

Certificate in Forensic Science (CFS)

Paper No.	Course Code	Title of the Course / पाठ्यक्रम का शीर्षक	Credits
6111	CFS-01	Forensic Science, Crime Scene, Management, Questioned Documents and Finger Prints	4
6112	CFS-02	Forensic Biology, Serology, Chemistry and Toxicology	4
6113	CFS-03	Forensic Physics, Ballistics Digital Forensic and Special Topics	4
6114	CFS-04(P)	Practical-1	6
6115	CFS-05(P)	Practical-2	6
Total Credits			24

CFS-01

(Forensic Science, Crime scene Management, Questioned Document & Fingerprints)

Block-I Functions of Forensic Science & Crime Management

Unit – I Definition and concepts of Forensic Science. Basic principles of forensic science.

History and development of forensic science in India.

Unit- II Tools and techniques. Branches of forensic science. Organizational structure of forensic science laboratories.

Unit-III Crime Scene investigations. Protection and isolating the crime scene. Documentation of crime scene by photography. Sketching and field notes.

Unit IV- Type, Significance and Classification of physical and trace evidences. Collection and care of evidence. Submission of evidence. Chain of evidence. Reconstruction of crime scene. Significance of density, conductivity, refractive index and particle size in analyzing the trace evidence. Evidence pertaining to tool marks, glass, fibre and soil.

Block-II Questioned Documents & Fingerprints.

Unit-V Scope, development, definition and nature of questioned documents. General and individual characteristics of handwriting.

Unit-VI Development of individuality in handwriting. Examination and comparison of handwriting. Natural variations and fundamental divergences in handwritings.

Unit-VII Forgeries and Line Quality defects. Alterations in documents, including erasures, additions, over-writings and obligations. Anonymous letters, disguised hand writing. Type scripts, charred/burnt documents and standard for comparison.

Unit-VIII Fundamental Principles of Fingerprinting Classification of fingerprints. Plain and rolled fingerprints. Latent fingerprints and their development.

CFS-02

(Forensic Biology, Serology, Chemistry & Toxicology)

Block- III Forensic Biology & Serology.

Unit IX Biological Evidence. Importance, nature, location, collection and evaluation of biological evidence.

Unit X Hair Examination. Structure of hair. Growth and replacement of hair. Collection and preservation of hair evidence. Identification from hair.

Unit XI Forensic Entomology, Insects of forensic importance. Collection of entomological evidence during death investigation.

Unit XII Blood and blood groups. Forensic Characterization of bloodstains. Bloodstain patterns. Forensic signification of semen, saliva, sweat, milk and urine. Scientific basis of DNA typing.

Block-IV Forensic Chemistry & Toxicology.

Unit XIII Arson. Chemistry of fire. Searching, collection and preservation of arson evidences. Scientific investigation and evaluation of clue materials.

Unit XIV Explosives. Classification of explosives. Explosion process. Blast waves. Searching the source of explosion. Post blast residue collection and analysis.

Unit XV Natural and Synthetic drugs of abuse. Classification of drugs of abuse. Field and laboratory tests of drugs of abuse. Collection and preservation of drugs of abuse. Adulteration of petroleum products. Analysis of alcoholic beverages. Detective dyes.

Unit XVI Poisons. Classification of poisons. Physio-Chemical and mode of action of poisons. Accidental, suicidal and homicidal poisonings. Collection and preservation viscera, blood and urine for various poisons cases.

CFS-03
(Forensic Physics, Ballistics Digital Forensics & Special Topics)

Block- III Forensic Physics, Ballistics.

Unit XVII Speaker Identification and audio video authentication. Voice production theory. Acoustic characteristics of speech. Analog and digital type recording.

Unit XVIII Classification of firearms. Firing mechanisms of different firearms. Range of fire. Introduction to internal, external and terminal ballistics. Matchins of bullets and cartridges. Mechanism of formation gunshot residues.

Unit XIX Mechanism of Formation Gunshot Residues. Methods of analysis of gunshot residues form shooting hands and targets.

Block VI Digital Forensics and Special Topics.

Unit XX Computer and cyber crimes. Networks and Computer crimes and their types. Unauthorized access and interception. Hacking. Computer viruses and security. Computer scanners. Software piracy. Data recovery. Printing of counterfeit currency.

Unit XXI Polygraphy. Truth and deception. Psychology of lying and legal aspects of narco analysis.

Unit XXII Brain Fingerprinting. Concept and Significance of brain fingerprinting. Future and legal aspects of brain fingerprinting.