

GS PAPER 3 ***Security-Nov'18***

INS Arihant

In News

- INS Arihant, *India's first nuclear ballistic missile submarine*, has completed its first deterrence patrol.
- This means the submarine is fully operational and, when deployed for extended patrols, can target regional adversaries with nuclear-tipped submarine-launched ballistic missiles.

Background

- The submarine was sanctioned using secret funds in the late 1970s by then Prime Minister Indira Gandhi after India conducted its first nuclear test.
- The design and technology of INS Arihant was locked in 1984 when the formal go-ahead was given.
- Work on the submarine started in 1998. It took the Ship Building Centre (SBC) almost 11 years to construct the country's first indigenous nuclear-powered submarine.
- INS Arihant was launched on July 26, 2009 to mark 10 years since the end of the Kargil War.
- In August 2013, the submarine's atomic reactor was activated.
- In August 2016, Prime Minister Modi inducted the submarine into the Navy.

Key Highlights

- INS Arihant is a part of Indian Navy's secretive **Advanced Technology Vessel (ATV) Project**, operated under the supervision of the Prime Minister's Office and closely monitored by agencies such as the Department of Atomic Energy and the Submarine Design Group of the Directorate of Naval Design.
- It is armed with four ***K-4 submarine launched ballistic missile*** with a range of 3,500 km. It can also be armed with 12 K-15 missiles with a range of 750 km.

How INS Arihant Is Different From Other Submarines

- Conventional SSK submarines use a diesel-electric engine as their power source, and *have to surface daily to get oxygen for fuel combustion*. However, Strategic Strike Nuclear Submarines (SSBNs) like INS Arihant are bigger in size and are powered by a nuclear reactor and as a result, they can ***function submerged for months*** without having to surface.
- This feature allows them to travel further and with greater stealth. SSBNs are supposed to be the best guarantor of a second-strike capability in a nuclear exchange.
- INS Arihant is also different from the other nuclear-powered attack submarines as they **can carry ballistic missiles with nuclear warheads**.

Submarines In Possession of Indian Navy

- The Navy currently has **14 SSKs** — nine Sindhughosh-class (Russian Kilo class), four Shishumar-class (German Type 209) and one Kalvari-class (Scorpene class) submarines.
- Besides these, the navy also has one nuclear-powered attack submarines (SSN), **INS**

Chakra, a Russian Akula-class submarine taken on lease in 2012 for 12 years.

- INS Arihant will be the first SSBN-type submarine in the Navy. It has also been reported that its sister vessel, the **INS Aridhaman**, is nearing completion.

Significance for India

- India's aim has been to develop a "**credible nuclear deterrent**", with capabilities to deliver nuclear weapons from multiple locations on land, air and sea, to all strategic areas and centres, in its two nuclear-armed neighbours —China and Pakistan.
- With the induction of INS Arihant, India is **ready with its nuclear triad** - the capability of firing nuclear weapons from land, air and sea.
- While land-based missile sites can be attacked and destroyed, a submarine-based deterrent is **virtually impregnable** against a missile attack.
- India has now become **part of an elite club of countries** - Russia, the US, China, France and the UK that possess nuclear ballistic missile submarines - the **only non-Permanent member of UNSC** having a sea-based nuclear deterrent.

India's Nuclear Doctrine:

- India had made its Nuclear Doctrine in 2003.
- The basic principle of India's nuclear doctrine is "**No First Use**". According to this policy, nuclear weapons will only be used in retaliation against a nuclear attack on Indian Territory or on Indian forces anywhere.
- India needs to build and maintain a **Credible Minimum Deterrent**. This includes:
 - Sufficient and survivable nuclear forces to inflict unacceptable damage to the enemy.
 - Forces must be operationally prepared at all times.
 - Effective Intelligence and Early Warning Capabilities.
 - Communication of Deterrence Capability to the enemy.
- The right to take nuclear action against the enemy **will only be taken by the elected representatives of the people**, i.e. the political leadership of the country, although the cooperation of the Nuclear Command Authority will be necessary.
- The bureaucracy of India is not authorised to take decision of the nuclear attack on the enemy.
- Nuclear weapons will **not be used against non-nuclear state**.
- India will continue to support the global initiative to create a **nuclear free world** and will push forward the idea of **discrimination free nuclear disarmament**.

Nuclear Command Structure (NCA):

- It comprises of an Executive Council and a Political Council.
- The Chairman of the Political Council is the Prime Minister. It is the sole body which can authorise the use of nuclear weapons.
- The Executive Council is headed by the National Security Advisor (NSA). The Executive Council provides the inputs for decision taken by the Nuclear Command Authority (NCA)

and executes the instructions given to it by the Political Council.

Border Area Development Programme

In News

- The Centre has released more than Rs. 113 crore to *six border states* as part of its plan to ameliorate the problems of people living in isolated locations.
- The fund has been released to **Assam, Nagaland, Sikkim, Gujarat, Rajasthan and Uttarakhand** under the Border Area Development Programme (BADP).

About BADP

- The **Department of Border Management, Ministry of Home Affairs** has been implementing the Border Area Development Programme (BADP) through the State Governments as part of a comprehensive approach to Border Management.
- The programme aims to **meet the special development needs** of the people living in remote and inaccessible areas situated near the international border and to saturate the border areas with the essential infrastructure through convergence of different schemes and participatory approach.
- It was initiated in the border areas of the western region during that Seventh Five Year Plan period. The programme now covers 394 border blocks of 111 border districts in 17 States.
- The State covered are Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

Analysis

- Although, the scheme has achieved success in in western sector, particularly in Rajasthan, Himachal Pradesh etc. It has failed in North eastern states.
- A NITI Aayog report “**Evaluation Study on Border Area Development Programme** ” reveals that the programme has not achieved its intended goals in north east India.
- Difficult terrain, the political interference, corruption, meagre funds, faulty implementation by states and inadequate provisions of local participation are some of the mains reasons for this failure.
- Also, due to inadequate planning and coordination, the funds meant for BADP are either siphoned off or remain unused.

Mission Raksha Gyan Shakti

In News

- Defence Minister (DM) has formally launched “Mission Raksha Gyan Shakti”. As part of the ongoing initiatives to enhance self-reliance in defence, *the Department of Defence Production* has instituted this new mission, which aims to provide a boost to the IPR culture in indigenous defence industry.
- The salient inventions and innovations achieved by Defence Research and Development Organisation (DRDO), Defence Public Sector Undertakings (DPSUs) and Ordnance

Factories (OFs) have resulted in successful filing of Intellectual Property Right (IPR) applications.

- The IPR has emerged as a key ingredient of an ecosystem, which stimulates innovation and ingenuity. An **IP Facilitation Cell** was established in April 2018, which has worked tirelessly to achieve ambitious targets of training 10,000 personnel of OFB and DPSUs on IPR and to facilitate filing of at least 1,000 new IPR applications.
- **Future Course of Action:** The focus is also on need to migrate from the culture of seeking Transfer of Technology (ToT) from foreign sources to generating Intellectual Property in India, to achieve the goal of self-reliance in defence sector.
- The **Directorate General of Quality Assurance (DGQA)** has been entrusted with the responsibility of coordinating and implementing the programme. Thus, the end objective of 'Mission Raksha Gyan Shakti' is to inculcate IP culture in Indian defence manufacturing ecosystem.

10th Indian Ocean Naval Symposium

In News

- As many as 26 of the 32 countries that constitute the membership of the Indian Ocean Naval Symposium (IONS) are participating in the 10th edition of the event that commenced in Kochi on November 13, 2018.
- The theme for this year's seminar is **"IONS as a Catalyst for SAGAR"** (*Security and Growth for All in the Region*).
- It is in consonance with India's "Act East" policy and the nation's diplomatic, economic and military outreach in the region.

About IONS

- It was launched in 2008 under the aegis of the Indian Navy and consists of 32 nations, including **eight observer states** (like Germany, China and Russia) grouped into *four categories* namely South-Asian, West Asian, East African and South East Asian & Australian Littorals.
- **Voluntary Initiative:** The IONS is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.
- **Objective:** In addition to fostering maritime cooperation, other principle objectives of IONS were to promote a shared understanding of maritime issues facing the region, formulate strategies and cooperative mechanisms to enhance regional maritime security, and strengthen capabilities to ensure speedy response to requirements of Humanitarian Assistance and Disaster Relief (HADR) in the IOR.



- **Working:** The IONS acts as a security construct for the Indian Ocean region and apart from its series of symposiums, it conducts numerous other activities like workshops, essay competitions and lectures to promote its objective.

Initiative Taken Till Now

- **Working Groups:** IONS has created three IONS Working Groups (IWGs) on Maritime Security, Humanitarian Assistance and Disaster Relief (HADR) as well as Information Sharing and Interoperability. IWG on HADR, chaired by India, have evolved the Draft IONS HADR Guidelines.
- **Joint Exercise:** In November 2017, *International Multilateral Maritime Search and Rescue Exercise (IMMSAREX)* by Bangladesh marked the first operational exercise under IONS Charter and is likely to be followed up by *Anti-Piracy exercise* in mid-2019 by Iran. These regional initiatives underscore the overwhelming success of the forum in delivering its envisaged aims.

Benefits Of The IONS Initiative

- **Well-laid Objective:** The idea of IONS not only puts the Indian Ocean Region (IOR) as a top priority for New Delhi's security and economic prosperity, but also seeks to project India as a benign maritime power initiating multilateralism and inclusivity in the region.
- **Envisioned Not On Political Lines:** Being a technical forum with a broad membership, *unlike the politically driven Quad*, India can use IONS to unite the regional states on shared principles and strategies without antagonizing any state at the cost of block politics.
- **Is In Consonance With India's Ocean Strategy:** IONS fits into India's *three-fold ambitions in the region i.e.* strengthening and deepening the relations with the Indian Ocean littoral states; establishing its leadership potential and aspirations of being a net-security provider; and fulfilling India's vision of a rules-based and stable maritime order in the IOR.
- **Platform to Reach To Littoral States of IOR:** The wide and inclusive membership of IONS provides India with a platform that can be used to reach out to a range of IOR states and at the same time strengthen and deepen its existing partnerships in the region. As India seeks to consolidate its sphere of influence from the *Straits of Malacca to Hormuz*, a platform like IONS would ensure that India has the scope to cooperate with the littoral states on issues of maritime security and awareness in the region.
- **Help India Project Itself As Net Security Provider:** As India punches above its weight and seeks to counter-balance the increasing presence of China alongside owning more responsibilities in the region, IONS can help India to project itself as a net-security provider. This idea also emanates from a legacy that the Indian Ocean is the natural theatre for the Indian Navy and it should, by the virtue of its history and geographic centrality, enjoy a primacy.
- **IONS Can Facilitate In Rule-Based Order:** IONS can be a facilitator for India's vision of a rules-based maritime order in the region. A rules-based maritime order can be advanced through a body like IONS in two ways.
 - First, the platform can regularize maritime activities and take steps toward institutionalizing them. This would gradually instill confidence among the states in terms of holding Coordinated Patrols (CORPAT), Maritime Interdiction Operations, Search and Rescue Operations, in turn enhancing the interoperability of forces.

- Second, India should normatively project the idea of a naval community in the region that harps on inclusivity and coordination in order to deal with common risks and threats. With IONS' broad membership, India can ensure that no one power dominates in the region endangering the balance of power in IOR.

Challenges

- **Challenge of Implementation:** India is yet to showcase any leadership potential at a multilateral level. Proactive military diplomacy through the platform would provide India an opportunity to match its rhetoric with delivery.
- **Lack of Coordination And Political Will:** While IONS provides multiple possibilities of showcasing and fulfilling India's ambitions in the region, it also suffers from lack of coordination and sufficient political will.
- **Vast Geography And Vision:** The IOR is a vast and diverse expanse where the states differ in capabilities and vision.
- **Presence of Other Regional Groups:** There are hosts of exclusive regional and inter-regional arrangements already present, India needs to chart out a role and purpose for IONS in absence of which it can turn into a powerless club.
- **Presence of Extra Territorial Power in IOR:** The security dynamics of the Indian Ocean would also stand in the way of India and its ambitions being pushed through a multilateral domain. As the presence of extra-regional powers in the region holds the key to alter the balance of power in the region.
- **India's Perusal Of Self-Interest:** Moreover, India's own interests in the region are more than often not pursued through a multilateral approach but a bilateral or trilateral approach.

Way Forward

- As India turns gradually more to the sea, its strategies and policies should be more carefully and closely watched in the region.
- Multilateral initiatives like IONS may be relegated to diplomatic niceties, but they can be an enabling factor in India's roadmap for IOR in areas of institution building, agenda setting and power projection, without which India's IOR ambitions would ring hollow.
- IONS can be India's platform to showcase that India can be an effective and benign power in the region with diplomatic potential and might along with bringing a structural change that has the possibility of ensuring stability for the Asian balance of power.

Igla-S system

In News

- Despite several complaints by the competitors, Russia's Rosoboronexport has come out victorious and will soon be supplying **very short-range air defense or VSHORAD program** missile system worth \$ 1.3 billion to the Indian Army.
- The Russian Igla-S system is expected to **replace the IGLA M systems** of Russia that is being used since the 1980s.
- The Indian Army has asked for 5,175 missiles and associated equipment in the VSHORAD program, out of which around 2,300 missiles will be bought in fully formed condition, 260 will

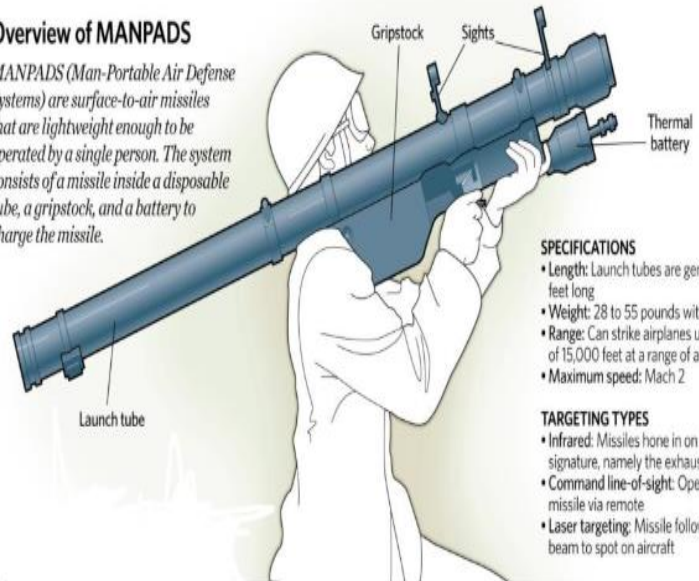
be in semi-knocked down (SKD) condition and 1,000 missiles will be completely knocked down (CKD) and 600 missiles will be produced in India under Prime Minister Narendra Modi's Make in India initiative.

About Igla-S system

- IGLA-S (SA-24) is the latest model of Russian **MANPADS (Man-portable Air Defense System) technology** offered to the Indian Army and offers superior performance over the earlier supplied SA-18 missiles to India.
- Igla-S system is designed for use against visible targets as tactical aircraft, helicopters, unmanned aerial vehicle, cruise missile, head-on or receding, in the presence of natural (background) clutter and countermeasures.
- These missiles are capable of hitting an aerial target at short range. Thus, The Igla-S system is considered critical for defense against incoming helicopters, UAVs and ground attack aircraft.
- These are new accurate, reliable and flexible VSHORAD system with 24/7 all-target capability have been developed for any combat situation. It is a new generation integrated sighting system, enhanced gunner aids, high precision, unbeatable range and unjammable laser guidance combine to produce a ground-based air-defence system with world-leading capabilities.

Overview of MANPADS

MANPADS (Man-Portable Air Defense Systems) are surface-to-air missiles that are lightweight enough to be operated by a single person. The system consists of a missile inside a disposable tube, a gripstock, and a battery to charge the missile.



SPECIFICATIONS

- Length: Launch tubes are generally four to 6.5 feet long
- Weight: 28 to 55 pounds with launcher
- Range: Can strike airplanes up to an altitude of 15,000 feet at a range of about 3.2 miles
- Maximum speed: Mach 2

TARGETING TYPES

- Infrared: Missiles home in on an aircraft's heat signature, namely the exhaust
- Command line-of-sight: Operator controls missile via remote
- Laser targeting: Missile follows aimed laser beam to spot on aircraft

Challenges

- **USA Sanctions:** The concern is the US sanctions under the *Countering America's Adversaries Through Sanctions Act (CAATSA)* law that restricts defence purchases from Russia, Iran and North Korea.
- **Charges of Irregularity In Tender:** Swedish firm Saab (one of the bidder) said that it was contemplating moving the court against the \$1.5 billion deal alleging irregularity in the tendering process.

MOD Enhances Financial Powers of Vice Chiefs of Tri-Services

In News

- The Ministry of Defence has delegated greater financial decision-making powers to Vice Chiefs of the three Services.
- With the new delegation, the Vice Chiefs will be able to exercise financial powers upto five times more than the existing powers with an enhanced ceiling of Rs. 500 crores. (Earlier it was 100 crore)

- A number of initiatives have been taken by the Defence Ministry in the recent past to simplify and streamline the procedures and decentralize the decision-making through delegation of powers. For example- In March 2018, the vice-chiefs were granted additional powers to carry out specific procurement to ensure operational preparedness.

Impact

- **Expedite Procurement:** This will expedite the decision making process involved in the revenue procurements of the Armed Forces.
- **Improve Operational Preparedness:** This will also augment the arms and ammunition reserves of the Armed Forces to enhance their operational preparedness.
- **Capacity Building Of Armed Forces:** This is likely to give another fillip to the capacity of the three Armed Forces.

NIPUN e-learning Portal

In News

- In consonance with the spirit of digital India, the Delhi Police recently launched an e-learning portal 'NIPUN' to provide up to date information to its police. Through the website, Delhi Police will be using advanced technology in imparting **in-service training** to its personnel.
- The website provides the training syllabus, study material, sample question papers, manuals, and much more. This will give online access to police personnel undergoing their basic training for relevant information and will **facilitate information sharing between the faculty and the trainees** at the training institute.
- With resources such as law, standing orders, investigation checklists, forms for case files, latest High Court and Supreme Court rulings being made available online through the e-learning portal, it is envisioned that the investigating officers will be able to take the benefit of this information during the course of their duty.
- The flexibility of taking courses anytime and anywhere will now make it possible for police personnel to upgrade their skills and re-enforce their learning while balancing training time with work time.
- Many of the courses have been developed in-house while others have been finalised through collaboration with the University Grants Commission, industry body FICCI, National Human Rights Commission, National Commission for Protection of Child Rights, and Janaki Devi Memorial College under the project CLAP (The Collaborative Learning and Partnership).
- Based on the feedback and training needs, the courses will be tailored to meet the needs of the investigating officers.

Moreover, the website **will not only provide information but also act as a tool for feedback mechanism and bridge communication gap.**