STUDY & EVALUATION SCHEMS

OF

BACHELOR OF SCIENCE IN FORENSIC SCIENCE

(BFS)

(BFS- VI- SEMESTER)

[Applicable w.e.f. Academic Session 2020-21]

INTEGRAL UNIVERSITY, LUCKNOW

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Syllabus approved by Board of Study, Faculty Board, Academic Council, Executive Council of the Integral University, Lucknow

INTEGRAL UNIVERSITY, LUCKNOW

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH
DEPARTMENT OF PRAMEDICAL SCIENCES

STUDY & EVALUATION SCHEME
BBACHELOR OF SCIENCE IN FORENSIC SCIENCE (B.FS)
(w.e.f. July 2020)

III- Year **VI- Semester**

Sr. No.	Code	Name of the Subject	Period			Credits	Evaluation Scheme				Subject Total
			L	T	P		Sessional			Exam	
							CT	TA	Total	ESE	
1.	FS309	Questioned Document Examination	3	1	0	4	25	15	40	60	100
2.	FS310	Explosives	2	1	0	3	25	15	40	60	100
3.	FS311	Fingerprints &Impressions	3	1	0	4	25	15	40	60	100
4.	FS312	Instrumental and Analytical Technique	3	1	0	4	25	15	40	60	100
5.	FS313	Questioned Document Examination-Lab	0	0	2	1	40	20	60	40	100
6.	FS314	Fingerprints & Impressions-Lab	0	0	2	1	40	20	60	40	100
8.	FS315	Project Work/Dissertation	0	10	0	10	50	50	100	00	100
		Total	11	13	04	**27**	230	150	380	320	**800**

L: Lecture **T:** Tutorials **P:** Practical **C:** Credit

CT: Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination

Sessional Total: Class Test + Teacher Assessment

Subject Total: Sessional Total + End Semester Examination (ESE)

SUBJECT- QUESTIONED DOCUMENT EXAMINATION
SUBJECT CODE- FS309
(w.e.f July 2020)

L. T. P
3. 1. 0

Unit-I

Introduction to Questioned Documents – Definition, types of questioned documents. Handling, care, preservation and marking of Questioned Documents, Preliminary examination of questioned documents. Basic tools needed for forensic documents.

Unit-II

Determining the age and relative age of documents. Analysis and Comparison of paper and ink. Different types of printers and analysis of printed documents. Study of typescripts and typewriter characteristics and analysis of typed documents.

Unit-III

Introduction to Handwriting Analysis - Principles of Handwriting Identification.Development of individuality in handwriting.Class and individual characteristics of handwriting.Natural variations, Disguise and fundamental divergences in handwritings.Class and individual characteristics.Comparison of handwriting.Merits and demerits of exemplar and non-exemplar samples during comparison of handwriting.Types and Collection of Standards for comparison of handwriting.

Unit-IV

Forgeries – Different types of Forgeries (Freehand and Traced). Alterations in documents, including erasures, additions, over-writings and obliterations. Study of indented and invisible writings.

Unit-V

Analysis of Charred documents. Examination of counterfeit Indian currency notes, passports, visas and stamp papers. Determination of authorship in Disguised writing and anonymous letters (considering Forensic Linguistics and Stylistics, natural variation, class characteristics and individual characteristics of handwriting).

SUBJECT- EXPLOSIVES
SUBJECT CODE- FS310
(w.e.f July 2020)

L. T. P
2. 1. 0

UNIT-I

Introduction, Definition, Scope, Classification, composition and characteristics of explosives,

UNIT-II

Explosion, type of explosion, process and effects, types of hazard, effect of blast wave onstructures, human etc. specific approach to scene of explosion, post-blast residue collection,preservation and packing

UNIT-III

Reconstruction of sequence of events, evaluation and assessment of scene of explosion,

UNIT-IV

Systematic examination of explosives and explosion residues in the laboratory using chemical and instrumental techniques and interpretation of results,

UNIT-V

Explosives Act. Pyrotechnics, IEDs,

SUBJECT- FINGERPRINT & IMPRESSIONS
SUBJECT CODE- FS311
(w.e.f July 2020)

L. T. P
3. 1. 0

LEARNING OBJECTIVE

UNIT-I

Introduction definition,scope, History and development of Fingerprint Science, formation of ridges, different type of ridge characteristics, classification of fingerprints – Henry system of classification, Single digital classification.

UNIT-II

Search and collection of Fingerprint, chance fingerprints, latent & visible fingerprints, plastic fingerprints, ridge tracing and ridge counting, Development of latent fingerprints, conventional methods of development of fingerprints – fluorescent method, magnetic power method, fuming method, chemical method etc.

UNIT-III

Taking of finger prints from living and dead persons, preserving and lifting of fingerprints, photography of fingerprints, comparison of fingerprints, and basis of comparison, class characteristics, and individual characteristics, various type of ridge characteristic, AFIS

UNIT-IV

Fingerprint enhancement techniques: by optical techniques and specialized light sources, detection of fingerprints on porous surfaces, non-porous surfaces and their enhancements.
Digital imaging of fingerprints: Introduction, image format, fingerprint image enhancement by MATLAB.

UNIT-V

Lip prints, Ear prints, Foot prints, Bite marks, Shoe prints, Tyre marks/skid marks: their importance, natural location, collection and evaluation, taking controlled samples for forensic comparison

SUBJECT- INSTRUMENTAL AND ANALYTICALTECHNIQUE
SUBJECT CODE- FS312
(w.e.f July 2020)

L. T. P
3. 1. 0

Learning Objective:

UNIT-I: Introduction to Instrumental methods of Chemical analysis

General introduction, classification of instrumental method, spectroscopy, properties, of electromagnetic radiation, introduction of electromagnetic radiation with matter origin of spectrum.

UNIT-II: Visible spectrophotometry &Colorimetry

Introduction, theory of spectrophotometry &colorimetry, deviation from Beer's law, instrumentation, application of Colorimetry& spectrophotometry.

UNIT-III Emission Spectroscopy

Introductory, theory, instrumentation, spectrograph, application, of emission spectroscopy, advantages and disadvantages of emission spectroscopy.

UNIT – I V Microscopy

Basic principles of simple microscope, phase contrast microscope, stereoscopic microscopic and compound microscope, comparison microscope, polarizing microscope, fluorescent microscope.

UNIT-V Centrifugation Techniques:

Basic principles of sedimentation, various types of centrifuges, Density gradient centrifugation, Preparative centrifugation, Analysis of sub- cellular fractions, Ultra- centrifuge- Refrigerated Centrifuges.

Electrophoretic Technique: - General principles, Factors affectingelectrophoresis, Law voltage thin sheet electrophoresis, High voltage electrophoresis, Sodium dodecyl sulphate (SDS) polyacrylamide gel-electrophoresis, Isoelectric focusing (IEF), Iso-electrophoresis, Preparative electrophoresis, Horizontal and Vertical electrophoresis.

SUBJECT- QUESTIONED DOCUMENT EXAMINATION-LAB
SUBJECT CODE- FS313

(w.e.f July 2020)

L. T. P
0. 0. 2

List of practical:

1. To identify handwriting characters (class and individual)
2. To compare handwriting samples.
3. To study free hand forgery.
4. To study and detect different types of traced forgery.
5. To study erasures, alterations and obliterations in handwriting samples.
6. To study indented writings
7. To study secret writings
8. To study counterfeit currency notes, passports andvisa

SUBJECT- FINGERPRINTS & IMPRESSIONS - LAB
SUBJECT CODE- FS314

(w.e.f July 2020)

L. T. P
0. 0. 2

List of practical:

1. To record plain and rolled fingerprints and identify different fingerprint patterns
2. To carry out ten-digit classification of fingerprints.
3. To identify and classify core and delta.
4. To identify different ridge characteristics
5. To carry out ridge tracing and ridge counting.
6. Document and Fingerprint Photography
7. To develop Latent fingerprints with Powder methods & lifting of fingerprints.
8. To record lip prints and forensic examination of lip prints
9. To record ear prints and their specific features for forensic comparison
10. Forensic examination of tyre/skid marks.