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## CSIR-CMERI Develops Oxygen Enrichment Unit – An optimised oxygen administration device to combat nationwide oxygen supply shortage

Kolkata, Apr 22 (UNI) The entire nation is undergoing an unprecedented pandemic situation due to the second wave of the COVID-19.

The oxygen therapy is recommended for severe illness caused by CoronaVirus. However, the country is passing through a massive short supply of Medical grade oxygen across the country. To cope the problem and minimise the supply chain of transportation and storage risks related to oxygen cylinders, CSIR-CMERI, Durgapur has developed 'Oxygen Enrichment' technology which has been transferred virtually to M/s. Apollo Computing Laboratories (P) Ltd, Kushtaguda, Hyderabad today.

While addressing the programme, Prof. (Dr.) Harish Hirani, Director, CSIR-CMERI said, the unit requires easily available oil free reciprocating compressor, Oxygen grade zeolite sieves and pneumatic components. It is capable of delivering medical air in the range of up to 15 LPM with oxygen purity of more than 90%. If required, this unit can even deliver up to 70 LPM at a purity of around 30% and can safely be placed in the isolation ward of the hospital for patients who are in dire need of oxygen. This will help the accessibility of oxygen in remotest places and widest points of need. The Outreach Factor of Oxygen will be multiplied through the adoption of this in-situ and decentralised generation of oxygen. He added that further research is going on to develop a pulse dose mode which is capable of sensing the breathing pattern of a patient and then deliver during the inhalation only. This mode is supposed to reduce the oxygen demand by around 50% when compared with the current version of continuous mode.

**UNI Photo**

AMRITSAR, PR 23 (UNI)- Dheeraj Matta a 75 year old relative of Nehru family serving and treating street dogs for past 20 years in Amritsar UNI PHOTO-@U

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CSIR-CMERI has already invited Expression of Interest (EOI) from Indian Companies / Manufacturing agencies/ MSMEs / Start ups for manufacturing Oxygen Enrichment Units through transfer of technology.

Shri Jaipal Reddy of M/s Apollo Computing Laboratories during the event of transfer of technology stated that the first prototype would be developed within 10 days and the production would be started from the second week of May.

The laboratory presently is manufacturing in the capacity of 300 units per day which may be augmented on demand. Shri Reddy also informed that their company is planning to develop the unit both as stand alone as Oxygen Enrichment Unit as well as with integrated version with 'Swasth Vayu' technology of CSIR-NAL. He also stressed that the unit is essentially required particularly as 'Mini ICUs' at small hospitals and isolation centres and at remote villages and places.

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It is to be noted that by use of Oxygen Concentrators, the optimum utilization of oxygen to the needy patients may be ensured. If this facility is provided to COVID patients at initial stage, their visits to hospitals and further to the ventilatory support may be avoided in most of the cases. It was also felt that the use of such units is also safe and easier considering the recent risk factors involved with the Oxygen Cylinders. Shri Reddy appreciated the suggestion of Prof (Dr) Hirani to conduct an awareness and training programme for the use of OEU through social media for proper guidance and its effective use by all concerned in association with CSIR-CMERI.

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