Course on

Investigation of Bomb Blast Cases

(23-27 June, 2025)

About the Course

The incidents of Explosions pose a serious threat to nation's security. Despite prodigious efforts to curb such incidents, considerable increase in planning and execution of explosion is recorded. The terrorist organizations and anti-social elements are also focusing on making explosive devices utilizing materials in day to day lives to disguise and escape the security checks. Such devices are called as Improvised Explosive devices.

The explosions caused by Explosives/ Improvised Explosive Devices have remained a preferred tool in the hands of terrorists in causing large scale destruction of human life and property. Use of newer techniques like Radio-Controlled IEDs & Victim Operated IEDs etc., utilizing explosives having higher and higher detonation velocities, to achieve their objectives, have posed a great challenge to law enforcement agencies. The scenes of explosions are severely damaged. Hence investigation in such cases is cumbersome. From identification of unexploded material to analysis of post blast residues, the task is strenuous. Furthermore, use of IED's has made the task more arduous. During post blast forensic investigation, the explosive trace residues may or may not be available to determine the explosive material used. But the characteristic by-products formed by chemical reactions that take place during an explosion have enabled the forensic scientists to accurately ascertain the explosive materials used. Various sophisticated instrumentation techniques like Chromatography, Spectroscopy, Spectrometry, Polarography, Thermal methods etc. are being used for analysis of explosive materials and their by-products.

Moreover, the effects produced by blast and shock waves to the surroundings have helped in solving other problems like determination of point of explosion, amount of explosive used etc.

This institute proposes to organize this course on "Bomb Blast Investigation" to apprise the forensic scientists about various techniques so as to strengthen their forensic capabilities and skills and thus build a strong force in post blast investigations in the country.

The proposed course aims to address the challenges discussed above in a very methodical way. The course would embody varied lectures specifically addressing the challenges faced by investigators and the ways to combat it. The course would also include a session of hands on analysis of post blast residue on specific instrument.

The course has the following objectives:

1. To familiarize the participants about the fundamentals of evidence collection for PBI and their analysis.
2. To apprise them to the various new techniques being used in the detection and analysis of explosives in lab and on-site so as to bridge the gap, fill the void and bring uniformity in forensic examination and reporting in post blast cases, throughout the country.
3. To provide a platform for experience sharing among the participants and speakers in forensic investigation of bombing scenes involving Bombs/ IEDs and their reporting.