA's JUICE are tracking its activity. NASA missions on Mars observed the comet during its close flyby on October 3.

**Chemical Composition -** Early findings show unusually high concentrations of carbon dioxide and nickel, suggesting origins in a metal-rich molecular cloud from another star system formed about seven billion years ago.

**Scientific Significance -** Monitoring 3I/ATLAS helps scientists compare chemical signatures of interstellar bodies with solar system comets, offering clues to planetary formation and early cosmic chemistry.