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Current Affairs - 07 December 2024

INS Tushil

The Indian Navy is set to commission its latest multi-role stealth guided missile frigate, INS Tushil, at Kaliningrad, Russia.



About INS Tushil:

- It is a **multi-role stealth guided missile frigate**.
 - It is the latest in a **series of upgraded Krivak III-class frigates**, part of the **Russian-designed Project 1135.6**.
 - The Indian Navy already operates six ships from this class, including **three Talwar-class frigates** and **three Teg-class follow-ons**, all built at Russian shipyards in St. Petersburg and Kaliningrad.
 - INS Tushil, the **seventh vessel in this series**, is the first of two upgraded frigates under a contract signed in 2016 between the Indian Government, JSC Rosoboronexport, and the Russian defence industry.
 - The ship's name, Tushil, translates to "protector shield," and its crest embodies the concept of an "Impenetrable Shield" (Abhedya Kavacham), reflecting the Indian Navy's commitment to safeguarding India's maritime borders.
 - Tushil is equipped with advanced **stealth features**, making it less detectable by enemy radar and more stable in various sea conditions.
 - The ship incorporates **26 percent indigenous technology**, with over 33 systems developed by Indian manufacturers.
 - The ship will be **assigned to the Western Fleet under the Western Naval Command**, joining the "Sword Arm" of the Indian Navy.
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MULLAPERIYAR DAM



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The Supreme Court fixed in January a detailed hearing of a petition seeking to bring down the permissible water level of the Mullaperiyar Dam.



About Mullaperiyar Dam:

- It is a **masonry gravity dam** situated on the **Periyar River** in Thekkady, Idukki district, in **Kerala**.
 - It is located 881 m above sea level, on the **Cardamom Hills of the Western Ghats**.
 - The dam is built at the confluence of the **Mullayar and Periyar rivers**.
 - Its **construction began in 1887** and was **completed in 1895**. The construction was carried out by the British Corps of Royal Engineers.
 - The dam was **constructed with limestone and "Surkhi"** (burnt brick powder and a mixture of sugar and calcium oxide).
 - The dam is 155 ft high and 1200 ft long.
 - The dam's primary function is to **transfer water from the Periyar River to the Vaigai River basin in Tamil Nadu**.
 - It distributes water to various regions in Tamil Nadu, **facilitating irrigation** for approximately 685,000 hectares of land **across five districts**.
 - The construction of the dam paved the way for the creation of the **artificial lake at the centre** of the Reserve.
 - The **Periyar National Park** is located around the dam's reservoir.
 - Although the dam is located in Kerala, it is **operated and maintained by Tamil Nadu**.
 - It was **according to a 999-year lease agreement** made during British rule, that the operational rights were handed over to Tamil Nadu.
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WHAT IS GAIT ANALYSIS?



Gait analysis led to the arrest of 7-month-old's rapist in Bengal recently.

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About Gait Analysis:

- It is an **assessment of the way the body moves**, usually by walking or running, from one place to another.
 - The purpose of gait analysis is to **detect any abnormalities in locomotion**.
 - An individual's gait is a combination of complex functions involving use of the body's visual, somatosensory, and vestibular systems.
 - Problems within any of these systems, as well as problems in the joints involved, can lead to **postural and gait abnormalities**.
 - Gait **abnormalities involve unusual walking patterns** that may be caused by disease or injury. Such irregularities can lead to pain in the hips, back, neck, feet, knees, or ankles.
 - Gait analysis, **also known as walking or motion analysis**, is a comprehensive **evaluation of the way an individual stands and walks**.
 - This analysis **can help**:
 - Identify the source of muscle, nerve, or skeletal problems.
 - Discover the source of a patient's pain while standing or walking.
 - Help to diagnose bone deformities or skeletal misalignments.
 - Assist in discovering muscle or nerve dysfunction.
 - Check the progression of diseases like arthritis or muscular dystrophy
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NHAI CONTRACTOR RATING SYSTEM

Recently, the National Highway Authority of India (NHAI) has introduced a comprehensive rating system for performance assessment of the Concessionaires engaged in the National Highway development and maintenance.



About NHAI Contractor Rating System:

- It is a detailed methodology for rating the concessioners has **been formulated by NHAI**.

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- Under which concessioners will be **evaluated every six months** and ratings will be uploaded on NHA website and its social media handles.
- **Assessment Methodology:**
 - The assessment will be based on **Pavement Condition Index (PCI)** as well as **Defect rectification compliance** on NHA One App where over 95 defects can be notified and monitored digitally shall also form a part of rating assessment.
 - Eighty Percent weightage would be given to PCI and Twenty percent weightage would be given to compliance on the NHA One App.
 - PCI, a scientific metric ranging **from 0 to 100**, reflects pavement conditions from **‘Excellent’ to ‘Failed’**, as per IRC 82:2023 guidelines.
 - PCI will be calculated based on **six functional parameters** - roughness, potholes, cracking, raveling, rut depth and patchwork.
 - As per the assessed ‘Concessionaire Rating Value’, Concessionaires will be divided under different categories.
 - Contractors scoring **less than 70 out of 100 rating** will be declared **‘non-performers’**, thus becoming ineligible to secure new National Highway projects till improvement in its rating.
 - The assessment of the concessionaires will be **done at two levels**, first at individual project level and second at Concessionaire level.
 - The rating value at project level as well as combined concessionaire rating value would be reviewed every 6 months with every cycle of NSV survey. Data related to defects rectification compliance on NHA One App will also be used for calculating rating value.
- **Significance:**
 - It will enhance accountability and assess the quality of construction and maintenance of National Highways.
 - It will provide a safer, smoother, and seamless travel experience to National Highway users.



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COPERNICUS PROGRAMME

Recently, the third Copernicus Sentinel-1C satellite was launched last night aboard a Vega-C rocket from Europe's Spaceport in French Guiana.



About Copernicus Programme:

- It is the Earth observation component of the **European Union's Space programme**.
- It offers information services that draw from **satellite Earth Observation and in-situ** (non-space) data.
- It consists of a complex set of systems that collect data from multiple sources, including Earth Observation satellites, in-situ sensors like ground stations, and airborne and sea-borne sensors.
- Users have free and open access to a great deal of this data, which is also processed to provide a set of services based on reliable and near-real time information.
- Copernicus is served by a set of **dedicated satellites** (Sentinel family) and contributing missions.
- The Sentinel satellites are specifically designed to meet the needs of the Copernicus information services and their users.
- Since the launch of **Sentinel-1A in 2014**, the European Union has initiated a process to place a complete constellation of almost **20 satellites in orbit before 2030**.
- The services of Copernicus, address six thematic areas namely: **atmosphere, marine, land, climate, emergency response, and security**.
- Copernicus is **funded**, coordinated and managed by the **European Commission** in cooperation with partners such as **European Space Agency** and other EU agencies.

About Sentinel-1C:

- It delivers high-resolution radar images to monitor **Earth's changing environment**.

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- It supports various applications, advances scientific research, and adds new capabilities for tracking maritime traffic.

PM e-VIDYA

Recently, the union Minister for Education launched the PMeVIDYA DTH 24x7 Channel No. 31 for Indian Sign Language (ISL) in New Delhi.



About PM e-VIDYA:

- It was launched as part of the Atmanirbhar Bharat Abhiyaan by the **Ministry of Education on 17th May 2020**.
- It is aimed at **bridging the digital divide** and ensuring inclusive, quality education for all learners across the nation.
- Through its diverse components, it provides the necessary tools for both students and educators to adapt to a digital learning environment.
- It provides multi-mode access to education through **digital, online, and on-air platforms to minimise learning losses**.
- It **supports the vision of the National Education Policy (NEP) 2020**, ensuring equitable and quality education across the country.
- The initiative leverages technology to make education accessible to all students, including those in rural and remote areas, by providing a wide range of digital resources, courses, and interactive content.
- **Components:**
 - **DIKSHA (Digital Infrastructure for School Education):** It is a national digital platform providing high-quality e-content, including QR-coded Energized Textbooks for all grades (one nation, one digital platform).
 - **PM e-Vidya DTH TV Channels:** It had initially 12 DTH channels, now expanded to 200 channels, providing supplementary education in multiple Indian languages for classes 1-12 across States/UTs.

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- **SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds):** It is a national MOOC platform offering higher education courses with credit transfer provisions. It also offers school courses (9th–12th) via NIOS and NCERT. Currently, over 10,000 courses are available, with 4.1 lakh students enrolled for NCERT courses.
- **Radio, Community Radio & CBSE Podcast - Shiksha Vani:** These platforms are used to **broadcast educational content to a wider audience**, especially in areas with limited internet access.
- **e-Content for Teachers:** It provides various e-courses and digital resources for school and teacher education include interactive videos, audiobooks, and digital events like quizzes for teachers and students.

About the PM e-Vidya DTH Channel 31:

- It is devoted to the promotion of the **Indian Sign Language** has been conceptualised to promote ISL as a language as well as a school subject, so that the larger population has access to learning the language.
- It is a 24x7 Channel will disseminate learning content for school children (Central & State Curriculum), teachers, teacher educators and other stakeholders.

RUTAG INITIATIVE

Recently, the first annual review meeting of the Rural Technology Action Group (RuTAG) 2.0 projects was held at the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Srinagar, Kashmir.



About RuTAG Initiative:

- Rural Technology Action Group (RuTAG) is an initiative of the Office of the **Principal Scientific Adviser (PSA) to the Government of India** launched in 2004.

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- It was conceptualized as a mechanism to provide a higher level of **Science & Technology intervention and support for rural areas**.
 - Under this initiative, the interventions are designed to be primarily demand-driven, focusing on **bridging technology gaps at the grassroots level**, upgrading technology, and providing training and demonstrations through innovative projects.
 - The Office of the PSA launched **RuTAG 2.0 in April 2023**, with a focus on commercialization and broader dissemination of developed technologies as products, ensuring wider accessibility and socio-economic impact.
 - The RuTAG 2.0 initiative emphasizes **translating innovation into market-ready products** reflecting its commitment to driving transformative changes in rural areas and empowering communities for sustainable development.
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INDIA'S DIGITAL PRAGATI

- In an era where nations face increasing challenges in implementing large-scale infrastructure projects, **India has pioneered a groundbreaking approach through its PRAGATI (Pro-Active Governance and Timely Implementation) platform**.
- This **innovative digital governance initiative, launched in 2015 by Prime Minister, exemplifies how technology, combined with decisive leadership, can transform infrastructure development, overcoming delays, inefficiencies, and inter-agency bottlenecks**.
- **PRAGATI's success has not only propelled India's infrastructure growth but also offers valuable lessons for other nations, particularly in the Global South.**

PRAGATI's Role in India's Infrastructure Transformation

- **Overcoming Traditional Bottlenecks**
 - **Infrastructure projects in India have historically faced numerous challenges, including bureaucratic red tape, fragmented coordination between central and state governments, land acquisition issues, and environmental clearance delays.**

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- PRAGATI directly addresses these bottlenecks by creating a unified platform where all key stakeholders come together for monthly reviews led by the prime minister.
 - **Leveraging Technology Effectively**
 - PRAGATI leverages advanced technological tools to ensure comprehensive project monitoring and real-time data analysis.
 - Video conferencing allows direct communication among stakeholders spread across the country, while drone feeds provide live visuals of project sites, enabling accurate assessments of on-ground progress.
 - **Leadership-Driven Accountability**
 - By directly involving the prime minister in monthly reviews, the platform creates a culture of urgency and responsibility.
 - When top officials are aware that their decisions and progress will be scrutinised at the highest level, they are more motivated to address issues proactively.
 - This leadership model also underscores infrastructure development as a national priority, inspiring cooperation across political and bureaucratic divides.
 - For instance, PRAGATI's inclusive approach has enabled the successful acceleration of projects in states governed by opposition parties, demonstrating that the platform transcends political affiliations.
 - **Beyond Accelerating Projects**
 - It has fundamentally reshaped how infrastructure is approached, shifting from a reactive to a proactive model.
 - Issues are anticipated and addressed before they escalate, and solutions are formulated collaboratively, reducing overall costs and time.
 - This transformation is especially crucial for large-scale, complex projects that require coordination across multiple levels of government and diverse stakeholders.
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