

Weekly Lesson Plan
B.Sc. (Forensic Science) - I Semester (Odd)
Session- 2019-20

Subject: Forensic Science

Paper I: Basics of Forensic Science

Paper II: Crime Scene Investigation and Management

Week	Dates	Paper	Topic(s)
1.	July 16-20,2019	I	Introduction to the syllabus Introduction, Definition, need , significance and scope of Forensic Science
		II	Cr ime scene investigation: Definition of crime scene, crimes without scene
2.	July22-27,2019	I	Principle and laws of Forensic Science,.
		II	Classification of crime scene: indoor & outdoor, primary & secondary, macroscopic & microscopic crime scene. Significance of crime scene, argument and ethics of crime scene.
3.	July 29- Aug 3, 2019	I	Domains in Forensic Science : Forensic Biology and serology,
		II	Definition of physical evidence, classification of physical evidence, types of physical evidences, sources of physical evidence
4.	Aug. 5- 10,2019	I	Forensic Medicine, Forensic Toxicology, Forensic Osteology
		II	Signification and value of physical evidence, linkage between crime scene, victim and criminal
5.	Aug. 12-17,2019	I	Forensic Photography and its applications, Ballistics, Fingerprint, Questioned Documents.
		II	Study of some special crime scene such as mass disaster, terror attack, geological scene and explosive etc
6.	Aug. 19-24,2019	I	Forensic Psychology, Detection of Deception Forensic Anthropology.
		II	Cr ime scene management: Introduction to crime scene management, duties of first responding of ficer at the scene of crime
7.	Aug. 26-31,2019	I	Wildlife Forensic, DNA profiling

		II	Duties of crime scene investigator, specialized personnel at the crime scene: biological or chemical terrorist crime scene
8.	Sep. 2-7, 2019	I II	Forensic Odontology, Forensic Physics Processing of scene of crime: plan of action, protection of scene of crime
9.	Sep.9-14,2019	I II	Computer Forensic etc. Functions of Forensic Scientist, Police officers. Photography and video recording of crime scene, sketching of crime scene, searching, collection, preservation, packing of physical evidence
10.	Sep.16-21,2019	I II	Prosecution, Judicial Officers and Medico legal expert etc. Problem of proof in Forensic Science. Documentation of crime scene, forwarding or dispatch of relationship between forensic expert and judiciary of ficer
11.	Sep.24-28,2019	I II	Legal admissibility of various evidences, corpus delicti, modus operandi. Importance of FSL, National and International scenario of FSL,
12.	Sep. 30- Oct.5, 2019	I II	Multi professional and multi personal aspects of forensic science Facilities provided in forensic science laboratory. Ethical issue in FSL
13.	Oct. 7-12, 2019	I II	Professional standards for practice of Criminalistics Criminal behavior: Introduction of criminal behavior , theories of criminal behavior: psychogenic theory,
14.	Oct. 14-19, 2019	I II	Ethical issue in Forensic Science: Definition of ethics Sanction against expert for unethical conduct. classical and non -classical theories, biological theories, physiological theories Economic theory, geographical theories, and sociological theories.

15.	Oct. 21-23, 2019	I	Revision
		II	

Weekly Lesson Plan
B.Sc. (Forensic Science) - II Semester (Even)
Session- 2019-20

Subject: Forensic Science

Paper I: Crime Detection

Paper II: Forensic Evidences

Week	Dates	Paper	Topic(s)
1.	Jan. 1-4,2020	I II	Introduction to the syllabus Organization set up of Forensic Science Laboratory: Structure and function of SFSL, Definition, types, class and individual characteristics, Principle of exchange, General information provided by physical evidences.
2.	Jan. 6-11,2020	I II	RFSL, CFSL and facility provided, MFSL Different search methods for locating physical evidences at scene of crime, Chain of Custody
3.	Jan. 13-18, 2020	I II	Directorate of Forensic Science Service. Police and Forensic scientist relationship Biological samples Blood, semen, Saliva, urine, vomit, fecal material, hair etc.
4.	Jan. 20-25,2020	I II	Crime detection agency: Organization set up and functioning of GEQD, CFI, FB, and NCRB. Preservation, Packing, labeling, transportation and forwarding of the following physical evidences
5.	Jan. 27 -Feb 1,2020	I II	National Institute of Criminology and Forensic science, Crime investigation department Toxicological samples -viscera, adulterated food stuff , blood, urine, vomit etc. Post mortem samples
6.	Feb 3-8,2020	I II	National Investigation Agency, World Anti-Doping Agency, Botanical samples - Wood, leaves, pollens, seeds, diatoms etc.
7.	Feb. 10-15, 2020	I	Central Bureau of Investigation, National Police Academy

		II	Preservation, packing, labeling, handling, transportation and forwarding of the following physical evidences.
8.	Feb.17-22,2020	I	National Drug Testing Laboratory and OCTOPUS
		II	Chemical samples volatile liquids, nonvolatile liquids, flammable liquids, solid chemical etc.
9.	Feb. 24-29,2020	I	Centre for Cellular and Molecular Biology Intelligence Bureau,
		II	Fingerprint , impressions and documents
10.	March 2-7, 2020	I	Bureau of Police Research & Development, Organization. Defense Research and Development Organization
		II	Ballistics samples- firearms, ammunitions, GSR etc.
11.	March 16-21,2020	I	Research Analysis Wing, Organization set up and functioning of CFI, FB
		II	Recognition of Bloodstain Patterns: History of Bloodstain Pattern interpretation
12.	March, 23-28,2020	I	Organization set up and functioning of NCRB
		II	properties of human blood, target surface considerations, Size, Shape and Directionality of bloodstains
13.	March 30 - April 4,2020	I	Fingerprint Bureau Investigation, Crime Investigation Agency
		II	Spattered blood, other Bloodstain Pat terns, interpretation of Bloodstain on clothing and footwear,
14.	April 6-11, 2020	I	Central Police Organization, Central Detective Training School
		II	Physical samples - fiber, glass, textile, wire & cables, dust & soil, cement etc.
15.	April, 13-18, 2020	I	Cr ime Scene Investigation, Drug Enforcement Administrator & Interpol, etc.
		II	Documentation and Photography for Bloodstain Pat tern Analysis.
16.	April 20-25,2020	I	Revision
17.	April27-30,2020	II	Revision

Weekly Lesson Plan
B.Sc. (Forensic Science) - III Semester (Odd)
Session- 2019-20

Subject: Forensic Science

Paper I: Analytical Techniques and Methods used in Forensic Science

Paper II: Questioned Documents and Report Writing

Week	Date	Paper	Topic to be Covered
1.	July 16-20,2019	I	Elementary theory of microscope, scope of microscope in forensic science.Varieties of microscopes, stereoscopic microscopes, fluorescent microscope
		II	Forensic Documents: Preliminary examination of questioned documents.
2.	July22-27,2019	I	polarizing microscope, comparative microscope, scanning electron microscope (SEM), transmission electron microscope (TEM)
		II	Various types of forensic documents
3.	July 29- Aug 3, 2019	I	Chromatographic parameters – capacity term, selectivity term and efficiency term
		II	genuine and forged documents, classification of forensic documents: Specimen writings, admitted writings
4.	Aug. 5- 10,2019	I	HETP, column efficiency – Van Deemter equation and curve
		II	Handling, preservation and marking of documents, natural variation and disguise in writing
5.	Aug. 12-17,2019	I	Capillary columns, detectors for GLC and HPLC,
		II	Principle of Handwriting Identification,

			general and individual characteristics
6.	Aug. 19-24,2019	I	temperature programming in GLC and gradient elution in HPLC
		II	Basic Tools needed for forensic documents examination and their use
7.	Aug. 26-31,2019	I	derivatisation for GLC
		II	Natural variations, fundamental divergences, Alternations in documents: erases, additions, overwriting and obliterations
8.	Sep. 2-7, 2019	I	derivatisation forHPLC.
		II	Determination of age of Documents, Sequence of Strokes
9.	Sep.9-14,2019	I	Forensic applicationsGC-MS
		II	Various types of forgeries and their detection. Analysis of paper and inks.
10.	Sep.16-21,2019	I	Forensic applicationsHPLC-MS
		II	Scientific Report writing: - Components of reports and report format relating toCrime Scene and Laboratory findings
11.	Sep.24-28,2019	I	Forensic applications Py-GC-Ms.
		II	Stages in criminal proceedings: - FIR,Investigation, prosecution and trial stage. Remand and bail processes.
12.	Sep. 30- Oct.5, 2019	I	Basic principles and applications of – UV-Vis spectroscopy
		II	Crimes underSpecial and Local laws: - Crimes under Dowry Prohibition Act
13.	Oct. 7-12, 2019	I	Infrared spectroscopy, ESR spectroscopy
		II	Crimes underImmoral Traffic Act, Specific offences under the Indian Penal Code (Homicide, sexual offences, offences against

			property)
14.	Oct. 14-19, 2019	I II	Raman spectroscopy, Mass spectroscopy Classification of offenses: Cognizable and Non cognizable offence, Role of media, Role & Functions of Police. compoundable and non-compoundable offences
15.	Oct. 21-23, 2019	I II	NMR spectroscopy Bailable and non bailable offences,

Weekly Lesson Plan
B.Sc. (Forensic Science) - IV Semester (Even)
Session-2019– 2020

Subject: Forensic Science

Paper I: Forensic Medicine

Paper II: Forensic Chemistry and Toxicology

Week	Date	Paper	Topic to be Covered
1.	Jan. 1-4,2020	I	Global Medical Jurisprudence, Legal Procedure in India: - Police inquest, Magistrate's inquest, Coroner's inquest, Oath and affirmation
		II	Forensic toxicology - meaning Poison and Types
2.	Jan. 6-11,2020	I	Documentary evidence: - Medical certificates, medical reports, dying declaration
		II	Poisoning Action of Poison
3.	Jan. 13-18, 2020	I	Understanding laws and ethics of medical practice. Medico legal aspects of death
		II	Poisoning Action of Poison
4.	Jan. 20-25,2020	I	Diagnosis of death- somatic & molecular
		II	Classification of poison
5.	Jan. 27 -Feb 1,2020	I	Early and intermediate changes following death
		II	Isolation and analysis of metallic poison As
6.	Feb 3-8,2020	I	Late changes after death - putrefaction, autolysis, bacterial action, factors affecting these changes
		II	Isolation and analysis of metallic poison Pb
7.	Feb. 10-15, 2020	I	Determination of time since death, including by histopathological methods.
		II	Isolation and analysis of metallic poison Sb
8.	Feb.17-22,2020	I	Medico legal investigation of sexual offences, including examination of victims and suspects
		II	Isolation and analysis of metallic poison Zn

9.	Feb. 24-29,2020	I	Medico legal aspects of 20 death
		II	Analysis of ethyl alcohol in biological fluids
10.	March 2-7, 2020	I	Causes of death such as asphyxia, electrocution, thermal trauma, heat burns, starvation, natural death, sudden death, death by accident
		II	Analysis of methanol
11.	March 16-21,2020	I	Medico legal aspects of wounds: -medical and legal definition of wounds
		II	Opium, Semi-synthetic opiates
12.	March, 23-28,2020	I	Types of mechanical and regional injuries, aging of wounds,
		II	Cannabis drugs such as Bhang, Ganja and Charas LSD and Amphetamine
13.	March 30 - April 4,2020	I	Difference between suicidal, homicidal and accidental wounds
		II	General Idea about NDPS Act. Sections 15 – 32, 37
14.	April 6-11, 2020	I	Injuries, Asphyxia, Unnatural Offences (Sexual Offences)
		II	Snake Venom
15.	April, 13-18, 2020	I	Time since death
		II	Benzodiazepines
16.	April 20-25,2020	I	Identification of living
		II	Phenothiazines
17.	April27-30,2020	I	Identification of dead
		II	Barbiturates

Weekly Lesson Plan
B.Sc. (Forensic Science) - V Semester (Odd)
Session- 2019-20

Subject: Forensic Science

Paper I: Finger prints & Impressions

Paper II: Analytical Techniques and Methods Used in Forensic Science - II

Week	Dates	Paper	Topic(s)
1.	July 16-20,2019	I II	Introduction to the syllabus Fingerprints as evidence: Its recognition, Methods of digestion of samples with special reference to microwave digestion
2.	July22-27,2019	I II	History and Development of fingerprints Methods of separation and isolation with special reference to steam distillation, fractional distillation, sweep distillation, under vacuum distillation
3.	July 29- Aug 3, 2019	I II	Formation of ridges, Fingerprints patterns, Pattern Areas Solvent extraction, solid phase extraction
4.	Aug. 5- 10,2019	I II	General and Individual characteristics of fingerprint, Composition of Sweat Solid phase micro extraction, supercritical fluid extract ion, micellar extraction
5.	Aug. 12-17,2019	I II	Classification of fingerprints- Henry System of classification, Single digit Classification, Extension of Henry system Microwave accelerated reaction system, density gradient centrifugation, field flow fractionation.
6.	Aug. 19-24,2019	I II	Fingerprint Bureau. AFIS (Automated Dialysis and electro dialysis, head spectra technique
7.	Aug. 26-31,2019	I II	Fingerprint Identification System, Search for Fingerprints, Chance Fingerprints, Latent Fingerprints Electrophoresis – Gel electrophoresis basic principles and applications
8.	Sep. 2-7, 2019	I II	Various methods of development of fingerprints: conventional methods, physical and chemical fiorescent method, Capillary electrophoresis, basic principles and

			applications
9.	Sep.9-14,2019	I	Magnetic Powder method, fuming method, laser method.
		II	Laser system – purity of spectral lines, coherence length and coherence time, spatial coherence of a source
10.	Sep.16-21,2019	I	Taking fingerprints from living and dead persons. Different Types of Surfaces (Porous, Semi-porous, non-porous)
		II	Einstein's A and B coefficients, coherence of induced emissions, conditions for laser action, existence of a meta stable state
11.	Sep.24-28,2019	I	Impressions and Prints: Footprints: Importance, Gait Pattern, Casting of footprints in Different medium, Taking Control samples.
		II	Population by inversion by pumping and cavity. He -Ne and Ruby laser.
12.	Sep. 30- Oct.5, 2019	I	Lip Prints- Nature, Location, collection and evaluation, taking control samples, Forensic Significance. Tyre Marks/prints and Skid marks, taking control samples
		II	Application of Laser polarization and including higher order and generation of harmonics, momentum mismatch and choice of right crystal and direction for compensation..
13.	Oct. 7-12, 2019	I	Bite Marks- Nature, Location, collection and evaluation, taking control samples, Forensic Significance.
		II	Basic principles and applications of and gel permeation chromatography
14.	Oct. 14-19, 2019	I	Ear Prints- Nature, Location, collection and evaluation, taking control samples, Forensic Significance
		II	Basic principles and applications of adsorption, ion exchange
15.	Oct. 21-23, 2019	I	Revision
		II	

Weekly Lesson Plan
B.Sc. (Forensic Science) - VI Semester (Even)
Session- 2019-20

Subject: Forensic Science

Paper I: Computer Forensics and Biometrics

Paper II: Advanced Forensic Serology and DNA Forensics

Week	Dates	Paper	Topic(s)
1.	Jan. 1-4,2020	I II	Computer and Cyber Crimes: Introduction Advanced Forensic Serology and DNA Forensics
2.	Jan. 6-11,2020	I II	Stand alone computer crimes–Printing of counterfeit currency notes Immunology: Immune System, immune response Innate and acquired immunity and antigens, heptanes and adjuvant.
3.	Jan. 13-18, 2020	I II	Computer Scanners, Imaging Software Photoshop, Photo Paint etc. Lectins: Forensic significance, buffers and serological reagents, methods of sterilization employed for serological work.
4.	Jan. 20-25,2020	I II	Software piracy Antigen-Antibody Reactions: Precipitation, agglutination, complement, neutralization, immune fluorescence.
5.	Jan. 27 -Feb 1,2020	I II	Data Recovery. HLA system: Its applications in paternity testing, pitfalls of HLA system.
6.	Feb 3-8,2020	I II	Networked Computer Crimes: Unauthorized access and interception Forensic examination of Body Fluids : Species of Origin (Immunodiffusion and Immunoelectrophoresis)
7.	Feb. 10-15, 2020	I II	Hacking, Computer Viruses Individualization: Blood Grouping, Enzyme Typing.
8.	Feb.17-22,2020	I	Programme manipulations Computer Security

		II	DNA Profiling : Introduction, History of DNA Typing, human genetics – heredity, alleles,
9.	Feb. 24-29,2020	I	Internet, use of Biometric methods with special reference to personal identification.
		II	Mutations and population genetics, molecular biology of DNA, variations, polymorphism
10.	March 2-7, 2020	I	Image Processing: Introduction and Process, Image
		II	DNA typing systems- RELP analysis. PCR amplifications, sequence polymorphism Mitochondrial DNA, evaluation of results,
11.	March 16-21,2020	I	Enhancement and Restoration.
		II	Frequency estimate calculations, interpretations, allele frequency determination,
12.	March, 23-28,2020	I	The investigation of erased tapes an analysis of signals (Analog video image processing)
		II	Match probability – database, quality control, certification and accreditation Analysis of SNP, Y-STR,
13.	March 30 - April 4,2020	I	Methods for digital video recording, Digitalization Techniques, Compression, Encryption methods
		II	New and future technologies: DNA chips, SNPs and limitations of DNA profiling
14.	April 6-11, 2020	I	Investigation of Integrity of Images and Videos.
		II	Forensic Significance of DNA Profiling: Applications in disputed paternity cases, child swapping, missing person's identity – civil immigrations, veterinary, wildlife and agriculture cases
15.	April, 13-18, 2020	I	Biometrics: Definition, Types of Biometrics Tools
		II	Legal perspectives– legal standards for admissibility of DNA profiling, procedural and ethical concerns, status of development of DNA profiling in India and abroad.
16.	April 20-25,2020	I	Revision
		II	
17.	April27-30,2020	I	Revision
		II	

Weekly Lesson Plan
M.Sc. (Forensic Science) - VII Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 101

Paper: General Forensic Science

Semester: 7th

Week	Date	Topic to be Covered
1.	July 16-20,2019	Forensic Science : History, Development, and need of Forensic Science
2.	July22-27,2019	Forensic Science:Forensic Science and its International Perspective, Ethics in Forensic Science
3.	July 29- Aug 3, 2019	Forensic Science : Duties of Forensic Scientist, Basic Principles of Forensic Science.
4.	Aug. 5- 10,2019	Organizational setup of Forensic Science Laboratories: CFSL, FSL, GEQD, DFSS, Central Detective Training School
5.	Aug. 12-17,2019	Organizational setup of Forensic Science Laboratories: NCRB, Mobile Forensic Science Laboratory, Branches of Forensic Science.
6.	Aug. 19-24,2019	Crime Scene Investigation: Introduction, characteristics and types of crime scene, physical evidences, Protection and recording of crime scene
7.	Aug. 26-31,2019	Crime Scene Investigation: Search of physical clues, preservation, chain of custody, packing and forwarding of physical clues, blood pattern analysis.
8.	Sep. 2-7, 2019	Fingerprints : introduction, types of fingerprints
9.	Sep.9-14,2019	Fingerprints: searching methods, collection and preservation and evaluation.
10.	Sep.16-21,2019	Forensic Photography: Basic principles and techniques of Black & White and colour photography,
11.	Sep.24-28,2019	Forensic Photography: IR photography, working of digital camera and basics of digital imaging.digital photography,
12.	Sep. 30- Oct.5, 2019	Forensic Photography: Digital videography. Crime scene and laboratory photography, microphotography.
13.	Oct. 7-12, 2019	Criminal Justice System: Structure of Police, Prosecution & Judicial Organizations, Inquest, evidence in enquiries and trials, expert witness, Admissibility of forensic reports in court, expert testimony.
14.	Oct. 14-19, 2019	Computers: Introduction, History of Digital computer,

		computer organization-hardware
15.	Oct. 21-23, 2019	Computers: Circuits for interfacing computer to instruments, computer scanners, imaging softwares (Photo paint, Photoshop etc.), MS word, Data library

Weekly Lesson Plan
M.Sc. (Forensic Science) – VII Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 102

Paper: Instrumental Analysis I

Semester: 7th

Week	Dates	Paper	Topic(s)
1.	July 16-20,2019	I	Microscopy: Principles and techniques of Microscopy: Light Microscope, Phase contrast, Fluorescence, stereomicroscope,
2.	July22-27,2019	I	Polarizing, comparison and Electron Microscope (Scanning, Transmission) Forensic application of microscopy. Microspectrophotometry
3.	July 29- Aug 3, 2019	I	Chromatography: Introduction Basic principles, types of chromatography, partition and adsorption chromatography techniques.
4.	Aug. 5- 10,2019	I	Thin Layer Chromatography: introduction theory and Instrumentation of TLC, HPTLC, stationary phases, visualization methods, densitometer, applications.
5.	Aug. 12-17,2019	I	Gas chromatography: introduction, principle and Instrumentation of GC, types of GC (GLC, and GSC) and column types and structure, Detectors for GC -TCD,FID, ECD, NPD etc, and evaluation of chromatogram, Pyrolysis GC, GC-MS; forensic applications.
6.	Aug. 19-24,2019	I	High Performance liquid chromatography: introduction, principle and Instrumentation of HPLC, injection system, column structure, detectors for HPLC, advantage and limitations of HPLC; their forensic applications.
7.	Aug. 26-31,2019	I	Spectroscopy: Basic principles, property of EMR, interaction of radiation with matters, atomic and molecular spectra; source of radiations
8.	Sep. 2-7, 2019	I	Radiations detection devices, wavelength selector, basic components of absorption and emission spectroscopy.

9.	Sep.9-14,2019	I	UV-Visible, IR and Raman spectroscopy: introduction, principles, instrumentation, single beam and double beam spectrophotometer, interpretation of spectra,
10.	Sep.16-21,2019	I	Qualitative and quantitative analysis: advantage and limitations of UV, IR and Raman spectrophotometer, forensic applications.
11.	Sep.24-28,2019	I	Atomic absorption/ emission spectroscopy: introduction, principles, Instrumentation; types of AAS, ICP-AES,
12.	Sep. 30- Oct.5, 2019	I	Quantitative and qualitative analysis, advantage and limitations of AAS and AES, their forensic applications.
13.	Oct. 7-12, 2019	I	Mass Spectroscopy: principle, instrumentation, ion sources, type of mass analyser- quadrupole, time of flight, double focusing, tandem mass spectroscopy, detectors for mass spectroscopy ; their forensic applications.
14.	Oct. 14-19, 2019	I	NMR Spectroscopy, Neutron Activation Analysis: introduction and principle, techniques and forensic application
15.	Oct. 21-23, 2019	I	X-rays spectroscopy; introduction, principles of X ray diffraction and X ray florescence technique, their forensic applications.

Weekly Lesson Plan
M.Sc. (Forensic Science) – VII Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 103

Paper: Forensic Biology and Serology

Semester: 7th

Week	Dates	Topic(s)
1.	July 16-20,2019	Forensic Biology: types of biological evidences, identification, collection, preservation, and significance of biological evidence.
2.	July22-27,2019	Hair and fibers: classification, characteristics, forensic identification and evaluation of hair and fibers evidences
3.	July 29- Aug 3, 2019	Microbial forensics and Entomology: Organisms of Forensic significance, types, isolation and identification.
4.	Aug. 5- 10,2019	Introduction to forensic Entomology, insects / invertebrates of forensic importance, collection of entomological evidence, their life cycle,
5.	Aug. 12-17,2019	The role of aquatic insects in forensics, insects succession on carrion and its relationship to determine time since death.
6.	Aug. 19-24,2019	Forensic Botany: Introduction, types, significance, location, collection and Forensic evaluation of botanical evidences such as pollen grains, leaves, seeds etc.
7.	Aug. 26-31,2019	Wood- types, soft and hard wood. Identification and comparison. Diatoms: types, morphology, methods of extraction from tissue and bones, their identification and Forensic significance
8.	Sep. 2-7, 2019	Wild life Forensics: scope, different protected and endangered species of animals. Wild life crime investigation- procedure, tools and techniques. Wild life protection act, animal poaching, animal abuse, wild life trading.

9.	Sep.9-14,2019	Identification of pug marks. Identification of wild life clue materials such as hair, skin, fur, bones, nails, horn, teeth etc by conventional and modern methods. Case studies related to wild life crime.
10.	Sep.16-21,2019	Forensic Serology: Blood groups – history, biochemistry and genetics of ABO, Rh, MN and other blood group systems, secretors and non secretors, rare alleles.
11.	Sep.24-28,2019	Blood identification, Methods of ABO blood grouping from dried blood stains and other body fluids, species identification.
12.	Sep. 30- Oct.5, 2019	Polymorphic Enzymes (PGM, GLO-I, ESD, EAP, AK, ADA etc)- their forensic significance
13.	Oct. 7-12, 2019	Body fluids: semen- Introduction, composition, human spermatozoa morphology, Forensic examination and evaluation. Sex determination, X chromosome Inactivation- Barr body.
14.	Oct. 14-19, 2019	Other biological fluid clues such as saliva, sweat, urine and milk etc their introduction & collection preservation and examination,
15.	Oct. 21-23, 2019	Revision

Weekly Lesson Plan
M.Sc. (Forensic Science) – VII Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC: 104

Paper: Forensic Psychology and Statistics

Semester: 7th

Week	Date	Topic to be Covered
1.	July 16-20,2019	Introduction to Forensic Psychology; scope & ethics
2.	July22-27,2019	Distinction between Forensic and therapeutic evaluation, Genetic basis of Psychology
3.	July 29- Aug 3, 2019	Legal aspect of forensic psychology practice
4.	Aug. 5- 10,2019	Forensic Psychiatry: Introduction, classification of mental disorders
5.	Aug. 12-17,2019	Forensic Psychiatric Examination, Scope of psychiatric examination in criminal and civil cases
6.	Aug. 19-24,2019	Types and classification of crimes and criminals
7.	Aug. 26-31,2019	Criminal Profiling, and Modus Operandi
8.	Sep. 2-7, 2019	Brain Fingerprinting, Polygraph
9.	Sep.9-14,2019	Hypnosis, Narco Analysis, role in criminal justice system
10.	Sep.16-21,2019	Arithmetic mean, mode and median Definition, calculation and its properties.
11.	Sep.24-28,2019	Range, Interquartile range, Quartile deviation, Mean deviation and standard deviation.
12.	Sep. 30- Oct.5, 2019	Correlation
13.	Oct. 7-12, 2019	Regression analysis
14.	Oct. 14-19, 2019	Concept of sampling and sampling methods
15.	Oct. 21-23, 2019	Test of significance, Chi-square analysis

Weekly Lesson Plan
M.Sc. (Forensic Science) – VIII Semester (Even)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC: 201

Paper: Forensic Chemistry and Toxicology

Semester: 8th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Introduction, Colour & Spot test, microcrystal tests, inorganic and organic analysis.
2.	Jan. 6-11,2020	Analysis of Beverages: alcoholic and nonalcoholic beverages, illicit liquors, detection and estimation of ethanol. Breathe alcohol analyzer.
3.	Jan. 13-18, 2020	Analysis of trace evidence – cosmetics dyes, pigments, clues of trap cases.
4.	Jan. 20-25,2020	Introduction, standard methods of analysis of petroleum product for adulteration as per BIS.
5.	Jan. 27 -Feb 1,2020	Arson Investigation: chemistry of fire, Forensic investigation of arson cases.
6.	Feb 3-8,2020	introduction, classification, drug of abuse in sports. General chemistry and analysis of narcotic drugs and psychotropic substances
7.	Feb. 10-15, 2020	cocaine, cannabis, barbiturates, benzodiazepines, amphetamine, opium, hallucinogens, designer drugs.
8.	Feb.17-22,2020	Introduction of NDPS act, drugs and cosmetic act.
9.	Feb. 24-29,2020	Introduction and scope of forensic toxicology, classification of poisons, legal aspects of poisoning, types of poisoning
10.	March 2-7, 2020	Antidotes, factors modifying action of poisons, LD-50, sign and symptoms of common poisons.
11.	March 16-21,2020	Collection, preservation of samples; Conventional and recent extraction and isolation methods of poisons.
12.	March, 23-28,2020	Pharmacology: theory and principles of absorption, distribution, biotransformation and excretion of drugs/poisons, and their forensic aspects.
13.	March 30 - April 4,2020	General studies and Analysis of vegetable poisons: Opium, Abrus, Dhatura, Marking nuts, Nux-vomica, Oleander and Aconite.
14.	April 6-11, 2020	Alkaloids: classification and charecterisations. Snake venoms and insect poisons,

15.	April, 13-18, 2020	Irrespirable gases, food poisoning
16.	April 20-25,2020	Insecticides and Metallic Poisons: introduction, types,
17.	April27-30,2020	Insecticides and Metallic Poisons: Analysis

Weekly Lesson Plan
M.Sc. (Forensic Science) – VIII Semester (Even)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC: 202

Paper: Instrumental Analysis II

Semester: 8th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Isolation of DNA, RNA, Purification, Restriction
2.	Jan. 6-11,2020	PCR – DNA amplification, autoradiography, and forensic applications
3.	Jan. 13-18, 2020	Cell and tissue culture techniques: pH and buffers, culture media preparations
4.	Jan. 20-25,2020	Sterilization techniques and forensic applications
5.	Jan. 27 -Feb 1,2020	Centrifugation Techniques - Centrifugation, cold and ultracentrifuges basic principle, instrumentation
6.	Feb 3-8,2020	G-value & relationship between RPM., applications of analytical centrifugation.
7.	Feb. 10-15, 2020	Electrophoresis: Introduction, principles, factors affecting electrophoresis,
8.	Feb.17-22,2020	types of electrophoresis. High and low voltage electrophoresis, capillary electrophoresis.
9.	Feb. 24-29,2020	Immune electrophoresis, SDS-PAGE and iso- electric focusing; their application.
10.	March 2-7, 2020	Enzyme kinetics, enzyme assay techniques such as visible UV spectrophotometric methods
11.	March 16-21,2020	Luminescence method, Radioisotope methods and Immuno-chemical methods.
12.	March, 23-28,2020	Radio chemical techniques: radioisotope, nature of radioactivity
13.	March 30 - April 4,2020	Detection and measurements of radioactivity and forensic applications.
14.	April 6-11, 2020	Immunochemical Techniques: Introduction, Antigen - antibody reactions -theory and principles
15.	April, 13-18, 2020	Production of antibodies. Immunoprecipitation and agglutination-based techniques such as immunodiffusion, cross over electrophoresis
16.	April 20-25,2020	Labeling of Antibodies and their detection methods

17.	April27-30,2020	ELISA, RIA- their basic principle, techniques, and their forensic applications.
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Weekly Lesson Plan
M.Sc. (Forensic Science) – VIII Semester (Even)
Session- 2019-2020

Class: M.Sc. Forensic Science

Subject: FSC:203

Paper: Questioned Document Examination

Semester: 8th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Introduction and classification of documents, genuine and forged document, and holographic document
2.	Jan. 6-11,2020	Preliminary examination of documents, ways of procurement, handling and marking of document, preservation and reproduction of documents. Basic tools for forensic document examination
3.	Jan. 13-18, 2020	Handwriting: principle, characteristics of handwriting, Identification and evaluation of handwriting
4.	Jan. 20-25,2020	Types of forgery, characteristic of genuine and forged signature and their examination. Identification of writer of anonymous letter.
5.	Jan. 27 -Feb 1,2020	Ink and paper examination
6.	Feb 3-8,2020	Determination of age of documents
7.	Feb. 10-15, 2020	Examination of various printing devices and forgeries of printed document
8.	Feb.17-22,2020	Examination of altered documents
9.	Feb. 24-29,2020	Methods and examination of alteration, obliterations, erasures
10.	March 2-7, 2020	Secret writing, Intended
11.	March 16-21,2020	Charred document
12.	March, 23-28,2020	Study of advance techniques for examination of alterations such as Projectina, VSC and ESDA
13.	March 30 - April 4,2020	Photographic techniques to questioned document,
14.	April 6-11, 2020	Discovery of facts by comparison with known material
15.	April, 13-18, 2020	Fry test and Daubert standards
16.	April 20-25,2020	Report writing, reasons for opinion
17.	April27-30,2020	Presentation of expert evidence on documents case

Weekly Lesson Plan
M.Sc. (Forensic Science) – VIII Semester (Even)
Session- 2019-2020

Class: M.Sc. Forensic Science

Subject: FSC:204

Paper: Forensic Medicine and Anthropology

Semester: 8th

Week	Dates	Topic(s)
1.	Jan. 1-4,2020	Forensic Medicine: Characteristics and cause of death; Aphyxial death- Introduction, characteristics and types of asphyxia death (Hanging, strangulation, drowning etc)
2.	Jan. 6-11,2020	Thermal death and their medico legal aspects. Estimation of time since death, post mortem examination
3.	Jan. 13-18, 2020	Injuries: classification, types and characteristics of mechanical injuries, antimortem and post mortem injury,
4.	Jan. 20-25,2020	Artificial injury, grievous injury, and their medicolegal aspects. Investigation of sexual offences, abortion and infanticides
5.	Jan. 27 -Feb 1,2020	Forensic Odontology: Definition, scope, structural variation and types of teeth.
6.	Feb 3-8,2020	Method, dental anomalies and their significance
7.	Feb. 10-15, 2020	Bite marks: methods of collection, preservation, recording, comparison and their significance.
8.	Feb.17-22,2020	Forensic Anthropology: Definition, scope and problems, structure of bones, morphological study of human skeleton,
9.	Feb. 24-29,2020	Comparative study of human and animal skeleton. Age, sex and stature determination from skeleton remains
10.	March 2-7, 2020	Craniometry: introduction, methods and their

		importance in personal identification
11.	March 16-21,2020	Osteometry introduction, methods and their importance in personal identification
12.	March, 23-28,2020	Personal Identification Techniques: portrait parley/ Bertillon system,
13.	March 30 - April 4,2020	Superimposition techniques- photographic and video superimposition.
14.	April 6-11, 2020	Facial reconstruction: introduction, theory and methods, importance of tissue depth to reconstruct various facial features
15.	April, 13-18, 2020	Genital and congenital anomalies
16.	April 20-25,2020	Determination of age and sex from teeth
17.	April27-30,2020	Revision

Weekly Lesson Plan
M.Sc. (Forensic Science) – IX Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 301

Paper: Forensic Ballistics And Explosives

Semester: 9th

Week	Date	Topic to be Covered
1.	July 16-20,2019	History and Background of Firearms, classification and characteristics of firearms, components of firearms
2.	July22-27,2019	Firing mechanism, smooth bore and rifled bore firearms. Country made firearms: introduction, constructional features and identification.
3.	July 29- Aug 3, 2019	Country made firearms: introduction, constructional features and identification.
4.	Aug. 5- 10,2019	Ammunition: classification and composition of cartridges, propellents, cartridge case, wads, compositional aspects of various types of bullets and shotgun projectile.
5.	Aug. 12-17,2019	Forensic Ballistic: Definition and back ground, internal and external ballistics
6.	Aug. 19-24,2019	Forensic Ballistic: factors affecting internal and external ballistics such as size, shape and ignition of propellants, barrel length, pressure curve
7.	Aug. 26-31,2019	Recoil, ballistics coefficient, air resistance, rifling and bullet stability, measurements of trajectory parameters, ricochet phenomenon
8.	Sep. 2-7, 2019	Terminal Ballistics: factors affecting wound ballistics, Bullet penetration phenomena
9.	Sep.9-14,2019	Terminal Ballistics; characteristic of rifled firearm injury and smooth bore firearm injury, Forensic evaluation of firearms injury.
10.	Sep.16-21,2019	Firearms and Ammunition Linkage: principles, comparison of fired cartridge case and bullets. Gunshot residues: introduction, composition and its forensic evaluation,
11.	Sep.24-28,2019	Firearms and Ammunition Linkage; chemical and instrumental methods of GSR analysis. Reconstruction of Shooting Incidence: theory of shooting reconstruction
12.	Sep. 30- Oct.5, 2019	Mathematics of shooting reconstruction, accidental discharge, determination of range and time of fire. Shot pattern testing, laboratory examination of firearms. Law related to examination of firearms in Indian arms

		act.
13.	Oct. 7-12, 2019	Shot pattern testing, laboratory examination of firearms. Law related to examination of firearms in Indian arms act. Explosive: Classification, types, composition and characteristic of low explosives, and high explosive such as black powder, NC, NG, TNT, RDX, PETN, HMX, Dynamite, ANFO etc.
14.	Oct. 14-19, 2019	Detonators, blasting cap, explosive train, IEDs and pyrotechniques, explosion process and effects, effects of blast wave on structures and human.
15.	Oct. 21-23, 2019	Specific approach to scene of explosion, reconstruction of sequence of events, post blast residues, collection, analysis of explosion residues.

Weekly Lesson Plan
M.Sc. (Forensic Science) – IX Semester
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 302

Paper: Computer Forensics and Recent Advances

Semester: 9th

Week	Dates	Topic(s)
1.	July 16-20, 2019	Computer Crime: basics of computers, hardware accessories operating system and software. Types of computer crime
2.	July 22-27, 2019	networked computer crime, unauthorized access, program manipulation, software piracy
3.	July 29- Aug 3, 2019	Cyber Crime: Introduction, Internet, definition, common principles, classification of cyber crimes. Hacking, virus,
4.	Aug. 5- 10, 2019	Obscenity and pornography, encryption and description methods, Investigation of cyber crime: Search and seizure of computer system
5.	Aug. 12-17, 2019	Computer based evidence and jurisdiction. Tools for analysis
6.	Aug. 19-24, 2019	Fundamental of Computer Security: risk assessment and mitigation developing secure system, security models, damage control,
7.	Aug. 26-31, 2019	Assessment and auditing, and network security, Recent advances in computer forensics
8.	Sep. 2-7, 2019	Computer simulation, image processing and pattern recognition
9.	Sep.9-14, 2019	Stenography and cryptography, Forensic linguistics, e- documents, digital signature.
10.	Sep.16-21, 2019	Quality Management (ISO/ IEC-17025, NABL): Introduction, general requirement for competence of testing, standardization and

		calibration of forensic laboratories.
11.	Sep.24-28, 2019	Management and technical requirements for quality assurance. Biometrics: definition, scope, types of biometric tool,
12.	Sep. 30- Oct.5, 2019	Biometrics fingerprint, face, Iris and retina imaging, ear,
13.	Oct. 7-12, 2019	Speech recognition, pattern comparison, human gait pattern. Professional ethics and conduct of forensic expert, dealing with news media.
14.	Oct. 14-19, 2019	Intellectual property right: copyright and patent, IT act 2000- introduction to offences and penalties.
15.	Oct. 21-23, 2019	Revision

Weekly Lesson Plan
M.Sc. (Forensic Science) – IX Semester (Odd)
Session- 2019-2020

Class: M.Sc. Forensic Science

Subject: FSC 303

Paper: DNA Profiling

Semester: 9th

Week	Dates	Topic(s)
1.	July 16-20, 2019	Introduction of Human Genome: Human chromosomes and karyotype, human nuclear genome. Mutation-types and cause, gens and alleles, human genetics and heredity.
2.	July 22-27, 2019	Calculation of allele frequencies. types and properties of DNA, mt DNA, DNA modifying enzymes, restriction enzymes
3.	July 29- Aug 3, 2019	Forensic DNA Profiling: History and development of DNA finger printing Basic Genotyping: VNTR, STR,
4.	Aug. 5- 10, 2019	SNPs polymorphism and other classes of DNA polymorphism. DNA markers
5.	Aug. 12-17, 2019	Methods of DNA profiling: Introduction, principle, techniques of RFLP, STRs, SNP profiling
6.	Aug. 19-24, 2019	Assessment of STR profiling their advantage and limitations. Gender identification: Y-STR and mt-DNA profiling.
7.	Aug. 26-31, 2019	DNA Amplification (PCR)- principle, method, factors affecting PCR, advantage of PCR based techniques over RFLP. Blotting techniques: Southern, Northern
8.	Sep. 2-7, 2019	Blotting techniques: Western, dot-, slot- and vacuum blotting.
9.	Sep. 9-14, 2019	DNA sample preparation: sample sources for DNA, collection and preservation of samples for DNA testing, conventional and recent methods

		of DNA extraction, separation
10.	Sep.16-21, 2019	DNA Quantitation methods, , DNA sequencing. DNA data base- CODIS
11.	Sep.24-28, 2019	Nucleic acid hybridization: Preparation of nucleic acid probes for DNA profiling Single locus and multi locus probes, and cDNA probes; Methods of labeling of DNA probes- Radioactive and non-radioactive labeling
12.	Sep. 30- Oct.5, 2019	Detection methods, DNA Micro array technology. Forensic Issues: degraded DNA, contamination,
13.	Oct. 7-12, 2019	Forensic Issues: mixed samples and low copy number. Result interpretation, Quality assurance in DFP testing. Legal standards for admissibility of DNA profiling
14.	Oct. 14-19, 2019	Forensic Signification of DNA Profiling: personal identification, paternity testing, wild life forensics, veterinary, agriculture and mass disaster.
15.	Oct. 21-23, 2019	Report writing and presentation of report in case of DNA profiling.

Weekly Lesson Plan
M.Sc. (Forensic Science) – IX Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: Advances in Forensic chemistry I

Paper: FSC 304

Semester: 9th

Week	Date	Topic to be Covered
1.	July 16-20,2019	Analysis of Beverages: Alcoholic and non-alcoholic beverages and their composition,
2.	July22-27,2019	Analysis of alcoholic beverages as per BIS and PFA Act,
3.	July 29- Aug 3, 2019	Detection and determination of ethanol, furfural, organic acids, aldehydes
4.	Aug. 5- 10,2019	Detection and determination of chloral hydrate and, methanol in liquors by color tests, TLC, GC, and GC-MS methods.
5.	Aug. 12-17,2019	Analysis of petroleum products and residues: Distillation and fractionation, Standards/methods of commercial analysis of petroleum products as per ASTM and BIS,
6.	Aug. 19-24,2019	Analysis of traces of petroleum products in forensic exhibits, Comparison of petroleum products, Adulteration of petroleum products
7.	Aug. 26-31,2019	Oils and fats : introduction, analysis and characterization of various oils and fats Extraction and isolation of poisons/ drugs from biological samples.Volatile compounds: Industrial solvent acid and basic Distillation,
8.	Sep. 2-7, 2019	Analysis of gold & other metals in cheating cases
9.	Sep.9-14,2019	Non-volatile organic compounds: Neutral non volatile compounds(pesticides/insecticides- organophosphorous compound, chlorinated, compounds, carbamates, and pyrethroids)
10.	Sep.16-21,2019	Acidic and basic non volatile compounds -Stas-otto method, DovbrieyNickolls (Ammonium sulphate) method, acid digest and Valov (Tungstate) methods, Solvent extraction,
11.	Sep.24-28,2019	Toxic Cations: lead, mercury, arsenic -Dry Ashing and Wet digestion process,
12.	Sep. 30- Oct.5, 2019	Toxic Anions: Dialysis method, total alcoholic extraction method
13.	Oct. 7-12, 2019	Recent methods of sample extraction from body fluid: Solid

		phase extraction, Solid phase micro extraction techniques, liquid phase micro extraction methods
14.	Oct. 14-19, 2019	Examination process of suspected poison sample: chemical tests, TLC methods,
15.	Oct. 21-23, 2019	Examination process of suspected poison sample: UV Vis methods, IR spectrometry, GC-MS

Weekly Lesson Plan
M.Sc. (Forensic Science) – IX Semester (Odd)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 305

Paper: Advance Forensic Biology 1

Semester: 9th

Week	Date	Topic to be Covered
1.	July 16-20,2019	Hair examination: Hair structure, growth and replacement of hair. Identification: Species of origin, variation in different major population groups, somatic origin.
2.	July22-27,2019	Individualization: Blood grouping, enzyme typing and DNA typing
3.	July 29- Aug 3, 2019	Botanical evidences: Introduction, types, location, collection evaluation and forensic significance. Wood: Type of wood and their identification and comparison.
4.	Aug. 5- 10,2019	Pollens: Structure, function, methods of identification and comparison.
5.	Aug. 12-17,2019	Diatoms: Nature, location, structure, extraction from various body tissues, including bone marrowpreparation of slides, methods of identification and comparison, forensic significance
6.	Aug. 19-24,2019	Leaves: Identification of various types of leaves and their anatomy, methods of comparison.
7.	Aug. 26-31,2019	Forensic Microbiology: Types and identification of microbial organisms of forensic significance.
8.	Sep. 2-7, 2019	Wild Life Forensics: Introduction, importance, protected and endangered species of Animals and Plants
9.	Sep.9-14,2019	Identification of wild life materials such as skin, fur, bones, nails, horn, teeth, flowers and plants
10.	Sep.16-21,2019	Conventional and modern methods Identification of Pug marks of various animals.
11.	Sep.24-28,2019	Forensic Entomology: Introduction, general entomology
12.	Sep. 30- Oct.5, 2019	Arthropod biology
13.	Oct. 7-12, 2019	Insects of forensic importance
14.	Oct. 14-19, 2019	collection of entomological evidence during death investigations
15.	Oct. 21-23, 2019	The role of aquatic insects in forensic investigations, Insect succession on carrion and its relationship to determine time since death, its application to Forensic Entomology

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Weekly Lesson Plan
M.Sc. (Forensic Science) – X Semester (Even)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: FSC 401

Paper: Forensic Physics

Semester: 10th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Forensic Physics: Introduction and scope, tools and techniques, examination of vehicle in case of road traffic accident, skid marks evaluation.
2.	Jan. 6-11,2020	Glass: Types of glass and their composition-soda-lime, boro-silicate, safety glass, laminated, light-sensitive, tampered/ toughened, wire glass, coloured glass
3.	Jan. 13-18, 2020	Glass: Matching and comparison. Forensic examinations of glass fractures- rib marks, hackle marks, cone fracture, wavy,
4.	Jan. 20-25,2020	Glass: backward fragmentation, concentric and radial fractures. Colour, fluorescence, physical measurements,
5.	Jan. 27 -Feb 1,2020	Glass: refractive index, density gradient, becke-line, specific gravity examination and elemental analysis of glass evidence.
6.	Feb 3-8,2020	Paint: Types of paint and their composition, macroscopic and microscopic analysis of paint pigments, pigment distribution, micro-chemical analysis- solubility test
7.	Feb. 10-15, 2020	Paint: pyrolysis gas chromatography, TLC, colorimetric analysis, IR spectroscopy and X-ray diffraction,
8.	Feb.17-22,2020	Paint: Elemental analysis, mass spectrometer, interpretation of paint evidence.
9.	Feb. 24-29,2020	Fibre: Types of fibres, forensic aspects of fibre examination- fluorescence, optical properties, refractive index,
10.	March 2-7, 2020	Fibre: Birefringence, dye analysis. Physical fit and chemical testing
11.	March 16-21,2020	Fibre:TLC, IR-micro spectroscopy, Py-MS. Difference between natural and man-made fibres.
12.	March, 23-28,2020	Miscellaneous Evidences: wire, broken bangles, seals, counterfeit coins, ropes/ strings, synthetic fibers etc their introduction & forensic examination.
13.	March 30 - April 4,2020	Building Materials: Cement- composition, types, Forensic Analysis- bromoform test

14.	April 6-11, 2020	Building Materials; fineness test, ignition-loss test, Identification of adulterated cement. Mortar and concrete analysis.
15.	April, 13-18, 2020	Soil: Types and composition of soil, sample preparation, removal of contaminants, colour, molecular particle size distribution, turbidity test, pH measurements, microscopic examination, density gradient analysis, ignition-loss test, elemental analysis, interpretation of soil evidence.
16.	April 20-25,2020	Tool Marks: theory, types of tool marks, and their forensic examination, Restoration methods of obliterated marks.
17.	April27-30,2020	Voice Analysis and Tape Authentication: theory of voice production, theory of voice identification, the sound spectrograph, voice comparison -standards and methods of voice comparison, significance

Weekly Lesson Plan
M.Sc. (Forensic Science) - X Semester (Even)
Session- 2019-2020

Class: M.Sc. Forensic Science

Subject: FSC 402

Paper: Forensic Dactylography and other Impressions

Semester: 10th

Week	Dates	Topic(s)
1.	Jan. 1-4,2020	History and development of finger prints
2.	Jan. 6-11,2020	Morphology of ridged skin, types, and variations in finger prints: Causes and genetics, population variations. Finger Prints Bureau.
3.	Jan. 13-18, 2020	Sample collection: Basics of taking inked prints, collection of prints samples of living and deads, devices and material for recording prints.
4.	Jan. 20-25,2020	Classification of finger Prints, pattern types, pattern area.
5.	Jan. 27 -Feb 1,2020	Extension of Henry system searching of finger prints, single finger print.
6.	Feb 3-8,2020	Chance Finger Prints: Latent prints, plastic prints, causes, composition of sweat.
7.	Feb. 10-15, 2020	Development of latent finger prints: powder methods: such as fluorescent powder, magnetic powder. Fuming methods: Iodine and cyanoacrylate methods.
8.	Feb.17-22,2020	Chemical methods: Ninhydrin and its analogue silver nitrate, application of laser technologies, metal deposition method. Biological methods of development of latent prints on skin.
9.	Feb. 24-29,2020	Latent print processing Systematic approach to latent print processing, preserving and lifting of finger prints.
10.	March 2-7, 2020	Photography of Finger Prints, comparison of finger prints: basis of comparison, class characteristics, individual characteristics, various types of ridge characteristics
11.	March 16-21,2020	Automatic Finger Print Identification system (AFIS) and its variants
12.	March, 23-28,2020	Digital Image processing of finger prints and their enhancement. Presentation of expert evidence on finger prints in court
13.	March 30 - April 4,2020	Foot / footwear/ introduction, class and

		individual characteristics, types, collection, preservation and forensic examination and evaluation of impressions, Gait pattern.
14.	April 6-11, 2020	Tyre impressions: introduction, class and individual characteristics, types, collection, preservation and forensic examination and evaluation of impressions
15.	April, 13-18, 2020	Ear Prints – Nature, location, collection, forensic examination, and significance.
16.	April 20-25,2020	Lip Prints- Nature, location, collection, forensic examination, and significance.
17.	April27-30,2020	Revision

Weekly Lesson Plan
M.Sc. (Forensic Science) – X Semester (Even)
Session- 2019-20

Class: M.Sc. Forensic Science

Subject: Advances in Forensic chemistry II

Paper: 403

Semester: 10th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Analysis of Narcotic Drugs and Psychotropic Substances: Introduction classification of narcotic substances, natural narcotics, semi synthetic and synthetic narcotic substances.
2.	Jan. 6-11,2020	Opiate: extraction of alkaloids from plant materials, a analysis of opium alkaloids, and derivatives using spot tests, microcrystal tests,
3.	Jan. 13-18, 2020	Opiate: TLC, UV- vis spectrometry, IR spectrometry, GC-MS
4.	Jan. 20-25,2020	Cannabis: introduction, chemistry, analysis by spot tests
5.	Jan. 27 -Feb 1,2020	Cannabis: TLC, and UV, and IR, spectrometry, GC – MS
6.	Feb 3-8,2020	Barbiturates: chemistry, types, extraction and isolation
7.	Feb. 10-15, 2020	Barbiturates: , characterization by spot tests, TLC, and IR spectrometry, HPLC – MS
8.	Feb.17-22,2020	Benzodiazepines: Introduction, types and classification, chemistry, characterization by spot tests, TLC, and UV and IR spectrometry, GC – MS etc
9.	Feb. 24-29,2020	Amphetamines: chemistry, characterization by spot tests, TLC, and UV and IR spectrometry, GC – MS, NMR etc.
10.	March 2-7, 2020	Hallucinogens (LSD, psilocybine and mescaline): Introduction, analysis: spot tests, TLC, and IR spectrometry, HPLC – MS, GC- MS
11.	March 16-21,2020	Plants poisons: Introduction and classification of plants alkaloids. Analysis of different plants poisons of forensic significance using spot tests, microcrystal tests, TLC and other sophisticated techniques.
12.	March, 23-28,2020	Poisonous seeds: Abrusprecatorius, Atropa belladonna, Argemone mexicana
13.	March 30 - April 4,2020	Cerberathevetia, Croton tiglium, Datura fastuosa,

		Ricinus communis
14.	April 6-11, 2020	Poisonous fruits: Semicarpus anacardium, Urginea scilla. Poisonous roots
15.	April, 13-18, 2020	Digitalis, Aconitum napellus, Plumbago rosea. Poisonous Mushroom
16.	April 20-25,2020	Revision
17.	April27-30,2020	Revision

Weekly Lesson Plan
M.Sc. (Forensic Science) – X Semester (Even)
Session- 2019-20


Class: M.Sc. Forensic Science

Subject: FSC 404

Paper: Advance Forensic Biology II

Semester: 10th

Week	Date	Topic to be Covered
1.	Jan. 1-4,2020	Immunology: Immune system, immune response, innate and acquired immunity and antigens, haptenes and adjuvants.
2.	Jan. 6-11,2020	Immunoglobulin: Types, physio-chemical properties and function, raising of antisera
3.	Jan. 13-18, 2020	Lectins: Forensic significance, buffers and serological reagents, methods of sterilization employed for serological work.
4.	Jan. 20-25,2020	Antigen-Antibody Reactions: Precipitation, agglutination, complement, neutralization, immunofluorescence.
5.	Jan. 27 -Feb 1,2020	HLA system: Its applications in paternity testing, pitfalls of HLA system.
6.	Feb 3-8,2020	Forensic examination of Body fluids: Blood: Identification (Preliminary and confirmatory tests)
7.	Feb. 10-15, 2020	Species of origin; Immunodiffusion and Immunoelectrophoresis
8.	Feb.17-22,2020	Individualization: Blood grouping, enzyme typing
9.	Feb. 24-29,2020	Semen: Composition, functions and morphology of spermatozoa
10.	March 2-7, 2020	Identification and preliminary test
11.	March 16-21,2020	Confirmatory tests including Azoospermic semen stains
12.	March, 23-28,2020	Forensic significance of saliva, sweat, milk, urine
13.	March 30 -April 4, 2020	Faecal matter, vaginal secretions and tests for their identification including the presence of blood group specific ABH substances.
14.	April 6-11, 2020	Polymorphic enzymes: Forensic significance, identification from fresh blood and stains.
15.	April, 13-18, 2020	Paternity disputes: Causes, Various serological methods
16.	April 20-25,2020	Biochemical methods and calculation of paternity index
17.	April27-30,2020	Probability for paternity and maternity

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