



02 April 2024

National and International News

Kalam-250



Context:

- The recent successful **test firing of Stage-2, named Kalam-250, of the Vikram-1 space launch vehicle by Skyroot Aerospace marks a significant advancement in India's space industry.**
- **Importance:** Stage-2 is crucial in propelling the launch vehicle from the atmospheric phase to the deep vacuum of outer space, playing a pivotal role in achieving the desired trajectory.

Key points:

- **Kalam-250 is a high-strength carbon composite rocket motor using solid fuel.**
- It features a **high-performance Ethylene-Propylene-Diene terpolymers (EPDM) Thermal Protection System (TPS).**
- The stage-2 includes a carbon ablative flex nozzle and high-precision electro-mechanical actuators for thrust vector control, ensuring **precise trajectory adjustments.**
- The solid propellant for Kalam-250 was processed by **Solar Industries at their Nagpur facility.**
- The successful test firing brings Skyroot Aerospace **closer to the upcoming orbital launch of the Vikram-1 rocket.**

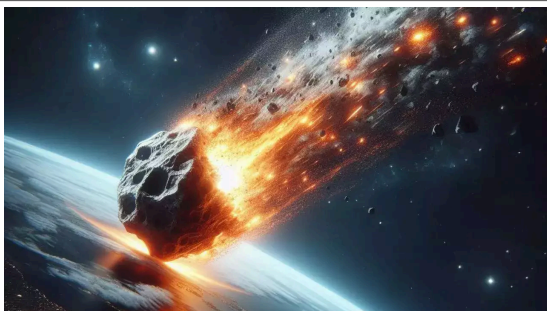
Vikram I Details

- Vikram I is the **first rocket in the series, featuring three solid-fuel-powered stages and a final stage equipped with Raman engines.**
- The Raman engines, powered by MMH and NTO liquid fuels, are used for final orbit adjustments.
- Vikram I is designed to lift payloads of up to 290 kg to a 500 km Sun synchronous polar orbit (SSPO) or 480 kg to a 500 km low Earth orbit (LEO) with a 45° inclination.

Asteroid 2015 MB54

Context:

- NASA has been tracking a massive **170-foot asteroid(Asteroid 2015 MB54) that is moving towards Earth at a speed of 13,798 kilometers per hour.**
- On March 29, NASA's Jet Propulsion Laboratory



- predicted the passage of **four asteroids** near Earth.
- **Monitoring celestial objects is crucial to protect Earth from potential impacts and damage.**

Key points:

- NASA reassures that Asteroid 2015 MB54 poses no threat to Earth due to its relatively small stature.
- According to **NASA's criteria**, only asteroids **approaching within 4.6 million miles** and measuring larger than approximately 150 meters are considered **potentially hazardous**.

Asteroids:

- Asteroids, also known as **minor planets**, are **rocky remnants from the early stages** of the solar system's formation around **4.6 billion years ago**.
- These space rocks are primarily located in the **main asteroid belt, a region between Mars and Jupiter, and their total count exceeds 1,351,400**.
- These celestial objects vary **greatly in size**, with the largest asteroid, **Vesta, measuring about 329 miles (530 kilometers) in diameter**, while the smallest are less than 33 feet (10 meters) across. Their shapes range from nearly spherical to irregular double-lobed peanut shapes.
- Asteroids **follow highly elliptical orbits around the Sun**, often rotating unpredictably and tumbling through space.
- Despite their abundance, the combined mass of all asteroids is less than that of **Earth's Moon**. Interestingly, many large asteroids have small moons orbiting them.

USSD

Context:

- The **Department of Telecom (DoT)** has issued a directive to telecom operators regarding the deactivation of **USSD-based call forwarding services, effective from April 15, to prevent fraud and online crimes**.

Key points:

- **USSD (Unstructured Supplementary Service Data)** is a protocol used by GSM cellular telephones to communicate with service provider computers.
- It allows users to interact with various services using short codes, initiating a session between the user's phone and the service provider's system.

Reasoning and Impact:

- The directive aims to prevent fraud and enhance



മലയാളം

ADDAPEDIA

To get free Live Classes,
Materials Scan this QR Code &
Download our Adda247 App



Daily Current Affairs Encyclopedia

	<p>security for subscribers by suspending USSD-based call forwarding services.</p> <ul style="list-style-type: none"> Telecom operators can mitigate risks associated with fraudulent activities.
<p>Plastic Waste Management Amendment Rules 2024</p>	<p>Context:</p> <ul style="list-style-type: none"> The Union Environment Ministry has recently introduced stricter rules to regulate "biodegradable" plastics in response to the growing concern over microplastic pollution. These rules aim to ensure that the environmental impact of disposable plastic ware is accurately communicated through labelling. <p>Key points:</p> <ul style="list-style-type: none"> Biodegradable plastics were initially seen as a solution to plastic waste, as they were expected to decompose naturally after use, reducing plastic accumulation in landfills and the environment. However, previous regulations in India lacked clear definitions for "biodegradable," leading to incomplete breakdowns and the potential for microplastics to remain. The new rules require complete biodegradation, with no microplastics left behind, representing a significant step towards preventing further plastic waste pollution. <p>Microplastics:</p> <ul style="list-style-type: none"> Microplastics are small plastic pieces less than five millimeters long which can be harmful to our ocean and aquatic life.
<p>India's Defence Exports Reach Record High</p>	<p>Context:</p> <ul style="list-style-type: none"> India's defence exports exceeded ₹21,000 crore for the first time. <p>Key points:</p> <ul style="list-style-type: none"> The Defence Ministry reported a 31-fold increase in exports over the past decade compared to FY 2013-14. Mr. Singh expressed his delight, highlighting the significant milestone in India's defence exports. The exports reached ₹21,083 crore in FY 2023-24, marking a remarkable 32.5% growth from the previous fiscal year.



മലയാളം

ADDAPEDIA

To get free Live Classes,
Materials Scan this QR Code &
Download our Adda247 App



Daily Current Affairs Encyclopedia

Kerala Regional News

World Autism Awareness Day



Context:

- **World Autism Awareness Day** is observed annually on **April 2nd**
- It is a **UN-sanctioned day** to highlight the needs and rights of people with **Autism Spectrum Disorder (ASD)**.

It's a day to:

- **Raise awareness:** Increase public understanding of autism and the challenges faced by autistic individuals.
- **Promote acceptance:** Foster a more inclusive society where autistic people can thrive.
- **Celebrate strengths:** Recognize the unique talents and perspectives of the autistic community.

About:

- **Autism Spectrum Disorder (ASD)**, or simply autism, is a developmental condition that impacts how people interact with the world around them.
- **It's characterized by:** Social communication challenges: Difficulty with social interaction, understanding nonverbal cues, or expressing oneself clearly.
- **Restricted interests and repetitive behaviors:** A focus on specific topics, repetitive movements (stimming), or an insistence on routines.

Theme:

- The theme of World Autism Awareness Day 2024 is **'Empowering Autistic Voices'**
- It aims at **providing more support and power to the individuals** with this condition, in order to ensure they lead a meaningful life and even pursue successful careers.

Seawater as Fuel Cell devised by Kerala Researchers

Context:

- **Researchers at the University of Kerala** have developed a promising **eco-friendly fuel cell**.
- This innovative technology **generates electricity using readily available resources: air and seawater**.
- The process is **clean, with only water vapor emitted as a byproduct**.
- This **Magnesium-Copper fuel cell** holds the potential to **revolutionize the energy sector**.





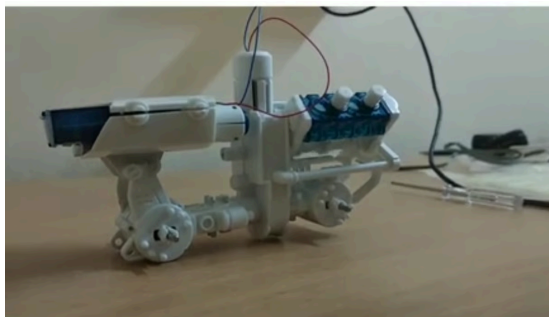
മലയാളം

ADDAPEDIA

To get free Live Classes,
Materials Scan this QR Code &
Download our Adda247 App



Daily Current Affairs Encyclopedia



Compared to traditional Lithium-ion batteries, it offers the advantage of higher power output.

Faunal survey detects several species in Thiruvananthapuram Wildlife Division



Context:

- A **faunal survey of the Agasthyamalais landscape** has shed light on its encouraging biodiversity health in spite of the prolonged dry spell in the region.
- The **four-day survey of the Thiruvananthapuram Wildlife Division** was jointly conducted by the Forest department and the Travancore Nature History Society (TNHS).

Key Points:

- As many as **157 butterflies, 135 birds, and 37 odonates** were sighted in the Neyyar Wildlife Sanctuary while 168 butterflies, 90 birds, and 46 odonates were reported from the Peppara Wildlife Sanctuary.
- Several fauna were also recorded from the **Agasthyavanam Biological Park**.
- This finding **highlights the rich biodiversity of the region and the importance of conservation efforts**.

About:

- The survey is a **significant development for wildlife conservation in the area**.
- It provides valuable data on the species inhabiting the Thiruvananthapuram Wildlife Division, which can be used to inform conservation strategies and ensure the protection of these vulnerable animals.

Kerala's additional resource mobilization measures to kick in from April 1

Context:

- In a bid to **strengthen its financial situation, Kerala is set to introduce a series of additional resource mobilization measures starting April 1, 2024**.
- These steps **aim to generate much-needed revenue for the state government**.
- **Increased Court Fees:** The budget has proposed a hike in judicial court fees.



മലയാളം

ADDAPEDIA

To get free Live Classes,
Materials Scan this QR Code &
Download our Adda247 App



Daily Current Affairs Encyclopedia

	<ul style="list-style-type: none"> • Tax Relief for Buses: To incentivize more all-India permit bus registrations in the state, the government will reduce taxes for such buses. • Higher Rubber Prices: There will be a ₹10 increase in the support price of rubber.
CADRRE to organise short film fete on autism	<p>Context:</p> <ul style="list-style-type: none"> • CADRRE, the Centre for Autism and other Disabilities Rehabilitation Research and Education, is hosting a film festival specifically for short films that explore autism. • This is a first-of-its-kind event in India. • It is titled CIFFA 2024 (CADRRE International Filmlet Festival on Autism) • It aims to raise awareness and acceptance of Autism Spectrum Disorder (ASD). • CIFFA 2024 promises a curated selection of films focused on dismantling stigmas and promoting understanding of autism. <p>About:</p> <ul style="list-style-type: none"> • Autism is a developmental condition that impacts how people interact with the world around them.

Copyright © by Adda247

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Adda247.