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Ask the right questions, and nature will open the door to her secrets
- Dr. C.V. Raman, The Nobel Prize in Physics 1930

IIT Ropar Developed India's 1st Power-Free CPAP Device 'Jivan Vayu'

Researchers at IIT Ropar developed India's 1st power-free Continuous Positive Airway Pressure (CPAP) device 'Jivan Vayu', which functions without electricity and is adapted to both kinds of oxygen generation units like O2 cylinders and oxygen pipelines in hospitals and can be used as a substitute of CPAP machine. IIT Ropar also confirmed that fulfilling all the medically required parameters, this leak-proof, low-cost CPAP delivery system, "Jivan Vayu' is designed for a 22mm CPAP closed circuit tube that can even be customized as per the size of the tube and also is ready for medical testing and mass manufacturing.

DRDO Successfully Test Indigenously Developed Rocket Pinaka

Defence Research and Development Organisation (DRDO) by continuing its development of Artillery Rocket Systems, successfully test fired extended range version of indigenously developed Pinaka rocket from a Multi-Barrel Rocket Launcher (MBRL), Odhisa. the development of enhanced Pinaka system was taken up to achieve longer range performance as the enhanced range version of Pinaka Rocket System can destroy targets at distances up to 45 kms. The rocket system has been developed jointly by Pune based Armament Research and Development Establishment (ARDE) and High EnergyMaterials Research Laboratory (HEMRL).

Pune based Startup Developed 3D-printed Masks Coated with Anti-Viral Agents

Pune based Startup Thincr Technologies India Pvt. Ltd., which is funded by the Technology Development Board (TDB), a statutory body of the Department of Science and Technology, Govt. of India developed a 3d-printed masks coated with anti-viral agents, that attacks the virus when viral particles come in contact with it. The 3d-printed masks is cost-effective and are more effective in checking the spread of COVID-19, in comparison with ordinary N-95, 3-ply and cloth masks. The material used for coating on the mask is a Sodium OlefinSulfonate based mixture and is a soap forming agent with hydrophilic and hydrophobic properties that disrupts the outer membrane of the virus after coming in contact with it.

ARCI Researchers Developed Technology for Coating Carbon on Lithium Metal Oxide Electrode

Researchers at the International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI) an autonomous institute of the Department of Science & Technology, Govt. of India developed a non-expensive novel technology for coating carbon on lithium metal oxide electrode that can double battery life. The life of the lithium-ion cells prepared using novel technology is expected to be doubled due to protective carbon coating. The researchers at ARCI expect the electrochemical performance to improve further once the lab-scale batch process is replaced by the continuous process to enable the process to be commercially viable as uniform carbon coating on the lithium transition metal oxides --LiNi0.33Mn0.33Co0.33O2 (NMC111) was achieved through this technique.

Special Update: Cabinet Committee on Economic Affairs Approved "Deep Ocean Mission"

Cabinet Committee on Economic Affairs with a view to explore deep ocean for resources and develop deep sea technologies for sustainable use of ocean resources approved the proposal of Ministry of Earth Sciences (MoES) on "Deep Ocean Mission". The Deep Ocean Mission consists of the following six major components:

i. Development of Technologies for Deep Sea Mining and Manned Submersible
ii. Development of Ocean Climate Change Advisory Services
iii. Technological innovations for exploration and conservation of deep-sea biodiversity
iv. Deep Ocean Survey and Exploration
v. Energy and freshwater from the Ocean
vi. Advanced Marine Station for Ocean Biology