

UNIVERSITY GRANTS COMMISSION

NET BUREAU

Code No. : 82

Subject : FORENSIC SCIENCE

SYLLABUS AND SAMPLE QUESTIONS

Note :

There will be two question papers. Paper-II will cover 50 Multiple Choice Questions (Multiple choice, Matching type, True/False, Assertion-Reasoning type) carrying 100 marks and Paper-III will have two Parts--A and B. Part-A will have 10 short essay type questions (300 words) carrying 16 marks each. There will be one question from each unit with internal choice from the same unit. Total marks will be 160. Part-B will be compulsory and questions will be set from Unit-I to Unit X. The candidate will attempt one question from Part-B (800 words) carrying 40 marks. Total marks of Paper-III will be 200.

PAPER-II and PAPER-III (Parts A & B)

Unit--I

Forensic Science : Definitions, History and Development

Crime Scene Management and Investigation; Collection, Preservation, Packing and Forwarding of Physical and Trace evidences for analysis

Legal and Court Procedure pertaining to Expert Testimony

Unit--II

Microscopy : Polarising, Comparison, Stereoscopic, Fluorescent and Electron Microscopes

Spectrophotometry : U. V., Visible, IR atomic absorption

Neutron Activation Analysis

X-rays

NMR

Chromatographic techniques : TLC, GLC, GCMS, HPLC

Electrophoresis : High and Low voltage electrophoresis, Gel electrophoresis and Immunoelectrophoresis

Unit—III

Fresh blood—Grouping and typing of fresh blood samples including enzyme types

Analysis of stains of blood and allied body fluids for their groups and enzyme tests

Cases of disputed paternity and maternity problems

DNA profiling

Unit—IV

Analysis of illicit liquor including methyl and ethyl alcohol and alcohol in body fluids and breathe

Analysis of petroleum products

Chemical examination and Physiology/Pharmacology of—

Insecticides and Pesticides

Psychotropic Drugs : Sedatives, stimulants, opiates and drugs of abuse

Extraction, Isolation and Identification of Poisons from viscera, tissues and body fluids

Unit—V

Classification of fire arms, ammunition and their compositions

Comparison and Identification of Cartridges, Bullets and Fire arms

Country made fire arms, Velocity, Penetration, Dispersion, Recochet, Accidental Discharge, Determination of Range

Bombs and Explosives : Composition, Ignition, Combustion and Detonation

Examination of country made bombs, Improvised Explosive Devices (IEDs)

Unit—VI

Identification of hair, determination of species origin, sex, site and individual identification from hair

Classification and Identification of fibres

Examination and identification of Saliva, Urine, Faecal matter and Milk

Examination and Identification of Semen stains including the species origin and individual characteristics

Unit—VII

Physical analysis of the following :

Soil, Glass, Paints, Laquers, Cement, Inks, Paper, Tool marks, Tyre Marks, Shoe Prints, Forensic examination of vehicles in cases of accident

Unit—VIII

Identification of individuals from bodily features

Examination and identification of deceased from Skeletal remains

Identification and individualisation from foot prints

Identification and individualisation from teeth

Unit—IX

Preliminary examination of documents

Identification of hand-writing, signatures and detection of forgeries

Anonymous and disguised writings

Reproduction of documents through photographic and mechanical means and their examination

Physical and chemical erasures, obliterations, additions, alterations, indentations, secret writings and charred documents

Inks, papers and their scientific examinations including instrumental analysis

Age of documents

Examination of typescripts, printed matter including currency notes and lottery tickets and mechanical impressions

History, classification, search, lifting and examination of fingerprints

Development of latent fingerprints by various methods

Single digit classification and examination of chance prints

Crime records and computerisation of fingerprints

Unit—X

Medicolegal aspects of wounds

Post-mortem Examination and PM changes

Asphyxial Death

Sexual offences

Infanticide

Forensic psychiatry and lye detection