

Syllabus for P. G. Entrance Test to M.Sc. 2012

Forensic Science - 220

INTRODUCTION TO FORENSIC SCIENCE

FORENSIC SCIENCE

Definition, History, Development and Scope of forensic Science in India. State and Central Forensic Science Laboratories, their structure and functioning

PHYSICAL EVIDENCES

Definition, types, class and individual characteristics, Principle of exchange, General information provided by physical evidences, Different search methods for locating physical evidences at scene of crime, Chain of Custody.

HANDLING OF PHYSICAL EVIDENCES

Preservation, Packing, labeling, transportation and forwarding of the following physical evidences, Biological samples Blood, semen, Saliva, urine, vomit, fecal material, hair etc., Botanical samples- Cannabis, opium, nux vomica etc., Toxicological samples-viscera, adulterated food stuff, blood, urine, vomit etc., Post mortem samples, Chemical samples volatile liquids, nonvolatile liquids, flammable liquids, solid chemical etc., Ballistics samples-firearms, ammunitions, GSR etc., Fingerprint, impressions and documents, Physical samples-fiber, glass, textile, wire & cables, dust & soil etc.

FUNDAMENTAL OF POLICE

Historical Development of Police system in India. Police in Indian Constitution. Objective of Police, General Organization of Police at State & Range level. The Police and Policing

Police organization under central Government :

General information about their structure and function -

A [1] BSF [2] Assam Rifles [3] CRPF [4] CISF [5] ITBP [6] NSG

B [1] BPR & D [2] CBI [3] IB [4] RAW [5] NCRB [6] NICFS [7] NPA [8] UT Police Force.

Police Science :

Definition & Scope. Who is an investigator, Investigator & his qualities, General guidelines for investigator, Interview of witness, Interrogation of suspect.

Scene of Crime : Meaning of scene of crime, Primary & Secondary scene of crime. Types of scene of crime, Search methods at scene of crime.

Methods of preservation_: Photography - importance of photography, general guidelines, admissibility in court. Various forms such as videography, photogrammetry etc.

Indian Penal Code – 1860

Administration of Justice :

Meaning, Difference between civil and Criminal Justice, Object of Punishment, Kinds of Punishment, Primary and Sanctioning Rights, Primary and Secondary functions of Court of Law.

Punishment Under the code:

General Exceptions (Ch.IV) , Offences against Human body, Offences against Property

Finger Prints, Documents and other Impressions

Fingerprints :

History, Characteristics, Pattern Characteristics, Type of Pattern, Classification. Types of Fingerprints, Location and Preservation of fingerprints, Development of Latent prints, Matching of fingerprints.

Documents :

Types of Document, Writing instruments and their characteristics, Ink and their examination, Paper and its examination, Nature of Document examination.

Hand writing :

Hand writing and its characteristics, Factors affecting hand writing, Samples for comparison, Comparison of Hand writings, Disguised and Indented writings and their detection. Typed and Computer generated documents, their comparison. Alteration in documents and their detection, Foot & Shoe prints, methods of their preservation and examination, Tyre marks and Track marks and their examination.

FORENSIC BIOLOGY AND SEROLOGY

BRIEF DESCRIPTION AND FUNCTION OF HUMAN

Digestive System, Respiratory System, Circulatory System, Nervous System, Reproductive System.

STRUCTURE, COMPOSITION AND EXAMINATION OF

Blood and Bloodstains, Seminal stains, Saliva and other Biological fluids such as Urine, Pus.

D N A:

Structure of DNA, Polymorphism in DNA, General idea about RFLP and PCR methods of biological fluid analysis.

CHEMICAL SEPARATION AND INSTRUMENTAL TECHNIQUES

GENERAL UNDERSTANDING OF:

Distillations, Sublimation, Crystallization, Solvent Extraction.

CHROMATOGRAPHIC TECHNIQUES :

Column chromatography, Paper and Thin Layer chromatography, Gas Liquid chromatography, Liquid chromatography.

SPECTROSCOPIC METHODS – PRINCIPLE, APPARATUS, PROCEDURE & IMPORTANCE :

Emission Spectroscopy, Atomic Absorption Spectrophotometry, UV Spectrophotometry, IR & FTIR Spectrophotometry

GENERAL IDEA ABOUT :

Neutron Activation Analysis, Mass Spectrometry

ELECTROPHORESIS

Principle, Types, Equipment and Processing, Immune electrophoresis, Analysis of Proteins by electrophoresis and their detection

FORENSIC MEDICINE

FORENSIC MEDICINE:

Forensic Medicine – Meaning and Scope,

Identity of a Person : Through all factors in fixing identity, Post-Mortem Examination (Autopsy) (Types of Autopsy, objectives, Procedures).

Meaning & Modes of Death, and their characteristics, Signs of Death and Post-Mortem changes.

Wounds and their characteristics, Injuries due to heat, lightning, Electricity and Radiation, Firearm injuries, Differentiation between Ante-Mortem and Post-Mortem wounds.

DRUG ANALYSIS AND FORENSIC TOXICOLOGY**FORENSIC TOXICOLOGY -**

Poison and Types of Poisoning, Action of Poison, Factors modifying the Action of Poison, Isolation of Poisons from viscera

Isolation and analysis of metallic poison namely: As, Sb, Pb, Cu, Zn, Alcoholic drinks
Analysis of ethyl alcohol in biological fluids, Analysis of methanol

GENERAL IDEA AND EXAMINATION OF

Opium, Semi – synthetic opiates, Cannabis drugs such as Bhang, Ganja and Charas
LSD and Amphetamine, Snake Venom, Imp. Benzodiazepines, Phenothiazines,
Barbiturates