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पंजाब केसरी

Wed, 18 Dec 2019

ब्रह्मोस सुपरसोनिक क्रूज मिसाइल का सफल परीक्षण

बालासोर, (भाषा): भारत ने बेहद सटीक तरीके से निशाना साधने की क्षमता को परखने के लिए मंगलवार को ब्रह्मोस सुपरसोनिक क्रूज मिसाइल के दो संस्करणों का अलग-अलग सफल परीक्षण किया। रक्षा सूत्रों ने बताया कि सुबह लगभग साढ़े आठ बजे बालासोर के पास चांदीपुर स्थित एकीकृत परीक्षण केंद्र (आईटीआर) लॉंच पैड-3 से एक स्वचालित मोबाइल लॉंचर के जरिए ब्रह्मोस के जमीनी संस्करण का प्रायोगिक परीक्षण किया गया। उन्होंने बताया कि ब्रह्मोस के हवाई संस्करण का परीक्षण दोपहर बाद किया गया जिसमें कलाईकुंड वायुसेना स्टेशन से भारतीय वायुसेना के एक लड़ाकू विमान ने उड़ान भरी और बंगाल की खाड़ी के ऊपर हवा में आ रहे लक्ष्य पर निशाना साधकर मिसाइल दागी।

2.5 टन है मिसाइल का वजन

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) के एक सूत्र ने बताया कि लक्ष्यों पर बेहद सटीक निशाना साधने की मिसाइल की क्षमता को परखने के लिए ये परीक्षण किए गए। परीक्षण सफल रहे और सभी मानक पूरे कर लिए गए। ब्रह्मोस मिसाइल मध्यम दूरी तक मार करने वाली रैमेजेट सुपरसोनिक क्रूज मिसाइल है जिसे पनडुब्बियों, युद्धपोतों, लड़ाकू विमानों या जमीन से दागा जा सकता है। 2.5 टन वजनी यह मिसाइल लगभग 300 किलोमीटर की दूरी तक मार कर सकती है। रक्षा सूत्रों ने बताया कि मिसाइल के 450 किलोमीटर की मारक क्षमता वाले पहले विस्तारित संस्करण का 11 मार्च 2017 को सफल परीक्षण किया गया था। ब्रह्मोस के कम दूरी के जमीनी संस्करण का 30 सितंबर 2019 को चांदीपुर स्थित आईटीआर से परीक्षण किया गया था। इसी तरह भारतीय वायुसेना ने इस साल 22 अक्टूबर को अंडमान और निकोबार द्वीप समूह स्थित त्राक द्वीप से ब्रह्मोस मिसाइल के सफल परीक्षण किए थे। ब्रह्मोस भारत के डीआरडीओ और रूस के एनपीओएम का संयुक्त उपक्रम है। मिसाइल सेना के तीनों अंगों-थलसेना, नौसेना और वायुसेना के बेड़ों में शामिल है। ब्रह्मोस को दुनिया की सबसे तेज सुपरसोनिक क्रूज मिसाइल माना जाता है।

Business Standard

Wed, 18 Dec 2019

DRDO test fires two versions of BrahMos supersonic cruise missile

A land-attack version of the missile was test-launched from a mobile autonomous launcher at Launch Pad-3 of the Integrated Test Range (ITR) at Chandipur near here at around 8.30 am

Balasore: India on Tuesday successfully conducted separate trials of two variants of supersonic cruise missile BrahMos to check its capability to hit targets with precision and accuracy, Defence sources said.

A land-attack version of the missile was test-launched from a mobile autonomous launcher at Launch Pad-3 of the Integrated Test Range (ITR) at Chandipur near here at around 8.30 am.

Its air force variant was fired in the afternoon when a fighter jet of the IAF flew from Kalaikunda airbase and launched the missile towards an air-borne target over the Bay of Bengal near here.

The trials, carried out to check the capability of the missile to hit targets with pinpoint accuracy, were successful, meeting all the parameters, a Defence Research and Development Organisation (DRDO) source said.

The BrahMos missile is a medium-range ramjet supersonic cruise missile capable of being launched from submarines, warships, fighter jets or land. The 2.5-tonne missile has a strike range of nearly 300 kilometres.

The first extended version of the missile with a strike range of 450 km was successfully tested on March 11, 2017, Defence sources said.

A shorter range land-attack version of the BrahMos was earlier successfully test-fired from the ITR at Chandipur on September 30, 2019.

Similarly, the IAF had conducted successful trials of BrahMos missiles from Trak Island in Andaman and Nicobar Islands on October 22 this year.

BrahMos is a joint venture of the DRDO of India and the NPOM of Russia.

The missile is operational with the Indian Army, Navy and Air Force.

The BrahMos is regarded as the fastest supersonic cruise missile in the world, the sources said adding that it has established itself as a major force multiplier in modern warfare with its land-attack and anti-ship capabilities with multi-role and multi-platform abilities.

https://www.business-standard.com/article/pti-stories/2-versions-of-brahmos-missile-successfully-test-fired-119121701182_1.html

THE ASIAN AGE

Wed, 18 Dec 2019

Supersonic cruise missile BrahMos successfully test-fired from Odisha's Chandipur

The first extended version of the missile with a strike range of 450 km was successfully tested on March 11, 2017, Defence sources said

Chandipur: Supersonic cruise missile BrahMos was successfully test-fired from a base in Odisha's Chandipur on Tuesday, Defence sources said. The land-attack version of the missile was test-fired from a mobile autonomous launcher at Launch Complex-3 of the Integrated Test Range (ITR) at Chandipur near here at around 8.30 am, they said.

The trial of the surface-to-surface missile was successful, meeting all the parameters, a Defence Research and Development Organisation (DRDO) source said. The BrahMos missile is a medium-range ramjet supersonic cruise missile capable of being launched from submarines, warships, fighter jets or land. The first extended version of the missile with a strike range of 450 km was successfully tested on March 11, 2017, Defence sources said.

A shorter range land-attack version of the BrahMos was successfully test-fired from the ITR at Chandipur on September 30, 2019, they said. BrahMos is a joint venture between India's DRDO and NPOM of Russia. The missile is operational with the Indian Army, Navy and Air Force.

The BrahMos is regarded as the fastest supersonic cruise missile in the world, the sources said. It has established itself as a major force multiplier in modern warfare with its land-attack and anti-ship capabilities with multi-role and multi-platform abilities, they added.

http://www.asianage.com/india/all-india/171219/supersonic-cruise-missile-brahmos-successfully-test-fired-from-odishas-chandipur.html

DefenceNews

Wed, 18 Dec 2019

PH likely to sign BrahMos missiles deal with India in 2020

The Philippines and India are likely to reach a deal for the BrahMos cruise missiles in 2020, Defense Secretary Delfin Lorenzana said Monday.

The contract signing for the supersonic cruise missile jointly developed by India and Russia is seen to happen in the first or second quarter of the year through a government-to-government deal, he told reporters.

Apart from the Philippines, countries like Thailand and Vietnam have reportedly shown interest to purchase the world's fastest supersonic cruise missile – which has yet to see the first foreign country to acquire this capability.

The Philippines is looking to acquire two batteries, Lorenzana said.

The missiles are envisioned to equip the Land-Based Missile System Battery unit activated by the Philippine Army in October.

A mock-up of the land-based version of BrahMos mounted on a truck launcher system was put on display at a two-day defense expo in Taguig City in early December. According to a timeline displayed at the expo, the Army sees the delivery of the equipment by 2024.

A mock-up of BrahMos land-based anti-ship missile was featured at PH Army's capability expo. Talks are underway w/ India for the possible purchase of 1 battery. The Army activated 1st Land-Based Missile System Battery in October in anticipation of its acquisition.

The missile system, which can be used for coastal defense and ground attack, would boost the Philippines' firepower capability in the face of territorial threats.

The Philippines and India have stepped up its defense engagements in recent years. In 2017, the two countries signed a defense and logistics agreement.

India "desires of upping our engagements" with the Philippines in many folds, New Delhi ambassador to Manila Jaideep Madumzar said last week at a forum at the National Defense College of the Philippines.

Indian ambassador to Manila Jaideep Madumzar says they are "upping engagements" with the Philippines. Implementing arrangements for the future purchase of defense materiel & equipment are almost finalized .

He said a joint defense cooperation committee is set to meet in January.

India is also looking forward to participating in many defense projects of the Philippines.

"Implementing arrangements for the purchase of defense materiel and equipment are almost finalized," Madumzar said.

https://www.defencenews.in/article/PH-likely-to-sign-BrahMos-missiles-deal-with-India-in-2020-808442

Business Standard

Wed, 18 Dec 2019

Gen-5 fighter on track, may fly by 2025

The second of a two-part series focuses on the capabilities of India's most ambitious fighter programme, the Advanced Medium Combat Aircraft (AMCA), and what design challenges it is facing

AJAI SHUKLA
New Delhi, 17 December

With the Indian Air Force (IAF) already operating the Tejas Mark 1 fighter, the Aeronautical Development Agency (ADA) developing the Tejas Mark 2 and Hindustan Aeronautics (HAL) building the interim Tejas Mark 1A, there have been important breakthroughs in India's most ambitious fighter programme: the futuristic Advanced Medium Combat Aircraft (AMCA).

Girish Deodhare, who heads ADA, the Defence R&D Organisation (DRDO) agency that oversees the Tejas and AMCA programmes, briefed *Business Standard* on the capabilities and development of the AMCA — a stealthy, fifth-generation (5-gen), medium weight fighter that is slated to be a match for any adversary in the skies.

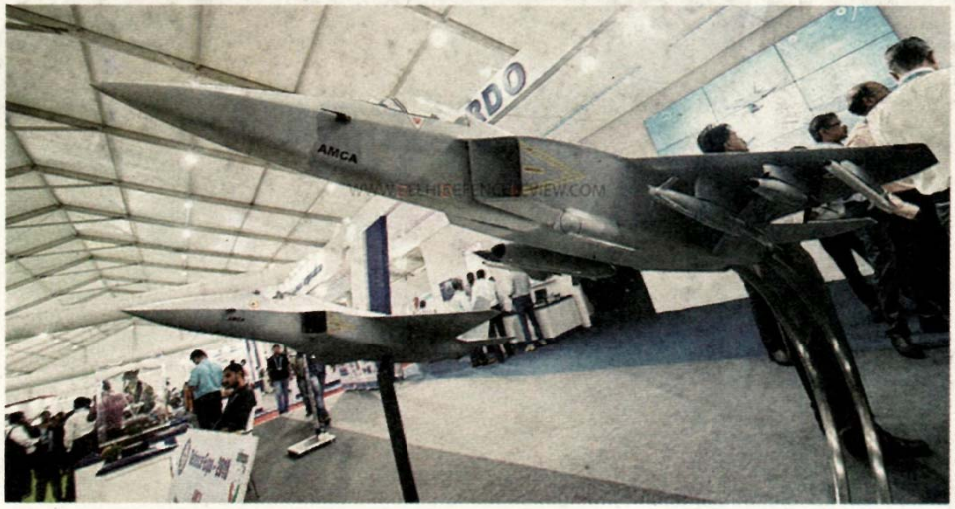
"After eight years of design work, we have completed the stealth shaping of the AMCA. We are now building a full scale model of the fighter, in order to measure its 'radar cross section' (a measure of an object's visibility to radar)," said Deodhare.

The ADA chief said the AMCA's design is now mature and its internal systems are laid out. That clears the way for its detailed design, followed by metal cutting — the symbolic start of constructing a flying prototype.

"The AMCA's first flight is targeted for 2024-25," said Deodhare. "We plan to build five prototypes for a flight-testing programme that would take about four years. By 2028-29, we plan to begin series manufacture."

A 5-gen fighter is characterised by four advanced capabilities. It is stealthy, or near-invisible to enemy radar; it can 'supercruise', or fly faster than the speed of sound without engaging its engines' fuel-guzzling afterburners; it has advanced avionics and sensors with network centric operations, coupled with artificial intelligence, to enhance the pilot-aircraft interface, allowing a single pilot to fly and fight the aircraft; and it can detect and engage targets from long distances, outranging its adversaries.

Stealth fighters are most crucial in the opening stages of a war, when they take advantage of their invisibility to enter enemy airspace and strike enemy radars, air bases and control centres. With air superiority thus obtained, "non-stealthy" fighters like the Sukhoi-30MKI can fly into enemy airspace, without incurring heavy casualties, to strike targets like roads, railways, airfields, depots and ground forces.



A structural design computer image of the Advanced Medium Combat Aircraft. The first of these fighters is to fly by 2024-25

To achieve stealth, a 5-gen fighter is shaped to scatter radar waves, rather than reflect them back. Special materials and paints further reduce radar reflectivity. In stealth mode, a 5-gen fighter conceals its fuel and weapons in an internal bay, since carrying them under its wings, as conventional fighters do, creates protrusions that reflect radar waves and compromise stealth.

Deodhare said that while AMCA would be a 25-tonne fighter, it would have an "all-up-weight" (AUP) of just 20 tonnes in stealth mode, when it would carry just one-and-a-half tonnes of weaponry concealed in internal weapon bays. In "non-stealth mode", another five tonnes of weaponry or fuel could be carried on external stations, under its wings.

The AMCA would be able to carry up to 6.5 tonnes of fuel in internal tanks. While its operating radius remains secret, a back-of-the-envelope calculation indicates it can easily strike targets 1,000 kilometres away and return to base.

In "non-stealth" mode, it can carry an additional 1,200-1,300 litres in its internal bays, with its weapons load mounted on external, under-wing stations, thus operating as a potent long-range bomber.

A key challenge in the AMCA programme is to develop a new engine, powerful enough to permit supercruising. For now, AMCA designers are working with twin General Electric (GE) F-414 engines — which is also being used, in a single-engine configuration, to power the Tejas Mark 2.

However, this engine is not powerful enough for super-cruising in all configurations. "Each F-414 engine generates a maximum thrust of 98 KiloNewtons (KN), and in Indian climatic conditions that effectively reduces to 90 KN. We have calculated that an AMCA, with the configuration the IAF has specified, requires a thrust of about 220 KN (in Indian conditions) for super-cruising. That means we need twin engines, each generating 110 KN thrust in Indian conditions," says Deodhare.

A clutch of DRDO laboratories, led by the Gas Turbine Research Establishment (GTRE), Bengaluru, is working to develop the AMCA engine. With the Kaveri engine, GTRE had managed to generate a maximum thrust of 83 KN. Now the target is 50 per cent higher.

Former defence minister Manohar Parrikar had estimated the AMCA's development cost at about $4 billion — a major share of which would go into the engine. In 2015, India harnessed American expertise by setting up a "joint working group" (JWG) to co-develop jet engine technology. But on October 24, US Under Secretary of Defence Ellen Lord revealed the JWG had been scrapped since US export control laws safeguarded the technology that the DRDO wanted.

There is also an expectation, so far unrealised, that French engine maker, Safran, could assist with developing a suitable jet engine, as a part of its offset obligations relating to the purchase of 36 Rafale fighters.

A key decision in designing the AMCA relates to the trade-off between stealth and manoeuvrability. "As other stealth fighter designers have discovered earlier, the edge matching of surfaces and incorporation of an internal weapons bay that characterises stealth design also compromise the fighter's aerodynamics, inhibiting its manoeuvrability. The IAF understands that, and has been sitting at the table with ADA in order to arrive at a mutually acceptable blend of performance and stealth," says Deodhare.

Facilitating this cooperation is the IAF's new leadership, headed by Air Chief Marshal R K S Bhadauria, which includes several officers who have been test pilots for the Tejas programme, and have an in-depth knowledge of the issues. ADA officials point out that, having already mastered a range of aerospace technologies in the Tejas programme, the AMCA team is free to focus tightly on the Gen-5 challenges.

The technologies yielded by the Tejas programme include: "unstable aerodynamic design" for extra agility; complex control laws and a quadruplex digital flight control system; light composite materials for aero-structures; a glass cockpit with digital instrumentation; an environment control system with an on-board oxygen generating system; and advanced avionics that help the pilot switch quickly between air-to-air and air-to-ground roles.

Also mastered is the ability to do flight testing of fighter aircraft rapidly, without compromising safety. This experience will help in bringing the AMCA from design to induction without delay.

THE TIMES OF INDIA

Wed, 18 Dec 2019

Need focus on futuristic defence R&D: DRDO Chief

Kochi: It is high time that the research and development (R&D) teams working on defence systems study new technological trends and look out for what advanced nations are developing for their forces, said DRDO chairman G Satheesh Reddy. Thus, defence research and development organization (DRDO) laboratories have to spend at least 20-25% for futuristic R&D," he added.

Inaugurating the annual day function of the DRDO's Naval physical and oceanographic laboratory (NPOL) in Kochi on Monday, Satheesh Reddy said that it is important to set very high goals and work beyond the specifications set by the users — namely the armed forces.

He congratulated the scientists, technical officers and staff for the many indigenous systems developed by NPOL. "The Indian Navy has respect for DRDO, primarily due to the products that NPOL has been making for them. If we are aiming for international consultancy, you should come out with model systems. This will pave the way for export of our systems," said Reddy who is also the secretary, department of defence R&D. The DRDO Chief said that it is necessary to identify the production agency or the industry at the early development stage.

Speaking on the occasion, Samir V Kamat, director general, naval systems & materials, said, "We are fortunate that Indian Navy among the tri-services has been the most proactive and receptive to indigenous systems."

https://timesofindia.indiatimes.com/city/kochi/need-focus-on-futuristic-defence-rd-drdo-chief/articleshow/72860255.cms

THE HINDU

Wed, 18 Dec 2019

NPOL comes in for praise for developing innovative systems

Sole DRDO laboratory in Kerala celebrates 67th annual day

The DRDO has developed modern indigenous systems and equipment worth a production value of ₹ 2.70 lakh crore for the three services, thus enabling huge foreign exchange savings for India, G. Satheesh Reddy, Secretary, Department of Defence (R and D) and Chairman of DRDO, said here on Monday.

He was delivering the inaugural address at Tarang-2019, the 67th annual day of Naval Physical and Oceanographic Laboratory (NPOL)-Thrikkakkara, the sole DRDO laboratory in Kerala. Mr. Reddy lauded NPOL for consistent progress that it was making in developing key technologies for underwater surveillance systems. The growing scale of the lab's international initiatives was an indisputable indicator of its technology domain strength in the global arena, he said.

Mr. Reddy presented awards to personnel who made outstanding contributions during the year. K.V. Sanil Kumar and K.P.B. Moosad, both scientists-G, were awarded the Laboratory Scientist of the Year Award, while Reji John, another scientist-G and team bagged the DRDO Technology Group Award for their innovative development of magnetorheological fluid-based anti-vibration mounts, for machinery on board ships and submarines.

The Director of NPOL, S.Vijayan Pillai, presented the annual report.

https://www.thehindu.com/news/cities/Kochi/npol-comes-in-for-praise-for-developing-innovative-systems/article30324418.ece

India EducationDiary.com

Wed, 18 Dec 2019

IIT Madras hosts High Energy Materials Conference and Exhibit (HEMCE 2019)

Chennai: Indian Institute of Technology Madras is hosting the High Energy Materials Conference and Exhibit (HEMCE 2019) from 16th to 18th December 2019 in collaboration with Satish Dhawan Space Centre, SHAR, and High Energy Materials Society of India (HEMSI). The conference is a forum for specialists in high energy materials from all over the world to present the latest progress and developments in the field.

HEMSI is a pioneering society committed to the cause of development of the High Energy Materials like rocket propellants, explosives and pyrotechnics. The society has an active membership of more than 1000 scientists, technologists and academicians.

Delivering the Inaugural Address on Monday (16th December 2019), His Excellency Shri Banwarilal Purohit, Governor of Tamil Nadu, who was the Chief Guest, said, "This is an important gathering of our scientific fraternity to foster research and innovations. India, with its sensitive neighbourhood, requires high energy materials such as propellants and explosives to drive national security and technological and scientific prowess. The SHAR Space Centre at Sriharikota is now well known throughout the world thanks to the work of the scientists. These Conference enables constructive collaboration between scientists across the world and help keep upto date with latest advancements in the field."

Further, His Excellency Shri Banwarilal Purohit added, "IIT Madras has been in the forefront of research in high energy materials for three decades. It has set up advanced testing facility in the campus and we are proud of the work it has done in this field. This conference will provide a great opportunity for young minds to interact with legends in the field. The exhibition being held as part of the conference will feature many technologies developed by Indian scientists."

HEMSI organizes international conference-cum-exhibition once in two years with the participation of around 500 delegates from India and abroad. This year, it is being held at IIT Madras.

Addressing the Conference, Shri M.S.R. Prasad, Director General, Missile and Strategic systems, Defence Research and Development Organisation (DRDO), said, "DRDO has been actively working in high energy materials for missiles and armament materials. It involves a lot of effort to develop different types of propellants for different types of missiles. HMRL, Pune, has put in a lot of R&D to develop smoke-less, and other type of propellants besides propellants for ramjet technology, which is going to be a game-changer for air launch systems. It is for the industry to ensure quality raw materials are applied so that there is high quality in propellants. Focussed R&D has to be carried in this field and DRDO has set up Centres of Excellences in various institutions including IIT Madras and IIT Bombay."

An Armament Display along with an Industry Meet was also organized on 16th December 2019 with leaders from propellant and explosive industry had a discussion with end users of Armed forces (Lt. Gen. S S Hasbanis, PVSM, VSM, ADC) on how to take the Indian Propellant and Explosive industry forward.

Speaking later, Shri. A. Rajarajan, Director, Satish Dhawan Space Centre (SDSC), ISRO, said, "Around 60 to 70 per cent of the fuels for rockets that leave the atmosphere is spent in the first 80 km to escape earth's gravity. We have reached a fair amount of efficiency in solid propellants and are among the leading nations in the world. The SDSC is the largest producer of solid propellants in the

country, producing nearly 2,000 tonnes. We are glad to know that industries are coming forward to work in this field. I will convey my gratitude to IIT Madras, as the SDSC has benefitted from collaboration with its faculty. We have to develop green fuels and I wish for the conference to look into this area."

Shri V. Ranganathan, Chairman, Organizing Committee, HEMCE 2019, delivered the welcome address. Prof Bhaskar Ramamurthi, Director, IIT Madras, also unveiled a souvenir for HEMCE 2019. Shri. A. Rajarajan released a CD containing the proceedings of this Conference.

Delivering the Inaugural Address, Prof Bhaskar Ramamurthi, Director, IIT Madras, said, "It is not common for an educational institution to undertake research in high energy materials. IIT Madras is among the only few higher education institutions in India to have a research group in this are as this is a very specialized area."

Shri. KPS Murthy, Director, High Energy Materials Research Laboratory (HEMRL), DRDO, said, "Since several centuries, high energy materials have played an important role in progress of the society. Today, a revolution in defence is underway. While advances in communications and technology have enhanced combat efficiency, it is the advances in high energy materials that have dictated advances in battlefield. The theme of this conference is to explore the innate potential of high energy materials. As we strive for progress, we should also development green and environment-friendly materials. High energy materials have been applied to many programs of defence and space sectors. The production of high energy materials are no longer the monopoly of the Government with private sectors also setting up huge facilities for the same."

https://indiaeducationdiary.in/iit-madras-hosts-high-energy-materials-conference-and-exhibit-hemce-2019/

HEADLINEZ PRO

Wed, 18 Dec 2019

"Lot of lip service regarding make in India programme": Air Force Chief

"If all people works on this route, we would be abundant,"

Air Chief Marshal Bhadauria mentioned

By Preet

Delhi: Pretty a couple of lip provider is being performed concerning the "Contrivance in India" programme in phrases of environment up indigenous fingers platforms in the country, Air Chief Marshal RKS Bhadauria mentioned on Monday, stressing that everybody organisations and private companies could possibly well well also indifferent work together for results.

Furthermore, the Indian Air Drive (IAF) chief mentioned that there's rarely always a quiz of parity between the Pakistan Air Drive and the IAF because the frail turned into once not in a dwelling to hit a single aim at some stage in post-Balakot operations.

At some stage in the "Aaj Tak Agenda" programme, the IAF chief mentioned, "Everybody has to work on this route (of indigenous construction). We have given our toughen. DRDO has to invent a timeline… PSUs wants to be impressed for non-public sector participation."

"Appropriate now, on this "Contrivance in India" and indigenisation (programme), a form of lip provider is being performed. Our intentions are very correct nevertheless virtually, the work is going down extraordinarily slowly. If all people works on this route, we would be abundant," he added.

The IAF chief mentioned that he cannot trace a single disadvantage that is hindering the indigenous construction programmes, adding that "all people could possibly well well also indifferent work on this route whether it's a ways DRDO, PSUs, private sector, and plenty others".

When asked if Pakistan's response would were various at some stage in the Balakot airstrike had Rafale been phase of the IAF's rapid, Air Chief Marshal Bhadauria answered, "Response is of their hand. Nonetheless the implications (of air strike) would were various."

The fighter jets of the IAF had bombed and destroyed the terror camps at Balakot on February 26 this twelve months in step with the terrorist assault on a convoy of Central Reserve Police Drive (CRPF) automobiles on February 14 at some stage in which 40 jawans were killed.

Air Chief Marshal Bhadauria mentioned that when Rafale aircraft originate joining the IAF's rapid, the enemy would "remember and remember plenty".

On the quiz of parity between the Pakistan Air Drive and the IAF, he mentioned, "After we centered (terror camps in Balakot), we hit exactly on the targets. They (Pakistan Air Froce) got right here with 30 aircraft and we challenged them. They were not in a dwelling to hit even a single aim. So, where is the quiz of parity?"

https://headlinezpro.com/lot-of-lip-service-regarding-make-in-india-programme-air-force-chief/

The Tribune
VOICE OF THE PEOPLE

Wed, 18 Dec 2019

2nd time in history, all 3 Chiefs to be from same NDA course

By Vijay Mohan

Chandigarh: When Lieutenant General Manoj Mukund Naravane of the Sikh Light Infantry takes over as Chief of the Army Staff from incumbent Gen Bipin Rawat on December 31, it will be only the second in the history of the armed forces that the chiefs of all three services are from the same course of the National Defence Academy (NDA) at Kharakvasla.

Admiral Karambir Singh, who took over as the Chief of Navy Staff when Admiral Sunil Lanba retired on May 30, 2019, and Chief of Air Staff Air Chief Marshal RKS Bhadauria, who took over from Air Chief Marshal Birender Singh Dhanoa on September 30 this year, are from the 56th course at the NDA. So is Lt Gen Naravane, presently serving as Vice Chief of the Army Staff. In another coincidence, all three happen to be sons of Air Force officers.

The other instance of all three chiefs being from the same course was in the early 1990s when Gen Sunith Francis Rodrigues, Admiral Laxmi Narayan Ramdas and Air Chief Marshal Nirmal Chandra Suri were heading their respective services. All three were from the first course at NDA. This course also produced three Maha Vir Chakra recipients during the 1971 India-Pakistan war.

The NDA is a tri-service training institution that undertakes a three-year training regimen for cadets who join the academy after 10+2 and complete their graduation alongside training before proceeding for pre-commission training at respective service academies.

https://www.tribuneindia.com/news/2nd-time-in-history-all-3-chiefs-to-be-from-same-nda-course-13465

hindustantimes

Wed, 18 Dec 2019

INS Viraat unsold at auction

By Prateek Salunke

Mumbai: Historic aircraft carrier INS Viraat remained unsold after Tuesday's auction because bids did not meet expectation. The decision to sell INS Viraat for scrap was announced in Parliament, in July. According to state-owned, e-commerce company, Metal Scrap Trade Corporation Limited (MSTC), another auction will be held to sell the aircraft carrier.

The e-auction of INS Viraat was conducted on Tuesday, between 12pm and 4pm, by MSTC. "We did not get the expected selling price. There will be another auction," said a source privy to the development. While clarifying that there was no fixed price , the source said, "There is a confidential price which is expected to be quoted during the e-auction and the computer rejects it [the bid] if it is not desirable."

Originally commissioned as the HMS Hermes of the British Royal Navy in 1959, INS Viraat holds the Guinness record for being the oldest serving warship in the world and is affectionately known as the 'Grand Old Lady'. It entered service with the Indian Navy in 1987 and was decommissioned in 2017 after spending spent nearly 2,250 days at sea and sailing 5,88,288 nautical miles. INS Viraat was deployed for peace-keeping operations off Sri Lanka and during the Kargil War in the 1990s. Aircraft like Sea Harriers, White Tigers, Seaking 42B, Seaking 42C and Chetak helicopters have operated from the warship. Under the Indian Navy, aircraft have clocked more than 22,034 hours of flying from INS Viraat's decks.

Prior to the auction on Tuesday, the carrier was made available for inspection at Naval Dockyard, Mumbai. Most of the equipment – including its main machinery and auxiliaries, propellers, weapons and sensors, communication, navigators, lifesaving equipment, motors and boats – have been removed or cannibalized.

Interested bidders were allowed to participate in the e-auction process by paying pre-bid earnest money deposit (EMD) of ₹ 5.30 crore.

https://www.hindustantimes.com/india-news/ins-viraat-unsold-at-auction/story-H4a4mXcHRFsQCXfeZmGQZN.html

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Wed, 18 Dec 2019

India, US 2+2 dialogue will be productive: Officials

External affairs minister S Jaishankar along with defence minister Rajnath Singh would be hosted by their American counterparts Secretary of State Mike Pompeo and defense secretary Mark Esper at the Foggy Bottom headquarters of the State Department on Wednesday

Washington: The first-ever Indo-US ministerial 2+2 dialogue on American soil is expected to be a "highly qualitative and productive" meeting during which some key agreements that will augment the bilateral security ties could be signed, according to senior officials.

External affairs minister S Jaishankar along with defence minister Rajnath Singh would be hosted by their American counterparts Secretary of State Mike Pompeo and defense secretary Mark Esper at the Foggy Bottom headquarters of the State Department on Wednesday.

"The 2+2 dialogue is the highest-level institutional mechanism between India and USA that brings together our perspectives on foreign policy, defence and strategic issues. This is the first time such a meeting is taking place in the USA," said the Indian Ambassador here Harsh Vardhan Shringla. "A lot of progress has been made in the areas of foreign policy and defence between our two countries and we are looking forward to a highly qualitative meeting," Shringla told PTI ahead of the 2+2 meeting.

Meanwhile, Union minister Rajnath Singh addressed Indian Americans at a gathering in New York on Monday, on his way to Washington DC for the second edition of the 2+2 ministerial meeting. Singh pushed back against criticism of the Citizenship (Amendment) Act as anti-Muslim and sought to portray it as a measure meant only for victims of religious persecution in neighbouring Muslim-majority countries that he described as "theocratic".

The first 2+2 was held in New Delhi September last year after the mechanism was approved by PM Narendra Modi and US President Donald Trump.The 2+2 on December 18 comes after a record four meetings between Modi and Trump this year.

The fact that the meeting is occurring is a success in itself and testament to the priority both the US and India place on the relationship and cooperating to advance their common interests, said Joe Felter, US Deputy Assistant Secretary of Defense for South and Southeast Asia.

The two nations are expected to announce the signing of the Industrial Security Annex , an enabling pact that will allow American manufacturers of defense equipment to work with Indian private sector companies.

https://www.hindustantimes.com/india-news/india-us-2-2-dialogue-will-be-productive-officials/story-ZPpaXghgGIHTsjP3X5MrkL.html

THE TIMES OF INDIA

Wed, 18 Dec 2019

Chandrayaan-2 director out of 3rd Moon mission

By Chethan Kumar

Bengaluru: M Vanitha, who was the project director for Chandrayaan-2, is no longer going to be retained in the Chandrayaan-3 team.

Ritu Karidhal, whose team was responsible for the mission, continues to be mission director for Chandrayaan-3. Vanitha has been replaced by P Veeramuthuvel from ISRO headquarters.

Vanitha's team was responsible for all systems on Chandrayaan-2, whose lander failed to soft-land on the Moon on September 7. ISRO has not officially announced the reason for transferring Vanitha.

ISRO had garnered high praise on the appointment of Karidhal as mission director and Vanitha as project director to head Chandrayaan-2 mission.

A November 28 Isro order, accessed exclusively by TOI, reads: "M Vanitha, outstanding scientist and currently project director, Chandrayaan-2, is hereby designated deputy director, Payload, Data Management & Space Astronomy Area (PDMSA) ... P Veeramuthuvel, scientist/engineer 'SF' is hereby transferred from ISRO headquarters and designated project director, Chandrayaan-3. "

Another order issued on December 7 shows that Veeramuthuvel will also head the project management team, which has all deputy project directors as members.

ISRO has identified 29 deputy project directors responsible for various aspects of the mission. They will also be responsible for the lander and rover. TOI was the first to report that the space agency has started work on Chandrayaan-3 on November 14.

https://timesofindia.indiatimes.com/india/chandrayaan-2-director-out-of-3rd-moon-mission/articleshow/72861032.cms