

TAMIL NADU PUBLIC SERVICE COMMISSION

FORENSIC SCIENCE (PG DEGREE STANDARD) **Code No.226**
FOR THE POST OF JUNIOR SCIENTIFIC OFFICER

UNIT I

Forensic Science - Definition - Development of Forensic science in India - Organization and functions of Forensic laboratory

UNIT II

Physical evidences - their classification and significance - Locard's Principle of exchange-class and individual characteristics.

Crime Scene examinations - documentation of crime scene- recognition, collection, preservation and transportation of physical evidence for laboratory examinations.

Fundamentals of photography - crime scene photography

UNIT -III

Foot and tyre impressions - Walking pattern - Recording and examination of foot prints and tyre prints.

Finger prints - Fundamental principles - Finger print patterns - classification of finger prints - methods of developments of latent finger prints.

UNIT IV

Tool marks - identification - restoration of filed off/erased marks - Detection of counterfeit coins and currency.

Fire arms, Bullet and cartridge case identification - pellets and wads - Range of firing.

UNIT V

Fire and arson - Natural fires - Arson - Accelerants - Combustible properties of flammable substances.

Explosives - Classification of explosive substances - Combustion, detonation and explosion - Effects of explosion - Military and industrial explosives - Improvised explosive devices - Explosive residues - Residues examination.

UNIT VI

Questioned documents, identification of hand writing, type writer and forged signatures - Erasures and alterations on documents and their detection

UNIT VII

Broken glass - glass fractures - direction of force - backward fragmentation - comparison of glass fragments.

Forensic examination of soil and paints,

Theory and practice of polygraph and voice identification

UNIT VIII

Toxicology - classification and mode of action of poisons - narcotic drugs - alcoholic beverages - isolation and identification of poisons, drugs and alcohol

UNIT IX

Examination of biological fluids - blood, seminal and saliva stains - forensic characterization of the above stains - stain patterns of the blood, Examination of fibres, hair, bones, teeth and skull - Fundamental of DNA typing.

UNIT X

Instrumental methods of organic analysis - principles of chromatography, spectrophotometry, and mass spectrometry.

Instrumental methods of inorganic analysis - Principles of emission and atomic absorption spectra - X-ray diffraction - Neutron activation analysis.