



Gyanmanjari
Innovative University

Course Syllabus
Gyanmanjari Science College
Semester-1(M. Sc.)

Subject: Fingerprints and Questioned Documents – MSCFS11502

Type of course: Major

Prerequisite: Students should have a basic knowledge of Forensic Science.

Rationale: The Prerequisite provides the foundation for understanding the concepts and Fingerprints and questioned documents.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		C	Theory Marks		Practical Marks		
			ESE		MSE	V	P	ALA	
4	0	0	4	60	30	10	00	50	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.



Course Content:

Unit No.	Course content	Hrs	% Weigh tage
1	Basics of Fingerprinting Introduction and history, with special reference to India. Biological basis of fingerprints. Formation of ridges. Fundamental principles of fingerprinting. Types of fingerprints, Fingerprint patterns, Fingerprint characters. Plain and rolled fingerprints. Classification and cataloguing of fingerprint record. Automated Fingerprint Identification System, Significance of poroscopy and edgeoscopy, Development of Fingerprints	15	25
2	Fingerprinting Detection Latent prints, Constituents of sweat residue. Latent fingerprints' detection by physical and chemical techniques. Mechanism of detection of fingerprints by different developing reagents. Application of light sources in fingerprint detection. Preservation of developed fingerprints. Digital imaging for fingerprint enhancement. Fingerprinting the deceased. Developing fingerprints on gloves.	15	25
3	Introduction to Questioned document Definition, history and development, legal definition, authenticity of document. Classification of Forensic Documents, alteration in document. Introduction to handwriting, handwriting principles, factors influencing handwriting, movement in writing, Class and Individual characteristics of handwriting, factors playing important role in individualization from handwriting, writing instruments. Collection of handwriting, comparison of handwriting. Secret writing- Cryptography, encrypt-decrypt, stenography.	15	25
4.	Ink and Forgery Introduction to ink, composition of ink- difference between pigment and dye, classification of ink, types of ink, ink identification, physical and chemical test of ink, age of ink. Introduction to forgery- Characteristics of forged document, identification of forged document, examination of forged document. Preliminary examination of documents, tools used in questioned documents, instruments used in document analysis. Preservation and decipherment of charred and torn document. Age of document- Paper, writing ink, typewriting, photocopies and printers, printed matter, handwriting and signature.	15	25



Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	Modern Fingerprinting Techniques: Students need to find modern techniques used in fingerprinting analysis and prepare report for the same.	10
2.	Ink and Paper Lab visit: Student should visit a Forensic Laboratory of nearby region and prepare an observation report	10
3.	Notable Case related document Forgery: Students need to analyze famous case related document forgery and submit the report that how he/she caught?	10
4.	A session in Court: Student should visit nearby court and prepare an observation report	10
5.	Fingerprinting Lab Visit: Student should visit a Forensic Laboratory of nearby region and prepare an observation report	10
Total		50

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	25%	25%	30%	20%	00	00

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course the students should be able to:	
CO1	Comprehend of fingerprinting and its relation to forensic science
CO2	Perform different techniques involved in fingerprint analysis
CO3	Analyze questioned documents and comparison of signatures.
CO4	Characterize ink pigments and forgery documents



Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

- [1] Fingerprint Identification: A Comprehensive Guide Kindle Edition
- [2] Scientific Examination of Documents: Methods and Techniques, Fourth Edition
- [3] Forensic Chemistry, Nikunj N Dave, Notion Press
- [4] Dactylography Or The Study Of Finger-Prints, Henry Faulds

