Coronavirus outbreak: Kerala based SCTIMST joins hands with Wipro 3D to make automated ventilators

On April 03, 2020, in view of increasing coronavirus (COVID-19) cases in India, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), an institute of National Importance of the Department of Science and Technology (DST) based in Thiruvananthapuram, Kerala, has partnered with ‘Wipro 3D’ to build a portable and lightweight emergency ventilator system based on Artificial Manual Breathing Unit (AMBU) to assist the breathing of the critical patients who have no access to ICU (Intensive care unit) ventilators.

Key Points:

i. This ventilator system is essentially a hand held device also called as AMBU bag or bag-valve-mask (BVM) to provide positive pressure ventilation to a corona patient with breathing difficulties with a controlled rate of expiration, inspiratory to expiratory ratio, Tidal volume etc.

ii. In addition to this, a PEEP (Positive End Expiratory Pressure) valve has been equipped as an extra tool to control pressure on the lower airways at the end of the breathing cycle which prevents the alveoli from collapsing during expiration.

iii. However, a disadvantage of the normal AMBU bag is that it requires a bystander to operate it and hence is non-advisable for treating a Covid-19 patient.