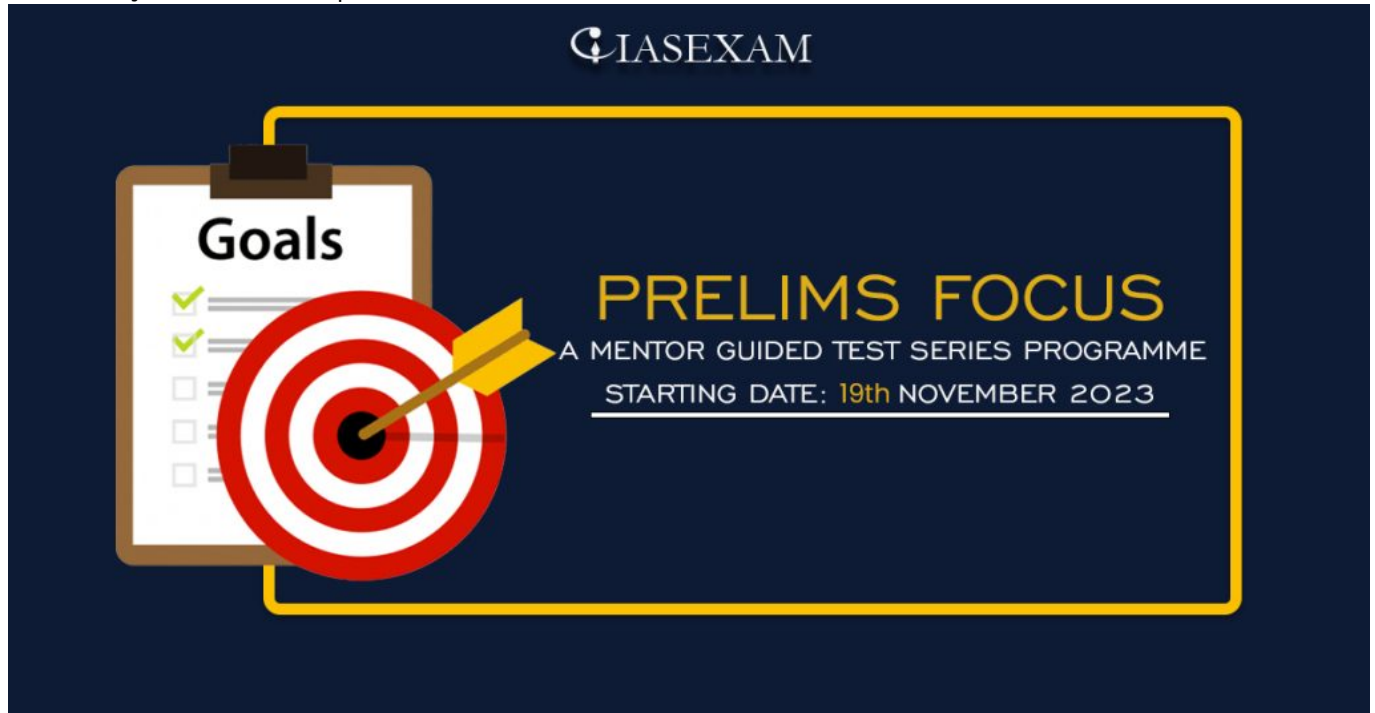


Prelims Focus - 27th April 2024

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Crystal Maze 2

In News: The Indian Air Force (IAF) has recently conducted successful test firing of **Crystal Maze 2 missile**.

- It is an air launched ballistic missile able to hit targets over 250 kilometers away.
- It is an prolonged stand-off range air-to-surface missile designed to strike high-value stationary and relocatable targets, along with long-range radars and air defence systems.
- It is specifically powerful in GPS denied environments, and also can penetrate regions covered by air defence structures.

Maximum Residue Limit (MRL) of pesticides

In News: Activists have recently expressed objections over the Food Safety and Standards Authority of India (FSSAI) order on increasing the maximum residue limit (MRL) of pesticides in spices and culinary herbs.

- The maximum residue limit (MRL) of insecticides has improved notably from 0.01 milligrammes / kilogramme (mg / kg) to 0.1 mg / kg.
- The Food and Agriculture Organization (FAO) defined MRL as the best legally tolerable level of pesticide in meals or animal feed.
- The MRLs of insecticides for meals and commodities are designated under the Food Safety and Standards (Contaminants, Toxins and Residues) Regulation, 2011.

Sympathetic Solar Flare

In News: It is observed that four solar flares erupt simultaneously in a rare celestial event.

- The sight of “sympathetic sun flares” in specific areas of the star was captured by NASA’s Solar Dynamics Observatory, displaying complex magnetic interactions.
- The concurrent blasts had been part of one single eruption, called a sympathetic sun flare.
- **What are sympathetic flares?**
 - Sympathetic flares are because of a couple of eruptions across the Sun’s magnetic subject, linked by big magnetic subject loops that lie above the solar floor.
 - When one spot detonates, others follow healthy.
 - This leads to coronal mass ejections (CMEs) and huge bursts of plasma.
 - Such solar interest is likely a demonstration of the Sun accomplishing the height of its 11 year solar cycle called solar most.
 - The peak is marked by extended solar activities like flares and CMEs.
 - This is the 0.33 sympathetic solar flare this year, following a pair of explosions in January and a duo of X-magnificence flares in March.
- **Impact on the planet**
 - If directed closer to the Earth, they have the ability to disrupt power grids, telecommunication networks and orbiting satellites and divulge astronauts to dangerous amounts of radiation.

Asset reconstruction companies (ARCs)

Recent News:

The RBI has released new guidelines for asset reconstruction companies, which will come into effect on April 24, 2024.

Details:

- Asset Reconstruction Companies (ARCs) are specialised financial institutions in India that are licensed by the Reserve Bank of India (RBI) to acquire and resolve non-performing assets (NPAs) or stressed assets from banks and financial institutions.
- The primary objective of ARCs is to help banks and financial institutions clean up their balance sheets by taking over their stressed assets or NPAs, thereby allowing them to focus on their core lending activities.
- **Key details about ARCs:**
- **Formation:** ARCs were established in India under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002. This act provided a legal framework for the formation and operation of ARCs.
- **Acquisition of NPAs:** ARCs acquire NPAs from banks and financial institutions by either

paying cash or issuing security receipts (SRs) to the selling institution. SRs represent the interest of the ARC in the acquired NPAs.

- **Resolution of NPAs:** After acquiring NPAs, ARCs employ various strategies to resolve these stressed assets, such as restructuring, rescheduling, or enforcing the recovery process through legal means.
- ARCs can also securitize the NPAs they acquire by issuing securities backed by the cash flows from the resolved assets. This helps them raise funds to acquire more NPAs.
- **Regulatory Framework:** ARCs are regulated by the RBI, which sets guidelines for their registration, capital requirements, and operational procedures. The RBI also monitors their activities to ensure transparency and accountability.
- ARCs play a crucial role in the Indian banking system by helping banks offload their stressed assets, improving their asset quality, and enabling them to focus on their core lending operations. However, the effectiveness of ARCs in resolving NPAs has been a subject of debate, and the government has been working on measures to strengthen the ARC framework.

Nephrotic Syndrome

Recent News:

Researchers from Kerala have found a connection between the frequent use of fairness creams and the development of nephrotic syndrome in a series of cases.

Details:

- Nephrotic syndrome is a kidney disorder characterised by the presence of large amounts of protein in the urine (proteinuria), low levels of protein in the blood (hypoalbuminemia), high cholesterol levels, and edema (swelling).
- **Causes:** The primary cause of nephrotic syndrome is damage to the tiny blood vessels in the kidneys called glomeruli, which are responsible for filtering waste and excess water from the blood. This damage can be caused by various underlying conditions, such as: Minimal change disease (most common cause in children), Focal segmental glomerulosclerosis (FSGS) c. Membranous nephropathy, Diabetic nephropathy, Lupus nephritis (associated with systemic lupus erythematosus).
- **Symptoms:** Proteinuria (excessive protein in the urine), Edema (swelling), particularly in the legs, feet, and around the eyes, Hypoalbuminemia (low levels of albumin in the blood), Hyperlipidemia (high levels of cholesterol and triglycerides in the blood), Weight gain due to fluid retention.
- **Treatment:** The treatment for nephrotic syndrome depends on the underlying cause and may involve: a. Corticosteroids and immunosuppressive drugs to reduce inflammation and suppress the immune system b. Diuretics (water pills) to reduce edema c. Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) to control blood pressure and protect kidney function, Dietary modifications, such as limiting protein, sodium, and fluid intake.
- **Complications:** If left untreated or if the underlying cause is severe, nephrotic syndrome can lead to complications, including: Acute kidney injury, Chronic kidney disease, Increased risk of infections due to low immune function, Blood clots, Malnutrition.

- Nephrotic syndrome is a serious condition that requires proper management and treatment to prevent further kidney damage and potential complications. Early diagnosis and appropriate treatment can help improve the prognosis and quality of life for individuals with this condition.