Prelim Bits 29-10-2021 | UPSC Daily Current Affairs

Agni-5

Agni-5 Missile was launched from the APJ Abdul Kalam Island, Odisha successfully.

- Agni-5 Missile is a nuclear-capable long-range Surface to Surface Intercontinental Ballistic Missile (ICBM).
- Agni-5 was developed by the Defence Research and Development Organisation (DRDO) as a part of the Integrated Guided Missile Development Program (IGMDP).
- Agni-5, which uses a 3-stage solid fuelled engine, is capable of striking targets at ranges up to 5,000 kms with very high degree of accuracy.
- India began testing the Agni series of missile in 1989 with the 1st test for Agni 1, an Intermediate Range Ballistic Missile, with the 1000-km range.
- **Significance** - This Missile is capable of reaching most parts of China.
- Successful test of Agni-5 is in line with India's policy to have 'credible minimum deterrence' that underpins the commitment to 'No First Use' of India's nuclear doctrine.
- Thus, second strike capability - the capability to strike back after being hit by nuclear weapons first becomes important.

Intercontinental Ballistic Missile

- Intercontinental Ballistic Missile (ICBM) is a land-based, nuclear-armed ballistic missile with a range of more than 5,600 km.
- ICBM-capable nations include the US, erstwhile Soviet Union, China, France, Israel, North Korea and the UK.
- The first ICBMs were deployed by the Soviet Union in 1958; the US followed the next year.

Nuclear Triad

- It refers to the delivery of nuclear weapons via land, sea and air i.e.
    1. Land-based intercontinental ballistic missiles (ICBMs),
    2. Submarine-launched ballistic missiles (SLBMs), and
    3. Strategic bombers.
- The purpose of having this 3-branched nuclear capability is to reduce the possibility that an enemy could destroy all of a nation's nuclear forces in a first-strike attack.
- This, in turn, ensures a credible threat of a second strike, and thus increases a nation's nuclear deterrence.

Status of Power	Countries
Triad powers	China, India, Russia and the US
Former triad powers	France
Suspected triad powers	Israel

- Other methods of delivery could include orbital weapons, nuclear torpedo and hypersonic glide vehicles.

ADB's Loan for Urban Flood Management in Chennai

India and the Asian Development Bank (ADB) signed a $251 million loan for integrated urban flood management in the Chennai-Kosasthalaiyar basin to strengthen resilience of Chennai city to floods.

- **Problem** - Chennai's rapid urbanization has encroached on its natural landscape, reducing water retention capacity.
- This makes the residents of the Chennai-Kosasthalaiyar basin vulnerable to **frequent widespread flooding**.
- Other problems include intensifying rainfall, a higher sea-level rise, and a storm surge caused by cyclones.
- **Solution** - The new urban flood management project will establish climate-resilient urban flood protection infrastructure.
    1. Construct 588 kms of new storm water drains,
    2. Rehabilitate or replace 175 km of storm water drains,
    3. Improve the water channels to enhance water-carrying capacity,
    4. Upgrade a stormwater pumping station and construct a new one,
    5. Construct 23,000 catchpits in roadside drains to recharge the groundwater aquifer and rehabilitate disaster relief camps.
- It will also strengthen the capacity of the Greater Chennai Corporation (GCC) and communities for better preparedness planning to transform Chennai into a more livable city.
- This project model could be widely replicated for other Indian cities that are vulnerable to climate and disaster risks.

National Formulary of India

Indian Pharmacopoeia Commission (IPC), Ministry for Health and Family Welfare launched the 6th Edition of National Formulary of India (NFI).

> Formulary is a manual containing clinically oriented summaries of pharmacological information about selected drugs.
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> It may also include administrative and regulatory information pertaining to the prescribing and dispensing of drugs.
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> A national formulary generally concentrates on available and affordable medicines that are relevant to the treatment of diseases in a particular country.
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> Formularies are also frequently created for different levels of health care, different sectors and for individual hospitals.

- The 6th Edition of NFI 2021 has been published to **promote rational use of medicines** in India.
- NFI, 2021 would act a guidance document for all the Clinicians and healthcare professionals while prescribing the medicines to the patients.
- NFI 2021 has been drafted by adopting the **principle 'do not miss critical and do not overload'** the information by revising the appendices, chapters and drug monographs.
- There are 34 therapeutic categories chapters including 591 drug monographs and 23 appendices are included in this edition.
- Only indications approved by the Indian drug regulator (CDSCO), clinically relevant and as per

standard care are included

The NFI is aligned with National Health Programmes and National List of Essential Medicines (NLEM).

Indian Pharmacopoeia

- Indian Pharmacopoeia (IP) is published by the Indian Pharmacopoeia Commission (IPC) on behalf of the Ministry of Health & Family Welfare.
- It is published in fulfillment of the requirements of the Drugs and Cosmetics Act, 1940 and Rules 1945 there under.
- IP is recognized as the official book of standards for the drugs being manufactured and/or marketed in India.
- The standards of the IP are authoritative in nature and are enforced by the regulatory authorities for ensuring the quality of drugs in India.
- During quality assurance and at the time of dispute in the court of law the IP standards are **legally acceptable**.

Indian Pharmacopoeia Commission

- Indian Pharmacopoeia (IP) Commission is an Autonomous Institution of the Ministry of Health and Family Welfare.
- IPC **set standards** for identity, purity and strength of **drugs** required from health care perspective of **human beings and animals**.
- It publishes official documents for improving Quality of Medicines by way of adding new and updating existing monographs in the form of IP.
- It further promotes rational use of generic medicines by publishing National Formulary of India.
- IPC also provides **IP Reference Substances** (IPRS) which act as a finger print for identification of an article under test and its purity as prescribed in IP.
    - IPRS are the official standards to be used in cases of arbitration.

Punishing a Doctor

The Madras High Court has disapproved the suspension imposed by Tamil Nadu Medical Council (TNMC) against a doctor who was only a witness in disciplinary proceedings initiated against another doctor.

The Madras HC has said that no doctor should be punished without a being afforded an opportunity to defend themselves.

- The court has insisted the Council lay down a standard operating procedure (SOP) to ensure that no doctor gets punished without following the principles of natural justice.
- It also said that the responsibility of the medical council includes,
    1. Conducting proceedings against medical practitioners, if there is any breach or violation, and also
    2. Protecting the medical practitioners who are rendering yeomen service for the betterment of the general public from unjust penalisation, targeting or punishment.

State of Climate Services 2021

The report 'State of Climate Services' 2021 was released by the World Meteorological Organization (WMO).

> Terrestrial Water Storage (TWS) is the sum of all water on the land surface and in the subsurface, ie surface water, soil moisture, snow and ice and ground water. Only 0.5% of water on Earth is usable and available as freshwater.

- According to the report, TWS dropped at a rate of 1 cm per year in 20 years (2002-2021).
- The biggest losses have occurred in Antarctica and Greenland. But many highly populated, lower latitude locations have experienced TWS losses.
- This includes India, where the TWS has been lost at a rate of at least 3 cm per year. In some regions, the loss has been over 4 cm per year too.
- India has recorded the highest loss in TWS if the loss of water storage in Antarctica and Greenland is excluded.
- So, India is the 'topmost hotspot of TWS loss'. The northern part of India has experienced the maximum loss within the country.
- **Factors** - Water resources across the world are under tremendous pressure due to human and naturally-induced stressors,
    1. Extreme weather events,
    2. Population growth,
    3. Urbanisation and
    4. Decreasing availability of freshwater

Indian Scenario

- In India, per capita water availability is reducing due to an increase in population.
- Average annual per capita water availability has been **consistently decreasing** - from 1,816 cubic metres (2001) to 1,545 cu.m. (2011).
- It is projected to further decrease to 1,367 cubic metres in 2031.
- Falkenmark Water Stress Indicator of 21 river basins in India are,

Number of River Basins	Water Stress
5	'Absolute water scarce' (per capita water availability below 500 cu. m.)
5	'Water scarce' (per capita water availability below 1,000 cu. m.)
3	'Water stressed' (per capita water availability below 1,700cu. m.)

- The State of India's Environment in figures, 2020 says that by 2050, 6 will become absolute water scarce, 6 will become water scarce and 4 will become water stressed.

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