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आज़ादी के 75 वर्ष

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DRDO SUCCESSFULLY TEST FIRES ENHANCED PINAKA ROCKET

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DRDO SUCCESSFULLY TEST FIRES ENHANCED PINAKA ROCKET

Continuing the development of artillery rocket systems, DRDO successfully test-fired an extended-range version of an indigenously developed Pinaka rocket from a Multi-Barrel Rocket Launcher (MBRL) on 24 June and 25 June 2021 at Integrated Test Range (ITR), Chandipur off the Coast of Odisha. Twenty-five Enhanced Pinaka Rockets were launched in quick succession against the targets at different ranges. All the mission objectives were met during the launches. The enhanced range version of the Pinaka Rocket System can destroy targets at distances up to 45 km. All the flight articles were tracked by range instruments including Telemetry, Radar and Electro-Optical Tracking System deployed by ITR and Proof and Experimental Establishment (PXE). The rocket system has been developed jointly by Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL) with manufacturing support from M/s Economic Explosives Limited, Nagpur. The development of the Enhanced Pinaka System was taken up to achieve longer range performance. Raksha Mantri Shri Rajnath Singh has congratulated DRDO and the industry on the successful launch of Enhanced Pinaka Rockets. Secretary, Department of Defence R&D and Chairman DRDO Dr G Satheesh Reddy commended the efforts of the teams involved in the successful trials.

DRDO DEVELOPS COVID-19 ANTIBODY DETECTION KIT

Defence Institute of Physiology and Allied Sciences (DIPAS), a Delhi-based laboratory of DRDO, has developed an antibody detection-based kit 'DIPCOVAN', the DIPAS-VDx COVID-19 IgG Antibody Microwell ELISA for sero-surveillance. The DIPCOVAN kit can detect both spikes as well as nucleocapsid (S&N) proteins of the SARS-CoV-2 virus with a high sensitivity of 97 per cent and specificity of 99 per cent. The kit has been developed in association with Vanguard Diagnostics Pvt Ltd, a development and manufacturing diagnostics company based in New Delhi. The DIPCOVAN kit was developed indigenously by the scientists, followed by extensive validation on more than 1,000 patient samples at various COVID-designated hospitals in Delhi. Three batches of the product were validated last year. The antibody detection kit is approved by the Indian Council of Medical Research (ICMR) in April 2021. In May 2021, the product received regulatory approval from the Drugs Controller General of India (DCGI), Central Drugs Standard Control Organisation (CDSCO), Ministry of Health and Family Welfare, to manufacture for sale and distribution. DIPCOVAN is intended for the qualitative detection of IgG antibodies in human serum or plasma, targeting SARS-CoV-2 related antigens. It offers a significantly faster turn-around time as it requires just 75 minutes to conduct the test without any cross-reactivity with other diseases. The kit has a shelf life of 18 months. Readily available stock at the time of launch is 100 kits (approx. 10,000 tests) with a production capacity of 500 kits/month after the launch. It is expected to be available at about Rs 75 per test. The kit will be very useful for understanding COVID-19 epidemiology and assessing an individual's previous SARS-CoV-2 exposure. Raksha Mantri Shri Rajnath Singh has appreciated the efforts of DRDO and the industry in developing the kit at the time of need. Secretary Department of Defence R&D & Chairman DRDO Dr G Satheesh Reddy complimented the teams involved in developing the kit and said the initiative will help the people during the pandemic.

DRDO DEVELOPS CRITICAL NEAR ISOTHERMAL FORGING TECHNOLOGY FOR AEROENGINES

DRDO has established the near isothermal forging technology to produce all the five stages of High-Pressure Compressors (HPC) discs out of difficult-to-deform titanium alloy using its unique 2000 MT isothermal forge press. The technology has been developed by Defence Metallurgical Research Laboratory (DMRL), Hyderabad. This is a crucial technology for establishing self-reliance in aero-engine technology. With this development, India has joined the league of limited global engine developers to have the manufacturing capabilities of such critical aero-engine components. To meet the bulk production requirements, DMRL technology was transferred to M/s MIDHANI through a Licensing Agreement for Technology Transfer (LAToT). Using the isothermal forge press facility available at DMRL, bulk quantity (200 numbers) of HPC disc forgings of various compressor stages have been jointly produced and successfully supplied to HAL (E), Bengaluru for fitment into Adour Engine that powers the Jaguar/Hawk Aircrafts.

In India, the Adour engine is overhauled by HAL (E), Bengaluru under a licensed manufacturing agreement with OEM. Like in any aero-engine, the HPC Drum assembly has to be replaced after a specified number of operations or in case of damage. The annual requirements of these high-value HPC discs are quite large, warranting indigenisation. HPC drum is a highly stressed sub-assembly and is also subjected to low cycle fatigue and creep at elevated temperatures. The raw materials and forgings for HPC drums are required to be of the highest quality which can meet the specified combination of static and dynamic mechanical properties. DMRL developed this forging technology by integrating various science and knowledge-based tools. The methodology adopted by DMRL is generic in nature and can be tuned to develop other similar aero-engine components. The compressor discs produced using this methodology met all the requirements stipulated by the airworthiness agencies for the desired application. Accordingly, the technology was type certified and a Letter of Technical Approval (LoTA) was accorded. Based on the exhaustive component level and performance evaluation test results, HAL (E) and Indian Air Force cleared the components for engine fitment. Apart from DMRL and HAL (E), various agencies such as MIDHANI, CEMILAC and DGAQA worked in unison to establish this crucial technology. Raksha Mantri Shri Rajnath Singh has congratulated the scientists of DRDO, Industry and all other agencies involved in the development of this critical Aero Engine-related technology. Secretary Department of Defence R&D and Chairman DRDO Dr G Satheesh Reddy expressed his satisfaction on achieving this crucial milestone and congratulated the teams involved.

DMRL INDIGENIZES MARINE GRADE ALUMINIUM ALLOY SHEETS FOR NAVY

Aluminium-Magnesium alloys are employed in marine construction and shipbuilding, particularly in the construction of superstructures and deck panels of ships due to their high strength-to-weight ratio, corrosion resistance and good weldability characteristics. Indian Navy requires about 300 tons per annum of specified grades and tempers of such alloys in the form of sheets and plates for the construction and repair of various naval vessels.

Defence Metallurgical Research Laboratory (DMRL), having decades of in-house research and development experience for a variety of structural aluminium alloys, developed and produced the complete range of thicknesses (0.9 to 6.0 mm) of sheets of alloy DMR291A (equivalent to AA5086) in the desired H24 temper jointly with Hindalco Industries Limited. Following an on-site inspection of material qualities by DQA (Naval) and DNA teams and evaluation of material properties by designated NABL accredited laboratories, the materials have now been inducted by the Indian Navy.

LIGHT WEIGHT TORPEDO TEST FIRED FROM FIXED WING AIRCRAFT OF THE INDIAN NAVY

Naval Science & Technological Laboratory (NSTL), Vishakapatnam successfully conducted the maiden flight trial of deploying Indigenous Instrumented Light Weight Torpedo (TAL) with Parachute system from Indian Navy's Aircraft IL-38SD off Visakhapatnam on 8 March 2021. This is the nation's first such trial for firing the indigenous lightweight torpedo from fixed-wing aircraft. The lightweight torpedo was designed, developed, produced and inducted into Services a decade ago and is used against underwater platforms as part of ASW. To enhance the range of quick acquisition of the target, the Navy scheduled the launch of TAL from fixed-wing aircraft of Navy, for the precise attack at the desired location. The torpedo along with the torpedo release mechanism and fire control system are designed and developed by NSTL. The torpedo on safe separation from the aircraft descends with the help of the parachute and TRM detaches the parachute, thus enabling the torpedo to continue its operation in waters. The parachute is designed by ADRDE, Agra. The TAL can track multiple targets simultaneously using state-of-the-art processor-based signal processing algorithms.

The trial team, led by Principal Project Director Shri RVS Subrahmanyam and other members from NSTL and ADRDE Agra participated in the trial along with the Indian Navy. Director NSTL congratulated the team and acknowledged the participation of the Indian Navy and other DRDO establishments, viz., ADRDE, ADE, CEMILAC for this achievement thus enabling the deployment of lightweight torpedoes from aircraft as a commitment under Aatma Nirbhar Bharat Abhiyaan.

SUCCESSFUL CONDUCT OF 3MW DA IRSS TRIALS ONBOARD P71 AIRCRAFT CARRIER

Naval Science & Technological Laboratory (NSTL), Vishakapatnam successfully conducted performance trials of Infra-Red Signature Suppression (IRSS) devices designed by NSTL for 3MW DAs for the Indian Navy's prestigious project P71 Aircraft Carrier (new INS Vikranth) onboard the ship at Cochin Shipyard during 7-8 April 2021.

Director and Lab Management Council members of NSTL appreciated the efforts put in by Capt AVSN Murty, Shri Khagesh Kumar Chowdhary, Sc D and Shri Manjunatha Reddy, TO 'B' of IR Division of WT Directorate for the successful conduct of the trials.

EVENTS

AMBEDKAR JAYANTI CELEBRATIONS

DMRL, HYDERABAD

Defence Metallurgical Research Laboratory (DMRL) celebrated the 130 Birth Anniversary of Bharat Ratna Babasaheb Dr B R Ambedkar on 14 April 2021 in the main building foyer. Dr G Madhusudhan Reddy, OS & Director, DMRL was invited as the Chief Guest. After garlanding the portrait of Dr B R Ambedkar by the Chief Guest, Shri B Rambabu, President and Shri J Anil Kumar General Secretary of DMRL's SC/ST Employees Welfare Association welcomed the participants. Dr G Appa Rao, Sc 'G' and Liaison Officer, in his address, highlighted the significant contributions of Dr Ambedkar with a special emphasis on constitutional provisions made by him to bring social justice and economic/political empowerment to the Indian society.

The Chief Guest, Dr G Madhusudhan Reddy, OS & Director, DMRL addressed the gathering. He brought out

various aspects of Dr Ambedkar's life including his academic achievements despite several hardships faced by the great leader those days. He also elaborated on the eminent leadership qualities and political career of Dr Ambedkar. He highlighted the significant contributions made by Dr Ambedkar in drafting the Indian Constitution which is referred time to time to lead the nation and to ensure equal rights to every citizen.

Shri K Srikanth Goud, President, DEFMETLAB Employees Union and JCM-III Member and Shri J Anil Kumar, General Secretary of the Association also addressed the gathering. Shri B Rambabu, President, DMRL SC/ST Employees Welfare Association presented the vote of thanks.

NSTL, VISHAKAPATNAM

130th Birth Anniversary Celebrations of Dr BR Ambedkar was organized grandly by Naval Science & Technological Laboratory (NSTL) on 14 April 2021 at Mohapatra Manasi Auditorium. The Chief Guest of the occasion was Dr O.R. Nandagopan, OS & Director NSTL. Guests of Honour were Shri C Armstrong Freedy, Regional Manager, New India Assurance Company Ltd., Visakhapatnam and Shri N Kalidas, Deputy Superintendent of Police (CID). The program started with lighting the lamp and garlanding the portraits of Lord Buddha and Dr B.R. Ambedkar by Dr Nandagopan, Shri Armstrong Freedy, Sri Kalidas and other dignitaries. Dr PK Pattnayak, Sc 'F' & Chairman Celebration Committee gave opening remarks; Shri U Urban Kumar, Sc 'D' & President, NSTL SC/ST Employees Association and Sri CHVSN Murty, President, NSTL Civil Employees Union addressed the gathering. In his address, Guest of Honour Shri Freedy praised the service of NSTL scientists towards the nation through DRDO, how New India Assurance Company is protecting people and how Dr B.R. Ambedkar-written Indian Constitution is giving 360-degree protection to Indian people. He appealed all to take Dr Ambedkar as Role Model and concluded his speech by saying life should be great rather than long. In his address, Guest of Honour Shri N Kalidas explained in detail the greatness of the Constitution of India and praised Dr Ambedkar for his forecasting. He said that cast discrimination must be eradicated from roots itself by using the weapon education.

In his address, Dr Manu Korulla, Sc 'G' & Chairman Works Committee appealed to all to serve society in the way how Dr BR Ambedkar did. He suggested all to dream for self and people around them like Dr Ambedkar dreams for every Indian and wrote the Constitution. In his address, Chief Guest Dr Nandagopan explained how the Indian Constitution is

helping India's upliftment in social, economical and political aspects. He told that the validity of the Indian Constitution is limitless and its relevance to the current situations; and social equality can be achieved by providing opportunities to all. He concluded his speech by saying that India is being strengthened with the Constitution. On this occasion, Smt. Rajeswari Devi D.R. distributed sarees to poor and needy women and Dr Nandagopan donated Rs.10,000/- to the children of Gracious Just Services Trust (Orphanage Home), Vepagunta, Visakhapatnam. The programme concluded with Hindi Kavita on Dr B.R. Ambedkar by Shri Vikas Shakya, Sc 'D'; and vote of thanks by Smt. S. Chandralakshmi, Senior Private Secretary. Shri Amarjeet, Secretary, NSTL SC/ST Employees Association; Sri Hemant Bais, Secretary, JCM-IV; Scientists, Officers and staff of NSTL participated in the celebrations.

COVID-19 IMMUNIZATION DRIVE

Prevention is better than cure as the popular saying goes, Naval Materials Research Laboratory (NMRL), Ambernath joined hands with the government for initiation of COVID-19 vaccination drive as a measure against the spread of the virus. Permission was sought from District Collector, Thane for initiating the drive at NMRL in coordination with Ambernath Municipal Corporation. Shri PT Rajotkar, OS and Director NMRL, inaugurated the vaccination center on 31 May 2021. The center is providing vaccination for all employees, service personnel, MES staff as well as contact persons of NMRL. With incessant efforts and persistent persuasion of COVID Response Team headed by Shri K.K. Mishra, Sc 'E', the laboratory has set up a fully equipped Medical Inspection Room as per the guidelines issued by district health authorities. The vaccine was administered to 50 employees on the day of inauguration. The efforts will go a long way in creating a healthy and safe working environment at NMRL. Receivers of vaccines are grateful to NMRL for the kind gesture towards combating the spread of the virus.

WORLD ENVIRONMENT DAY

Naval Physical and Oceanographic Laboratory (NPOL), Kochi celebrated World Environment Day on 7 June 2021. The theme of this 47th year of celebration is "Ecosystem Restoration". Every year the day is celebrated to create awareness of our responsibility towards environment protection and to encourage environment restoration activities. Saplings were planted in the technical and residential campus and the programme was led by Shri S Vijayan Pillai, OS & Director, NPOL. The congregation in the celebration was avoided due to the prevailing COVID-19. The event was coordinated by the Works Estates and Services Group of NPOL.

CYCLE RALLY TO COMMEMORATE SALT SATYAGRAH

To commemorate the "AzadiKaAmritMahotsav", a cycle rally was organized by Defence Electronics Application Laboratory (DEAL), Dehradun from DEAL premises to Kharakhet on 20 April 2021. The rally was flagged by Shri PK Sharma, Director DEAL and covered a total distance of 50 km. Kharakhet is the place where freedom fighters of Dehradun valley defied the salt law by making salt at the bank of Nun river on 20 April 1930 in line with the famous Dandi Salt Satyagrah by Mahatma Gandhi. The group paid homage at the memorial erected at Kharakhet in remembrance of the freedom fighters.

500-BED COVID CARE HOSPITAL SET UP BY DRDO INAUGURATED IN HALDWANI

A 500-bed COVID Care Hospital set up by DRDO in Haldwani was virtually inaugurated by the Chief Minister of Uttarakhand Shri Tirath Singh Rawat on 2 June 2021. The facility comprises 375 oxygen beds and 125 ICU beds with ventilators. With 100 per cent power backup, it is centrally air-conditioned for all weather conditions. Pathology laboratory, Pharmacy, X-Ray and ECG, etc. are an inherent part of the facility. The Centre became fully operational from June 3, 2021. A control center with Wi-Fi, CCTVs and helpline number has also been established for proper monitoring and hospital management through modern system software. Doctors and nursing staff to run the facility would be provided by co-located Government Medical College, Haldwani. The hospital, which has been built in 21 days, is the result of the efforts of the workforce of 350 persons who worked relentlessly round the clock under adverse weather conditions. This time-bound challenging task involved coordination among various government agencies and arranging a mammoth quantity of stores amidst countrywide lockdown. Ample measures have been taken in the design and functioning of the hospital to meet any unforeseen challenges in the future. Mandatory fire safety norms have been ensured with fire detection alarm systems, fire hydrants, and fire-fighting equipment. In the present COVID situation, this COVID Care Centre will be an invaluable asset for the people of Uttarakhand, providing timely essential medical care during the pandemic. It has been dedicated and named after late General Bipin Chandra Joshi who belonged to Uttarakhand and was the 17th Chief of the Indian Army. Member of Parliament Dr Ajay Bhatt, Minister in Uttarakhand Government Shri Bansidhar Bhagat, Leader of Opposition, Uttarakhand Dr Indira Hridayesh and senior officials of DRDO & state government were present on the occasion. Raksha Mantri Shri Rajnath Singh has lauded DRDO for its continuous timely assistance during this pandemic. Secretary DDR&D and Chairman DRDO Dr G Satheesh Reddy appreciated the relentless efforts of the team involved in the task and thanked the Uttarakhand Government for the support.

500-BED COVID HOSPITAL DEVELOPED BY DRDO IN SRINAGAR BECOMES OPERATIONAL

A 500-bed COVID Hospital at Khonmoh, Srinagar has become operational. The hospital has been set up by DRDO in a short span of 17 days and is funded by PM CARES Fund. This Covid facility includes 125 ICU beds with ventilators, of which 25 are exclusively reserved for children. Continuous oxygen supply is available for all 500 beds from 62 KL Liquid Medical Oxygen storage tanks. Hospital management and doctors and para-medical staff to run the facility are provided by the administration of the Union Territory of Jammu & Kashmir. The hospital is centrally air-conditioned with cooling provisions for summers and heating capabilities during winters to maintain a comfortable environment. There is a separate block for doctors & para-medical staff. Proper fire exits in case of emergency, provision of steel structure shed having inside refrigerator for mortuary and parking facility for vehicles have also been provided at the center. A control center with Wi-Fi, CCTVs and helpline number has been established for proper monitoring and hospital management through modern system software. Due to cold weather, special arrangements have been made to accommodate 150 personnel including doctors, para-medical staff, pharmacy staff, security personnel and maintenance staff. The hospital will provide medical care to Covid-19 patients of UT of Jammu & Kashmir in this time of the pandemic.

APPOINTMENT

Director, NSTL

Dr Y Sreenivas Rao, OS, took over as Director, Naval Science & Technological Laboratory, Visakhapatnam (NSTL) on 31 May 2021. A Graduate with distinction in Mechanical Engineering from JNTU, Hyderabad, he obtained his PhD in Mechanical Engineering from Osmania University.

Dr Y Sreenivas Rao started his professional career at BHEL, Ramachandrapuram, Hyderabad as an expert in the areas of Manufacturing Steam Turbines, Centrifugal Compressors and Gas Turbines. He was a Member of the Core Team for Transfer of Technology related to Gas Turbines and was responsible for the establishment of Gas Turbine manufacturing facilities in BHEL and associated industries.

Later, he joined DRDO Hyderabad in the year 2000 and worked in various capacities in the Missile Defence Programme. For 21 years, he worked on various technologies like Communication systems, Missile systems and various warheads in addition to the functions of Planning and Contracts and Material Management.

As a core member, he was associated with conceptualising the overall configuration of the Missile Defence System. He was also instrumental in the development, realisation and induction of conventional warheads for Prithvi missile systems. He also led the teams in the design, conceptualisation and building of a Naval Research Vessel.

As Project Director for Exo Interceptor Missile systems, he led a team in the configuration, development and realisation of the state-of-the-art 'hit to kill' interceptor missile systems capable of intercepting incoming missiles in the Exo region. The satisfactory performance of this missile was demonstrated with a direct hit on a live target in the missile test carried on 11 February 2017.

As a part of Mission Shakti, he played a key role as Project Director for the development and realisation of the Interceptor Vehicle in a very short time, overcoming many challenges. Meticulously interfacing with various technical teams, he along with his team members carried out the design of subsystems, realisation, qualification-testing, integration and checkout. The entire activity culminated into a successful mission on 27 March 2019.

Dr Y Sreenivas Rao is also actively involved in various technical associations. He is a Fellow of the Aeronautical Society of India (AeSI), and The Institution of Engineers India. He is also the Life Member of International Ballistics Society (IBS), Indian National Society for Aerospace and Related Mechanisms, and Society for Aerospace Quality and Reliability.

Dr Y Sreenivas Rao is the recipient of Sir Mokshagundam Visvesvaraya Award as an Eminent engineer from the Institution of Engineers (India), Telangana State Centre. He is also the recipient of several DRDO awards that include the Agni Award of Excellence in Self Reliance in 2005, the DRDO Award for Pathbreaking Research/ Outstanding technology Development in 2006, Agni Award for Excellence in Self Reliance in 2009. He was also awarded the Solar Shakti Award - 2019 for successful leadership of Anti Satellite Missile, Jawaharlal Nehru Technological University - Distinguished Fellow in 2019 and the SAE India – "Roll of Honor" Foundation Award for the year 2019-2020.

Dr Y Sreenivas Rao is the first Scientist to lead the Contingent Command for A-SAT "SHAKTI MISSION" at the Republic Day Parade on 26 January 2020.

AWARDS

Dr V V Bhanu Prasad, Sc 'G' of Defence Metallurgical Research Laboratory (DMRL), Hyderabad is selected for DRDO Scientist of the Year Award – 2019

IT MIRCHANDANI MEMORIAL RESEARCH AWARD–2020

Dr R V Krishna Rao, Sc 'F' and Dr G Madhusudhan Reddy, OS & Director, DMRL received IT

Mirchandani Memorial Research Award- 2020 for their paper titled 'Filler materials for joining ZrB2-SiC and Cf-SiC based composites for ultra-high temperature applications', in National Welding Seminar 2020-2021, organized by Indian Institute of Welding, Vadodara branch on 8 April 2021. The paper was presented in the International Congress (IC-2020) held at Navi Mumbai in the year 2020 and was adjudged as the best paper.

Dr R V Krishna Rao

Dr G Madhusudhan Reddy

PROF. G.S. BAINS AWARD (AFSTI)

Dr O. P. Chauhan, Sc 'F' and Head Fruits and Vegetables Technology Division, Defence Food Research Laboratory (DFRL), Mysuru received Prof. GS Bains Award from the Association of Food Scientists and Technologists, India for his outstanding contribution in the area of postharvest handling and value addition to fruits and vegetables in conventional lectures and award ceremony of AFSTI held at Mysuru.

HIGHER QUALIFICATION ACQUIRED

CASDIC, BENGALURU

Shri M. Sreenivasa Rao, Sc 'G' , Combat Aircraft Systems Development and Integration Centre (CASDIC), Bengaluru has been awarded PhD by DIAT, Pune for the thesis entitled "Design of Random Modulator Pre Integrator (RMPI) for EW Applications".

Shri Ghewar Ram Choudhary, Sr Translation Officer, Combat Aircraft Systems Development and Integration Centre (CASDIC), Bengaluru has been awarded PhD by DBHPS Sabha, Chennai for the thesis entitled "Machine Translation in Propagating Technical Hindi : Problems & Solutions"

DMRL, HYDERABAD

Shri M Sankar, Sc 'E' of Defence Metallurgical Research Laboratory (DMRL), Hyderabad has been awarded of PhD in Metallurgical and Materials Engineering in the specialization "Microstructure Evolution and Mechanical Properties of Nb-Si-Hf and Nb-Si-Zr Based High-Temperature Alloys" from IIT Madras.

DEAL, DEHRADUN

General Bipin Rawat, PVSM, UYSM, AVSM, YSM, SM, VSM, ADC, Chief of Defence Staff (CDS) visited Defence Electronics Application Laboratory (DEAL) on 19 April 2021. He was briefed by Shri PK Sharma, Director DEAL about the ongoing and planned projects. General Bipin Rawat discussed the activities of DEAL at length and provided his valuable feedback and suggestions. He planted a tree at the DEAL campus. He visited the exhibition displaying products developed by DEAL including SDR, Satcom terminals, Multichannel hub baseband system, Data Links, Troposcatter communication and VLF systems. He praised the efforts put up by DEAL in the development of state-of-the-art technologies and products in communication and surveillance systems.

General Bipin Rawat being briefed about DEAL activities by Shri PK Sharma, Director, DEAL

DIPAS, DELHI

Vice Admiral Sanjay Mahendru, AVSM NM, Deputy Chief of Naval Staff and Strategic Force Command and his team visited Defence Institute of Physiology & Allied Sciences (DIPAS) on 15 April 2021. Director briefed about various ongoing activities of DIPAS. He also mentioned state-of-the-art simulation facilities- The human climatic chamber (Desert) and the Human decompression chamber (High Altitude). Later the dignitaries visited the exhibition hall where they were given a glimpse of various products developed by DIPAS. He appreciated the efforts of DIPAS for the development of products for users.

Vice Admiral Sanjay Mahendru, AVSM NM, during his visit to Defence Institute of Physiology & Allied Sciences (DIPAS)

Vice Admiral Sanjay Mahendru was also briefed about the protocols used for physiological evaluation of Personal Protective Ensemble (PPE) in the Human Climatic Chamber. He was apprised of the testing of RN suit in the human climatic chamber (HCC) and its evaluation to assess the physical performance under moderate to severe heat stress conditions. The dignitaries showed keen interest and complimented the scientists for their efforts.