# Retrofit Solution Technology'

## Why in News?

On 22 March 2023, the 'Retrofit Solution Technology' prepared by the Mechanical Cluster of the University of Petroleum and Energy Studies, Dehradun, was presented in a workshop organised by the Transport Department of Uttarakhand to prevent vehicular air pollution which will give new life to diesel vehicles more than 15 years old.

## Key Points

- Prof. Dr. Ajay Kumar of University of Petroleum and Energy Studies said that according to the University's Engine Laboratory, the pollution emitted from diesel vehicles is reduced to the minimum level in 'Retrofit Solution Technology'. Using this technology, vehicles like BS-6 will emit less pollution.
- With this technology, the old diesel vehicles can get new life and they can be made fit to run on the roads again.
- After burning diesel in old vehicles, the poisonous gas released from it spreads pollution in the atmosphere. To clean it, special filters are used in this technique.
- The 'Retrofit Solution Technology' uses a Diesel Oxidation Catalyst, which is a type of filter. It converts carbon monoxide into carbon dioxide. The fine particles in the smoke get trapped in the Diesel Particulate Filter (DPF). Microwave ovens are used to burn these particles.
- The rays emanating from it burn the microscopic particles. After this they are taken out and the filter is cleaned. Selective Catalytic Reduction (SCR) filters are also used in this. In this, toxic nitrogen oxides are converted into water using liquid ammonia. This prevents the major elements causing air pollution from being emitted.
- According to the University's Engine Laboratory, this technology burns up to 60 percent of the unburned carbon in the exhaust of diesel vehicles. At the same time, 29 percent of carbon monoxide is converted into carbon dioxide. With this technique, up to 91 percent of the fine particles are destroyed by burning.
- It is noteworthy that this technology was created in 2020. An application has been made to patent it. After testing in several stages, the process is in the final stage. Through this technology, it has been successful in bringing the air pollution coming out of the vehicles to the minimum level like BS-6 vehicles.