1. Which institute recently developed an efficient method of hydrogen generation from methanol and formaldehyde combinations?

A. IISER, Tirupati 🗹

B. IIT, Roorkee

C. IIT, Madras

D. IIT, Delhi



Researchers at IISER Tirupati devised a method to generate hydrogen efficiently using methanol and formaldehyde. They employed nickel catalysts, readily available in the market, without needing bases or activators. This hydrogen production enabled selective partial transfer hydrogenation of alkynes, converting them into alkenes. The method supports the synthesis of bioactive molecules.

2. Alexandria, a port city recently in the news due to the visit of INS Tabar, is located in which country?

A. Indonesia

B. Egypt ☑

C. France

D. Rome



✓ Indian Naval Ship Tabar recently visited Alexandria, Egypt, highlighting India's commitment to bilateral relations. INS Tabar, a Talwar-class stealth frigate commissioned in 2004 in Russia, embodies the motto "Guts and Glory." This visit underscores India's strategic maritime engagement, emphasizing regional cooperation and naval capabilities.

3. Recently, which organization has approved a \$1.5 billion loan to support India's green hydrogen initiatives?

A. World Bank 2

B. International Monetary Fund

C. International Bank for Reconstruction and Development

D. International Development Association



✓ The World Bank approved \$1.5 billion to support India's low-carbon energy development. The funding will boost green hydrogen, electrolysers, and renewable energy. This aligns with India's National Green Hydrogen Mission and energy goals: achieving 500 GW of renewable energy capacity by 2030 and net zero emissions by 2070.

- 4. Recently, the Space Exploration and Research Agency (SERA) announced which country as a partner nation for the human spaceflight programme?
- A. Bhutan
- B. India 2
- C. Nepal
- D. Myanmar



- ✓ US-based Space Exploration and Research Agency (SERA) and Blue Origin have partnered with India for their human spaceflight program. They will offer six seats on a future New Shepard mission to citizens from countries with limited space presence. New Shepard, a reusable suborbital rocket, will take the selected astronauts on an 11-minute journey past the Kármán line, the internationally recognized space boundary at 100 km.
 - 5. Indian army recently conducted joint military exercise 'Maitree' with which country's army?
 - A. Thailand
 - B. Afghanistan
 - C. Australia
 - D. New Zealand



- ✓ The Indian Army commenced the Maitree exercise with the Royal Thai Army at Fort Vachiraprakan, Thailand, from 1 to 15 July 2024. Initiated in 2006, this bilateral exercise enhances defense cooperation. Seventy-six personnel from both armies, including the Ladakh Scouts, participate. The exercise focuses on counter-insurgency and counter-terrorism operations in urban and jungle environments, joint planning, tactical drills, and physical fitness.
 - 6. Recently, where was the third United Nations conference on Afghanistan held?
 - A. Doha, Qatar 🗹
 - B. Astana, Kazakhstan
 - C. New Delhi, India
 - D. Bishkek, Kyrgyzstan



✓ For the first time, the Taliban participated in the United Nations Conference on Afghanistan, held in Doha on 30 June and 1 July 2024. Despite attendance from 25 countries and organizations, including the EU and SCO, no substantial progress was made. The Taliban, represented by Zabihullah Mujahid, joined after their demands were met, excluding Afghan civil society representatives. India was represented by J.P. Singh from the Ministry of External Affairs. 7. Which organization has recently captured an epic view of the largest volcano in our solar system named Olympus Mons using the Mars Odyssey orbiter?

A. ROSCOSMOS

B. JAXA

C. NASA ☑

D. CNSA



✓ NASA's Mars Odyssey orbiter captured an epic view of Olympus Mons, the largest volcano in the solar system. Launched in 2001, Odyssey's mission includes mapping Mars' surface and serving as a communication relay. Olympus Mons, a shield volcano, is 24 kilometers high and 550 kilometers wide, dwarfing Earth's Mauna Loa. Odyssey holds the record for the longest active mission around another planet, scheduled to last until 2025.

8. What is the primary objective of 'Project Nexus'?

A. To improve domestic banking systems

B. To enable instant cross-border retail payments ☑

C. To create a new crypto currency

D. To monitor international financial transactions



✓ The RBI joined Project Nexus, an initiative to enable instant cross-border retail payments by linking domestic Fast Payment Systems (FPSs). Conceptualized by the BIS Innovation Hub, Nexus provides a single-connection solution for seamless international transactions. It aims to connect FPSs of India and 4 ASEAN countries by 2026. Nexus will automatically link new member countries, enhancing efficiency, reducing costs, and improving international payment accessibility.

9. 'Nouka Baich' is the traditional boat race of which state?

A. Odisha

B. Kerala

C. West Bengal 🗹

D. Manipur



✓ With the south-west monsoon setting in, Nouka Baich boat races will soon begin in rural West Bengal. These traditional races occur from September to November, with increasing female participation. Linked to the worship of the Hindu deity Manasa, goddess of snakes, these races use various traditional boats, including the 90 ft long Sorengi. The races celebrate agrarian culture and the swollen rivers of the monsoon season.

- 10. Recently, archaeologists have uncovered a 41,000-year-old ostrich nest in which state?
- A. Tamil Nadu
- B. Karnataka
- C. Andhra Pradesh
- D. Maharashtra



- ✓ Archaeologists discovered the world's oldest known ostrich nest, dating back 41,000 years in Andhra Pradesh. This find could offer insights into the extinction of megafauna in the Indian subcontinent. Megafauna, animals over 50 kg, include megaherbivores, megacarnivores, and megaomnivores. Anthropogenic pressures since the Late Pleistocene led to significant losses among megafauna like woolly mammoths and sabre-toothed tigers.
 - 11. Recently, Sujata Saunik became the first female Chief Secretary of which state?
 - A. Tamil Nadu
 - B. Kerala
 - C. Odisha
 - D. Maharashtra 🗹



- ✓ Senior IAS officer Sujata Saunik became Maharashtra's first female Chief Secretary (CS), the 45th since the state's formation in 1960. She succeeds Nitin Kareer, who retired. Saunik will serve a one-year tenure until June 2025. Her appointment by Chief Minister Eknath Shinde and Deputy Chief Minister Devendra Fadnavis was unanimous. The transition ceremony took place at Mantralaya, the State Secretariat in Mumbai.
 - 12. Tianlong-3 space rocket is associated with which country?
 - A. China 🗹
 - B. Japan
 - C. Vietnam
 - D. Indonesia



✓ The private Chinese rocket Tianlong-3 crashed after accidental launches during a test run. Developed by Beijing Tianbing (Space Pioneer), Tianlong-3 is a medium-lift orbital launch vehicle, partially reusable up to ten times, with the first stage capable of autonomous vertical landing. It can launch medium-sized payloads to low Earth orbit (LEO) and sun-synchronous orbit (SSO), and its performance is comparable to SpaceX's Falcon 9.

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