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DAILY CURRENT AFFAIRS

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SOURCES



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GS I

1. NDMA to monitor 189 high-risk glacial lakes to prevent disasters

Source: The Hindu

Context: The National Glacial Lake Outburst Floods Risk Mitigation Programme was approved by the Centre.

National Glacial Lake Outburst Floods Risk Mitigation Programme (NGRMP):

- Approved by the Centre on July 25, 2024.
- Focuses on 189 high-risk glacial lakes in the Himalayas.

Key Steps in the Programme:

- **Investigation Teams:** Teams will assess these lakes and implement "lake-lowering measures" to prevent overflow.
- **Downstream Damage Mitigation:** Steps to reduce damage in areas downstream from these lakes.

Recent Incident:

- In October 2023, South Lhonak Lake in Sikkim overflowed, causing significant damage and loss of life.

Monitoring and Assessments:

- There are about 7,500 glacial lakes in the Himalayas, with 902 monitored via satellite.
- Expeditions are conducted to physically assess and address risks, limited to a few months a year due to terrain.

Current Actions:

- The Arunachal Pradesh State Disaster Management Authority is studying six high-risk lakes in Tawang and Dibang Valley.
- The Central Water Commission reports monitoring of 902 lakes and water bodies via satellite.
- Ongoing installation of automated weather and water level monitoring stations and early warning systems.

Expedition Details:

- 15 expeditions have been conducted across various states, with seven more planned.

2. Presence of Water on Mars

Source: The Hindu

Context: Recently, scientists have found frost atop Mars' tallest volcano, Olympus Mons, indicating the presence of a sparse but active water cycle on the Red Planet for the first time.

Recent Findings Related to Water on Mars:

- **Water on Mars' Volcanoes:**
 - Frost forms for a few hours each morning in the calderas of Mars' Tharsis volcanic region, including Olympus Mons.
 - The frost evaporates with sunlight.



- Discovered by ESA's Trace Gas Orbiter and Mars Express Orbiter.
- Frost formation is due to microclimates created by air circulation around mountain summits and calderas.
- **Water in Mars' Crust:**
 - **Study titled** - 'Liquid Water in the Martian Mid-Crust' used data from NASA's Mars InSight Lander.
 - The InSight Lander recorded seismic waves to study Mars' interior.
 - Data suggests a layer of fractured igneous rock below the surface, with cracks filled with ancient liquid water.
 - Indicates Mars had liquid water billions of years ago, suggesting a potentially habitable environment.
- **Key Facts About Mars:**
 - Fourth planet from the Sun; second smallest planet in the Solar System.
 - Known as the "Red Planet" due to iron oxidation.
 - Has two small moons: Phobos and Deimos.
- **Important Missions to Mars:**
 - **Mariner 4 (1964):** NASA, first flyby and images of Mars.
 - **Viking 1 & 2 (1975):** NASA, first successful landings on Mars.
 - **Curiosity Rover (2011):** NASA, studied climate, geology, and past water evidence.
 - **Mangalyaan (2013):** ISRO, first Indian mission, studied surface features and atmosphere.
 - **InSight (2018):** NASA, studied Mars' interior.
 - **Tianwen 1 (2020):** CNSA, studied topography, geology, and water-ice content.
 - **Perseverance Rover (2020):** NASA, gathered samples from Martian rocks and soil.
 - **Hope Mars Mission (2020):** UAE, created a model of Mars' atmosphere.

GS II

3. Framework for recognition of Self-Regulatory Organisations

Source: The Hindu

Context: Reserve Bank of India (RBI) Governor has asked fintech entities to form a Self-Regulatory Organisation (SRO).

Self-Regulatory Organisations (SROs) and RBI's Omnibus Framework:

- **What Are SROs?**
 - Non-governmental entities that create and enforce industry-specific regulations and standards.
 - Function independently but under the broader framework of government regulations.
 - **Key Roles:**
 - Set industry standards and ethical guidelines.
 - Enforce rules, conduct audits, and handle disputes.
 - Protect consumer interests and promote fair practices.
- **SROs in India:**



- Must be not-for-profit companies registered under Section 8 of the Companies Act, 2013.
- Required to have strong governance, diversified shareholding, and adequate net worth.
- Responsibilities include promoting best practices, ensuring compliance, and fostering sector development.
- **SRO Regulators in Financial Sector:**
 - **SEBI:** Oversees SROs like the Association of Mutual Funds in India (AMFI).
 - **IRDAI:** Facilitates SROs such as the Insurance Brokers Association of India (IBAI).
 - **RBI:** Recognizes SROs like FIMMDA and FIDC for standard-setting in banking and finance.
- **SROs in Other Sectors:**
 - **ASCI:** Regulates advertising standards.
 - **IBF:** Self-regulates television broadcasting content.
 - **IAMAI:** Sets guidelines for online and mobile services.
 - **RERA:** Establishes Real Estate Regulatory Authorities for transparency in real estate.
- **RBI's Omnibus Framework:**
 - Sets common standards for all SROs, including grievance redressal mechanisms and non-discriminatory fee structures.
 - Requires SROs to develop a code of conduct and monitor adherence.
 - Aims to standardise objectives, functions, and governance across sectors.
 - Encourages SROs to adopt best practices.
- **Challenges and Criticisms:**
 - Effectiveness varies based on governance and enforcement.
 - Debate exists on the balance between self-regulation and government oversight.
- **Conclusion:**
 - SROs are crucial for regulating industries, complementing statutory regulations, and promoting best practices.

GS III

4. Chandrayaan-3 data confirms Moon's surface was once an ocean of magma

Source: Business Standard

Context: Recently, a team of scientists shared evidence that a vast magma may once have existed on the South Pole that has been covered in mystery.

- **Chandrayaan-3 Mission:**
 - Launched a year ago, it made **India the first to land a rover on the Moon's southern pole.**
 - The rover has been providing crucial data about the lunar surface.
- **Recent Findings:**
 - Scientists have discovered **evidence of ancient magma oceans** beneath the Moon's southern surface.
 - This finding, published in Nature, suggests a vast sea of hot, molten rock existed around 4.2 billion years ago.
- **Significance of the Discovery:**
 - The data reveals that the Moon's surface might have been formed from this cooled magma.



- These findings could help identify safe landing spots and offer new study areas.
- **Mission Details:**
 - The **Pragrayn rover** travelled 103 metres and conducted 23 in-situ analyses of lunar soil.
 - It found **magnesium and olivine compounds**, likely from a large impact crater in the South Pole Aitken (SPA) basin.
- **Magma Oceans Concept:**
 - Magma oceans form when a celestial body is so hot that its mantle remains molten.
 - This process occurred early in the Moon's formation when it was created from a collision of protoplanets.

5. Parvovirus B19

Source: The Hindu

Context: The US Centers for Disease Control and Prevention (CDC) recently issued a health advisory due to concerns about the rise in cases of parvovirus B19.

Parvovirus B19:

- It is a highly contagious and common illness, particularly in those with weakened immune systems.
- It is commonly known as the "slapped cheek" illness due to the characteristic reddening of the cheeks it causes.
- Parvovirus infection has also been known as 'Fifth disease' because, historically, it was fifth in a list of common childhood illnesses characterised by a rash.
- **Transmission:**
 - The virus can be spread through airborne droplets when an infected person coughs or sneezes.
 - It may also spread through blood or contaminated blood products.
 - Pregnant people with parvovirus can spread the virus to the foetus through the placenta.
- **Symptoms:**
 - Most people with parvovirus infection have no signs or symptoms.
 - What Symptoms do appear, they vary greatly depending on how old you are when you get the disease.
 - Common symptoms include "slapped cheek" rash in children, and joint pains in adults.
- **Treatment:**
 - Parvovirus B19 infections are usually mild and will go away on their own.
 - Treatment usually involves relieving symptoms, such as fever, itching, and joint pain and swelling.



Editorial, Ideas and Opinions

6. Do we need a Central law for protection of healthcare professionals?

Source: The Hindu

Context: The brutal rape and murder of a trainee doctor in Kolkata has intensified the focus on the safety of healthcare workers across India. This incident has spurred medical professionals to call for stronger legal protection.

Background:

- The brutal rape and murder of a trainee doctor in Kolkata has highlighted the issue of violence against healthcare workers in India.
- Medical professionals are demanding a Central law for better protection.

Current Situation:

- In 2019, the Central government drafted a Bill to protect healthcare workers, but it was never enacted.
- Violence against healthcare workers has been increasing due to high patient expectations, communication issues, and healthcare system flaws.

Key Points from Experts:

- Violence often stems from patient dissatisfaction and high out-of-pocket costs.
- 25 states have laws protecting medical professionals, but convictions are rare.
- Better communication and safety measures in hospitals are essential.
- Existing state laws are insufficient due to poor implementation and lack of convictions.
- Improved healthcare infrastructure and increased spending on health could reduce violence.
- Interns and postgraduate students are often overworked and face abuse.
- A hospital protection committee with security measures like CCTV is necessary.

Challenges and Suggestions:

- **Central Law Debate:**
 - The government previously indicated interest in a Central Act but has not enacted it.
 - The Supreme Court has set up a national task force to address safety but not specifically to create deterrent laws.
 - The 2012 Kerala law on violence against healthcare workers lacked effectiveness until it was strengthened following recent incidents.
- **Implementation Concerns:**
 - Laws need effective enforcement and public awareness.
 - A Central law should complement rather than replace state laws and address systemic issues in the healthcare sector.



In Brief

7. World's First Portable Hospital: Aarogya Maitri cube

Source: The Hindu

Context: The Indian Army and Air Force recently conducted a first-of-its-kind paratroop of the Aarogya Maitri Health Cube, the indigenously-made world's first portable hospital, at 15,000 feet elevation.

Aarogya Maitri Health Cube:

- **Overview:**
 - World's first portable hospital.
 - Designed under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri).
 - Equipped with medical supplies like mini-ICU, operation theatre, X-ray machine, blood test equipment, cooking station, and more.
- **Design:**
 - **Structure:**
 - Comprises three frames, each holding 12 mini-cubes.
 - A total of 36 mini-cubes fit in one cage, supporting 100 survivors for 48 hours.
 - Two cages can be joined (master cube one and master cube two) to support 200 survivors with 72 cubes.
 - **Mini-Cubes:**
 - Durable, waterproof, and portable.
 - Can be carried by a single person or transported by drone.
 - Configurable for various needs.
- **Capabilities:**
 - **Handles severe injuries including:**
 - 40 bullet injuries
 - 25 major bleeds
 - 25 major burns
 - 10 head injuries
 - Long limb fractures, spinal injuries, chest injuries, spinal fractures.
 - Includes a **tablet-based application to operate all 72 cubes.**
 - **Integrates AI and data analytics for enhanced functionality.**



8. Prime Minister Shri Narendra Modi greets the nation on occasion of first National Space Day

Source: PIB

Context: The Prime Minister extended warm greetings to the nation on the first National Space Day, expressing pride in India's remarkable space achievements.

National Space Day 2024

- **Purpose:**
 - Celebrates India's historic lunar landing on August 23, 2023.
 - Honors ISRO's contributions to global space exploration.
- **Historical Achievement:**
 - On August 23, 2023, ISRO successfully landed a spacecraft near the lunar south pole.
 - India became the fourth country to achieve this milestone.
- **Significance:**
 - **Inspiration:** Encourages the next generation to pursue careers in space science and technology.
 - **Awareness:** Highlights the importance of space exploration and its impact on daily life.
 - **Benefits:** Showcases how space technology aids in communication, weather forecasting, navigation, and disaster management.
 - **Acknowledgement:** Recognizes the efforts of ISRO scientists and engineers.
- **Theme:**
 - **2024 Theme:** "Touching Lives while Touching the Moon: India's Space Saga."
 - Focuses on the social impact and possibilities of space exploration.
- **Celebrations:**
 - Major events from August 23–24, 2024, at Bharat Mandapam, New Delhi.
 - Includes high-profile events, exhibits, and announcements about India's space achievements.
 - Educational programs, workshops, and contests in schools nationwide to engage children in space science.
- **Goals:**
 - Inspire youth to join scientific and space technology fields.
 - Increase public interest and support for space research and ISRO's work.
- **Overall Aim:**
 - Celebrate scientific and technological achievements.
 - Promote the impact of space technology on everyday life and encourage future scientific endeavours.



9. Foot and Mouth Disease (FMD)

Source: The Hindu

Context: Union Minister of Fisheries, Animal Husbandry & Dairying recently reviewed measures taken towards achieving the goal of FMD–Mukt Bharat by 2030.

Foot and Mouth Disease(FMD):

- It is a **highly contagious viral vesicular disease** of cloven-hoofed animals such as cattle, buffaloes, sheep, goats and pigs etc.
- It **does not affect horses, dogs, or cats.**
- FMD is caused by an **Aphthovirus of the family Picornaviridae.**
- **Symptoms:**
 - Fever and blisters on tongue and lips, in and around mouth, on mammary glands, and around hooves
- **Impact:**
 - Reduced milk yield, reduced growth rate, infertility, trade restrictions on animal products etc.
- **Steps taken:**
 - National Animal Disease Control Programme:
 - For eradicating FMD and Brucellosis.



Daily Quiz

Q1. Which of the following statements is correct regarding the National Glacial Lake Outburst Floods Risk Mitigation Programme (NGRMP) approved by the Centre?

- A. The programme focuses on 7500 high-risk glacial lakes in the Himalayas.
- B. Lake-lowering measures are implemented to prevent overflow of high-risk glacial lakes.
- C. The NGRMP was approved by the Centre in October 2023.
- D. The programme is limited to the monitoring of lakes in Arunachal Pradesh.

Q2. The RBI's Omnibus Framework for Self-Regulatory Organisations (SROs) includes which of the following components?

- 1. Standardisation of objectives and functions across sectors.
- 2. Mandatory government appointment of SRO leadership.
- 3. Development of a code of conduct and adherence monitoring.
- 4. Non-discriminatory fee structures for services.

Select the correct answer using the code below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 3, and 4 only
- D. 1, 2, 3, and 4

Q3. What significant finding was recently discovered by scientists using data from the Chandrayaan-3 mission?

- A. Evidence of ancient magma oceans beneath the Moon's southern surface.
- B. The presence of active volcanoes on the Moon.
- C. Discovery of water on the Moon's equatorial region.

- D. Existence of a magnetic field around the Moon.

Q4. Which of the following statements is correct regarding the recent findings about water on Mars?

- A. Frost on Mars' tallest volcano, Olympus Mons, persists throughout the day.
- B. Frost formation on Mars is due to microclimates created by air circulation around volcanic summits.
- C. Frost on Mars has been detected for the first time by the Mars Curiosity Rover.
- D. The presence of frost on Mars' volcanoes suggests the existence of large water bodies on the surface.

Q5. What is another name for Parvovirus B19, and why is it called that?

- A. Measles, because it causes a rash similar to measles.
- B. Chickenpox, due to the similar appearance of the rash.
- C. Scarlet fever, due to its similar symptoms.
- D. Fifth disease, because it was historically the fifth in a list of common childhood illnesses characterised by a rash.

Q6. Which of the following statements about the Central Bill drafted in 2019 for the protection of healthcare workers is correct?

- A. The Bill was enacted into law immediately after its drafting.
- B. The Bill was drafted but never enacted into law.
- C. The Bill was passed but faced widespread implementation challenges.
- D. The Bill was enacted but only applied to private healthcare facilities.



Q7. What is the Aarogya Maitri Health Cube known for?

- A. It is the world's first portable hospital.
- B. It is the largest field hospital ever built.
- C. It is the first hospital designed for underwater operations.
- D. It is the first hospital to use exclusively solar energy.

Q8. What is the theme of National Space Day 2024?

- A. "Exploring New Frontiers: India's Space Mission"
- B. "Space Science for a Better Tomorrow"
- C. "Touching Lives while Touching the Moon: India's Space Saga"

D. "A Journey to the Stars"

Q9. What is the causative agent of Foot and Mouth Disease (FMD)?

- A. Bacterium
- B. Fungus
- C. Aphthovirus of the family Picornaviridae
- D. Protozoa

Q10. Which of the following symptoms is not associated with Foot and Mouth Disease (FMD)?

- A. Blisters on tongue and lips
- B. Fever
- C. Reduced milk yield
- D. Rashes on the skin



Solutions

1. Correct Answer is B

Explanation:

- **Option A is incorrect** because the programme focuses on 189 high-risk glacial lakes, not 7500.
- **Option B is correct** as the programme includes lake-lowering measures to prevent overflow.
- **Option C is incorrect** because the NGRMP was approved on July 25, 2024, not October 2023.
- **Option D is incorrect** because while Arunachal Pradesh is included, the programme is not limited to that state; it encompasses lakes across the Himalayas.

2. Correct Answer is C

Explanation:

- **Standardisation of objectives and functions across sectors.**
Analysis: This is correct. The RBI's framework for SROs aims to standardise the objectives and functions across different sectors to ensure uniformity in operations, governance, and effectiveness.
- **Mandatory government appointment of SRO leadership.**
Analysis: This is incorrect. The RBI framework typically does not mandate government appointments for SRO leadership. Instead, SROs are usually self-governed, with leadership appointments being made internally or through member organisations, ensuring independence from direct government control.
- **Development of a code of conduct and adherence monitoring.**

Analysis: This is correct. A key function of SROs under the RBI framework is to develop a code of conduct for their members and to monitor adherence to this code. This ensures that members maintain high standards of ethics and professionalism.

- **Non-discriminatory fee structures for services.**

Analysis: This is correct. The RBI's framework emphasises that SROs should have a non-discriminatory fee structure for their services, ensuring fair access and preventing any biases or favouritism among members.

3. Correct Answer is A

Explanation:

- **Evidence of ancient magma oceans beneath the Moon's southern surface.**
Analysis: This statement would be significant if true, but there has been no recent finding specifically from Chandrayaan-3 regarding ancient magma oceans beneath the Moon's southern surface. Chandrayaan-3's focus has been on studying the surface, particularly the south pole, but no direct evidence of ancient magma oceans has been reported.
- **The presence of active volcanoes on the Moon.**
Analysis: The Moon is considered geologically inactive with no active volcanoes. The Moon's volcanic activity ended billions of years ago. Chandrayaan-3 has not found any evidence of active



volcanoes, so this option is incorrect.

- **Discovery of water on the Moon's equatorial region.**

Analysis: Water on the Moon has been a topic of interest, but Chandrayaan-3's mission primarily targeted the south pole, not the equatorial region. Previous missions, such as Chandrayaan-1, detected water molecules on the Moon, but no recent discovery of water in the equatorial region has been reported from Chandrayaan-3.

- **Existence of a magnetic field around the Moon.**

Analysis: The Moon does not have a global magnetic field like Earth. Some localised magnetic fields exist, but Chandrayaan-3 has not made any significant discovery related to a global or extensive magnetic field around the Moon.

4. Correct Answer is B

Explanation:

- **Frost on Mars' tallest volcano, Olympus Mons, persists throughout the day.**

Analysis: This statement is **incorrect**. Olympus Mons, the tallest volcano on Mars, experiences frost, but it typically sublimates (turns directly from solid to gas) as the temperature rises during the day. Therefore, the frost does not persist throughout the day, making.

- **Frost formation on Mars is due to microclimates created by air circulation around volcanic summits.**

Analysis: This statement is **correct**. Frost formation on Mars, particularly around volcanic summits, is influenced by microclimates. These microclimates are created by air

circulation patterns around the high altitudes of volcanoes like Olympus Mons. The cooler temperatures at these altitudes can cause frost to form, especially during the night when temperatures drop significantly.

- **Frost on Mars has been detected for the first time by the Mars Curiosity Rover.**

Analysis: This statement is **incorrect**. Frost has been observed on Mars in the past, even before the Mars Curiosity Rover. Various missions and telescopic observations have noted the presence of frost on Mars. Curiosity has contributed valuable data about the Martian environment, but it was not the first to detect frost.

- **The presence of frost on Mars' volcanoes suggests the existence of large water bodies on the surface.**

Analysis: This statement is **incorrect**. The presence of frost on Mars does not directly indicate large water bodies on the surface. Frost on Mars typically forms due to the sublimation and deposition processes in the planet's thin atmosphere, not because of large surface water bodies. Mars does have ice in its polar regions, but the frost observed on volcanoes is not evidence of significant liquid water.

5. Correct Answer is D

Explanation :

- Parvovirus B19 is commonly known as "Fifth disease."
- This name originates from the historical categorization of common childhood illnesses characterized by rashes.



- Fifth disease was the fifth illness listed in this classification system, which included:

- I. Measles
- II. Scarlet fever
- III. Rubella (German measles)
- IV. Dukes' disease (now considered a less clearly defined condition)

Thus, the name "Fifth disease" reflects its position in this traditional list of exanthematous (rash-causing) diseases.

6. Correct Answer is B

Explanation:

The Central Bill drafted in 2019 aimed to protect healthcare workers from violence and abuse. Despite being drafted, it was never enacted into law. The bill was intended to address the increasing incidents of violence against healthcare professionals and propose measures for their protection. However, it did not progress to become law.

7. Correct Answer is A

Explanation:

The Aarogya Maitri Health Cube is a modular, portable healthcare facility designed to provide medical services in remote or disaster-stricken areas. It represents a significant innovation in portable medical infrastructure, aiming to deliver essential healthcare services efficiently and effectively in various conditions.

8. Correct Answer is C

Explanation:

National Space Day 2024 focuses on celebrating and highlighting India's achievements in space exploration, including its missions to the Moon and their impact on society and science. The theme reflects the connection between space missions and their broader benefits to humanity.

9. Correct Answer is C

Explanation:

Foot and Mouth Disease is caused by a virus from the genus Aphthovirus, which belongs to the family Picornaviridae. This highly contagious viral disease affects cloven-hoofed animals such as cattle, sheep, goats, and pigs, causing fever and blister-like sores in the mouth and on the feet.

10. Correct Answer is D

Explanation:

Foot and Mouth Disease (FMD) typically presents with symptoms such as:

Blisters on the tongue and lips: Characteristic of the disease, causing sores and lesions in the mouth.

Fever: A common early symptom of FMD.

Reduced milk yield: A result of the disease affecting dairy cattle, leading to decreased milk production.

Rashes on the skin are not a typical symptom of FMD. The disease primarily affects the mucous membranes and feet rather than causing general skin rashes.





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एक कदम स्वच्छता की ओर

GET IN TOUCH

+919999057869

www.upsmentorship.com

@mentorship.india

C - 103, Second Floor, Sector-2
Noida - 201301

contact@mentorshipindia.com