K. C. E. Society's
Moolji Jaitha College
An 'Autonomous College' Affiliated to
K.B.C. North Maharashtra University, Jalgaon.
NAAC Reaccredited Grade - A (CGPA : 3.15 - 3rd Cycle)
UGC honoured "College of Excellence" (2014-2019)
DST(FIST) Assisted College

KNOWLEDGE IS POWER
ESTD. 1945

के. सी. ई. सोसायटीचे
मूळजी जेठा महाविद्यालय
क.ब.चौ. उत्तर महाराष्ट्र विद्यापीठ, जळगाव संलग्नित
'स्वायत्त महाविद्यालय'
नॅकद्वारा पुनर्मानांकित श्रेणी –'ए'(सी.जी.पी.ए. : ३.१५ – तिसरी फेरी)
विद्यापीठ अनुदान आयोगाद्वारा घोषित 'कॉलेज ऑफ एक्सलन्स' (२०१४–२०१९)
डी.एस.टी. (फीस्ट) अंतर्गत अर्थसहाय्य प्राप्त

Date :- 15/06/2026

NOTIFICATION

Sub :- CBCS syllabus of B.Sc. in Forensic Science (Sem I & II)

Ref. :- Decision of the Academic Council at its meeting held on 10/06/2026

The syllabus of B.Sc. in Forensic Science (Sem I & II) as per **NATIONAL EDUCATION POLICY - 2020 (2024 Pattern)** and approved by the Academic Council as referred above are hereby notified for implementation with effect from the academic year 2026-27.

A copy of the syllabus shall be downloaded from the college website (www.kcesmjcollege.in).

Sd/-
Chairman,
Board of Studies

To :

1. The Head of the Dept., M. J. College, Jalgaon.
2. The office of the COE, M. J. College, Jalgaon.
3. The office of the Registrar, M. J. College, Jalgaon.

Near Samarth Colony, Jalgaon - 425 002. (Maharashtra, India) | Ph. : +91 257 - 2237363, 2234281 | e-mail : mjcollege@kces.in | Website : mjcollege.kces.in
समर्थ कॉलनी जवळ, जळगांव – ४२५ ००२. (महाराष्ट्र, भारत) । दूरध्वनी क्र. : +९१ २५७–२२३७३६३, २२३४२८१ । ई–मेल: mjcollege@kces.in । वेबसाईट: mjcollege.kces.in

Khandesh College Education Society's

Moolji Jaitha College, Jalgaon

An "Autonomous College"

Affiliated to

Kavayitri Bahinabai Chaudhari

North Maharashtra University, Jalgaon-425001

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STRUCTURE AND SYLLABUS

Bachelor of Science (B.Sc.)

(F.Y.B.Sc. Forensic Science)

Under Choice Based Credit System (CBCS)
and
as per NEP-2020 Guidelines

[w.e.f. Academic Year: 2026-27]

Knowledge is Power

Preface

Forensic Science is a multidisciplinary field that applies scientific principles and techniques to the investigation of crimes and the administration of justice. With the increasing complexity of criminal activities and the growing reliance on scientific evidence in legal proceedings, the demand for well-trained forensic professionals has expanded significantly. The Bachelor of Science (B.Sc.) Degree Programme in Forensic Science has been designed to address this need by providing students with a strong foundation in scientific knowledge and practical forensic skills.

This four-year undergraduate programme offers a comprehensive understanding of the fundamental concepts and applications of forensic science, integrating knowledge from biology, chemistry, physics, medicine, law, and modern analytical technologies. The curriculum is carefully structured to equip students with theoretical knowledge, laboratory proficiency, critical thinking abilities, and investigative skills required for forensic examinations and criminal investigations.

The programme emphasizes hands-on training through laboratory practicals, field visits, case studies, internships, and project work, enabling students to develop competency in evidence collection, preservation, analysis, interpretation, and presentation. Special attention has been given to emerging areas such as forensic biology, DNA analysis, digital forensics, forensic toxicology, questioned document examination, forensic psychology, and crime scene investigation.

The curriculum has been developed in accordance with contemporary educational standards, industry requirements, and advancements in forensic science. It aims to foster scientific temper, ethical values, professional integrity, and research aptitude among students. Graduates of this programme will be well-prepared for careers in forensic laboratories, law enforcement agencies, investigative organizations, legal support services, research institutions, and higher education.

We sincerely acknowledge the contributions of subject experts, academicians, forensic practitioners, and stakeholders whose valuable inputs have helped shape this curriculum. It is hoped that this programme will contribute significantly to the development of skilled forensic professionals capable of serving society and strengthening the criminal justice system through scientific excellence.

Hence, Board of Studies in Forensic Science in its meeting held on 23rd April 2026 resolved to accept the revised syllabus for F. Y. B. Sc. (Forensic Science) based on Choice Based Credit System (CBCS) of UGC, NEP-2020 and the Government of Maharashtra guidelines.

Program Outcomes (PO) for B.Sc. Program:

Program outcomes associated with a B.Sc. degree are as follows:

PO No.	Programme Outcome
PO1	**Disciplinary knowledge:** Show thorough understanding of the core principles, theories and concepts of the chosen science discipline, and how they relate to other fields.
PO2	**Practical and technical skills:** Perform laboratory techniques safely, handle instruments correctly, and record, analyse and interpret experimental data.
PO3	**Critical thinking and problem solving:** Analyse problems logically and apply scientific methods and reasoning to find evidence-based solutions.
PO4	**Communication:** Present scientific information clearly and accurately in speech, in writing and with visual tools.
PO5	**Research aptitude:** Frame questions, design and conduct basic investigations, and report findings using appropriate research methods.
PO6	**Teamwork and leadership:** Work effectively in diverse teams, respect other perspectives, and take initiative in group work.
PO7	**Lifelong learning:** Learn independently, adapt to new technologies and advances, and keep up with current research.
PO8	**Digital literacy:** Use ICT, software, databases and digital tools to access, process and present scientific information.
PO9	**Ethics and social responsibility:** Practise scientific integrity, avoid plagiarism, and apply knowledge to environmental sustainability and community needs.
PO10	**Employability and entrepreneurship:** Apply skills to jobs, higher studies or self-employment, with an innovative and entrepreneurial mindset.

Programme Specific Outcome (PSO) for B.Sc. Forensic Science:

After completion of this program, students are expected to:

PSO No.	PSO
1	Apply the fundamental principles of biological, chemical, physical, and forensic sciences for the examination, analysis, and interpretation of crime-related evidence.
2	Demonstrate proficiency in crime scene investigation, evidence collection, preservation, documentation, and maintenance of chain of custody following standard forensic protocols.
3	Utilize modern forensic techniques and laboratory instrumentation for the analysis of fingerprints, biological samples, DNA, toxicological specimens, questioned documents, and trace evidence.
4	Integrate scientific findings with legal and criminal justice requirements to prepare forensic reports and effectively communicate expert opinions.
5	Apply critical thinking, analytical reasoning, and problem-solving skills to investigate criminal cases and evaluate forensic evidence objectively and ethically.
6	Demonstrate professional competence, ethical responsibility, and research aptitude for careers in forensic laboratories, law enforcement agencies, research institutions, and higher education.

Multiple Entry and Multiple Exit options:

The multiple entry and exit options with the award of UG certificate/ UG diploma/ or three-year degree depending upon the number of credits secured;

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
4.5	UG Certificate	40	44	2	1
5.0	UG Diploma	80	88	4	2
5.5	Three-Year Bachelor's Degree	120	132	6	3
6.0	Bachelor's Degree- Honours Or Bachelor's Degree- Honours with Research	160	176	8	4

Credit distribution structure for Three/ Four-year Honors/ Honors with Research

Degree Programme with Multiple Entry and Exit

F.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1)	Subject-II (M-2)	Subject-III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT, RP	Cumulative Credits/ Sem	Degree/ Cumulative Credit
I (4.5)	I	DSC-1(2T) DSC-2(2P)	DSC-1(2T) DSC-2(2P)	DSC-1(2T) DSC-2(2P)	OE-1(2T)	---	AEC-1(2T) (Eng) VEC-1(2T) (ES) IKS(2T)	CC-1(2T)	22	UG Certificate
	II	DSC-3(2T) DSC-4(2P)	DSC-3(2T) DSC-4(2P)	DSC-3(2T) DSC-4(2P)	OE-2(2T) OE-3(2P)	---	AEC-2(2T) (Eng) VEC-2(2T) (CI)	CC-2(2T)	22	
Cum. Cr.		**8**	**8**	**8**	**6**	**---**	**10**	**4**	**44**	

S.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1) Major (DSC / DSE)	Subject-II (M-2) Minor (MIN)	Subject- III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/ Sem	Degree/ Cumulative Credit
2 (5.0)	III	DSC-5(2T) DSC-6(2T) DSC-7(2P) DSE: ---	MIN-1(2T) MIN-2(2T) MIN-3(2P)	---	OE-4(2T)	SEC-1(2T)	AEC-3(2T) (MIL)	CC-3(2T) CEP(2)	22	UG Diploma
	IV	DSC-8(2T) DSC-9(2T) DSC-10(2P) DSE: ---	MIN-4(2T) MIN-5(2P)	---	OE-5(2T)	SEC-2(2T) SEC-3(2P)	AEC-4(2T) (MIL)	CC-4(2T) ۞FP(2)	22	
	Cum. Cr.	**12**	**10**	**---**	**4**	**6**	**4**	**8**	**44**	
Exit option: Award of UG Diploma in Major and Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major & Minor.										

* Student must choose one subject as a Major subject out of M-1, M-2 and M-3 that he/she has chosen at First year
# Student must choose one subject as a Minor subject out of M-1, M-2 and M-3 that he/she has chosen at First year (Minor must be other than Major)
۞OJT/Internship/CEP should be completed in the summer vacation after 4th semester

T.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1) Major (DSC / DSE)	Subject-II (M-2) Minor	Subject- III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/ Sem	Degree/ Cumulative Credit
3 (5.5)	V	DSC-11(2T) DSC-12(2T) DSC-13(2T) DSC-14(2P) DSC-15(2P) DSE-1A/B(2T) DSE-2A/B(2P)	---	---	---	VSC-1(2T) VSC-2(2P)	---	OJT/Int(4)	22	UG Degree

Year (Level)	Sem	Subject-I (M-1) Major (DSC / DSE)	Subject-II (M-2) Minor	Subject- III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/ Sem	Degree/ Cumulative Credit
	VI	DSC-16(2T) DSC-17(2T) DSC-18(2T) DSC-19(2T) DSC-20(2T) IKS DSC-21(2P) DSC-22(2P) DSE-3A/B(2T) DSE-4A/B(2P)	---	---	---	VSC-3(2T) VSC-4(2P)	---	---	22	
	Cum. Cr.	**Mandatory: 24 Elective: 8**	---	---	---	**8**	---	**4**	**44**	
Exit option: Award of UG Degree in Major with 132 credits OR Continue with Major and Minor										

Fourth Year B.Sc. (Honours)

Year (Level)	Sem	Major Core Subjects (DSC / DSE)	Research Methodology (RM)	VSC, SEC (VSEC)	OE	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/ Sem	Degree/ Cumulative Credit
4 (6.0)	VII	DSC-23(4T) DSC-24(4T) DSC-25(4T) DSC-26(2P) DSE-5A/B(2T) DSE-6A/B(2P)	RM(4T)	---	---	---	---	22	UG Honours Degree
	VIII	DSC-27(4T) DSC-28(4T) DSC-29(4T) DSC-30(2P) DSE-7A/B(2T) DSE-8A/B(2P)	---	---	---	---	OJT/Int(4)	22	
	Cum. Cr.	**Mandatory: 28 Elective: 8**	**4**	**---**	**---**	**---**	**4**	**44**	
Four-Year UG Honors Degree in Major and Minor with 176 credits									

Sem- Semester, DSC- Department Specific Course, DSE- Department Specific Elective, OE/GE- Open/Generic elective, VSC- Vocational Skill Course, SEC- Skill Enhancement Course, VSEC- Vocation and Skill Enhancement Course, AEC- Ability Enhancement Course, IKS- Indian Knowledge System, VEC- Value Education Course, T- Theory, P- Practical, CC- Co-curricular, RM- Research Methodology, OJT- On Job Training, FP- Field Project, Int- Internship, RP- Research Project, CEP- Community Extension Programme, ENG- English, CI- Constitution of India, MIL- Modern Indian Language

- Number in bracket indicate credit
- The courses which do not have practical 'P' will be treated as theory 'T'
- If student select subject other than faculty in the subjects M-1, M-2 and M-3, then that subject will be treated as Minor subject, and cannot be selected as Major at second year.

Details of F.Y. B.Sc. (Forensic Science)

Course	Course Type	Course Code	Course Title	Credits	Teaching Hours/ Week			Marks			
					T	P	Total	Internal T	Internal P	External T	External P
Semester I, Level – 4.5											
DSC-1	DSC	FRS-DSC-111	Introduction to Forensic Science	2	2	---	2	20	---	30	---
DSC-2	DSC	FRS-DSC-112	Practical on Introduction to Forensic Science	2	---	4	4	---	20	---	30
OE-1	OE	FRS-OE-111	Basics in Forensic Science	2	2	---	2	20	---	30	---
Semester II, Level – 4.5											
DSC-3	DSC	FRS-DSC-121	Introduction to Criminalistics	2	2	---	2	20	---	30	---
DSC-4	DSC	FRS-DSC-122	Practical on Criminalistics	2	---	4	4	---	20	---	30
OE-2	OE	FRS-OE-121	Forensic Science in Everyday Life	2	2	---	2	20	---	30	---
OE-3	OE	FRS-OE-122	Practical on Forensic Science in Everyday Life	2	---	4	4	---	20	---	30

Examination Pattern

Theory /Practical examination Paper Pattern:

- 20 (Internal)+ 30 (External) for 2 credits

Theory Examination:

- The overall theory course, exam marks distribution is as follows

Overall Marks Distribution

Component	Weightage	Marks (for 50M)
Continuous & Comprehensive Evaluation (CCE)	30%	15
Internal Assessment Test (IAT)	10%	05
Continuous Internal Evaluation	**40%**	**20**
Semester-End Examination (External Examination)	**60%**	**30**
Total	**100%**	**50**

Continuous Internal Evaluation (20 marks):

Rules of Continuous Internal Evaluation (CIE):

The Continuous Internal Evaluation (CIE) shall comprise two components:

1. Continuous & Comprehensive Evaluation (CCE) – 30%

- CCE carries a maximum of 30% of the total course marks:
  - 15 marks for 50 marks course.
- At the beginning of each semester, the subject teacher shall select any three assessment methods from the approved list.
- Each selected method carries 10 marks (or 5 marks, where applicable).
- At the beginning of the semester, the subject teacher must inform students about:
  - The three CCE methods selected.
  - The syllabus unit mapped to each CCE method.
  - The unit reserved for the IAT.

The available methods are:

1. Individual Assignments
2. Seminars / Classroom Presentations / Quizzes
3. Group Discussions / Class Discussions / Group Assignments
4. Case Studies / Case lets
5. Participatory & Industry-Integrated Learning / Field Visits
6. Practical Activities / Problem-Solving Exercises
7. Participation in Seminars / Academic Events / Symposia, etc.
8. Mini Projects / Capstone Projects
9. Book Review / Article Review / Article Preparation
10. Any other academic activity

Unit Mapping:
Each of the three selected CCE methods must be linked to a different unit of the syllabus. Thus, three units must be assessed through CCE.

2. Internal Assessment Test (IAT) – 10%

- IAT carries a maximum of 10% of the total course marks:
  - 10 marks for a 100-mark course, or
  - 5 marks where the applicable total is 50 marks.
- The IAT shall be conducted at the end of the semester.
- It shall assess the one remaining unit that was not covered through CCE.

- The subject teacher may decide which three units will be assessed through CCE and which unit will be assessed through IAT.
- Internal theory exam will be of 10 marks:
  - Q1 attempt any 2 out of 3 sub-questions. Each question will be of 3 marks.
  - Q2 attempt any 1 out of 2 sub-questions. Each question will be of 4 marks.

External Theory Examination (Semester -End Examination 30M):

- External examination will be of 1½ hours duration
- There shall be 2 questions, each carrying equal marks (15 marks each), while the tentative pattern of question papers shall be as follows;
  - Q1 will be based on Unit-I: Attempt any 3 out of 4 sub-questions; each sub-question carry 5 marks.
  - Q2 will be based on Unit-II: Attempt any 3 out of 4 sub-questions; each sub-question carry 5 marks.

Practical Examination

Internal Practical Examination (20 marks):

- The Internal Practical Examination shall be conducted by the respective department as per the schedule provided.
- For the Internal Practical Examination, each student shall perform **either:**
  - One experiment carrying 10 marks, **or**
  - Two experiments carrying 5 marks each.
- The remaining 10 marks shall be awarded as follows:
  - Certified Journal: 5 marks
  - Viva Voce: 5 marks

External Practical Examination (30 marks):

- The External Practical Examination shall be conducted by the respective department at the end of the semester as per the schedule provided.
- For the External Practical Examination, each student shall perform **either:**
  - Two experiment carrying 10 marks each, **or**
  - Four experiments, questions carrying 5 marks each, **or**
  - One experiment with four sub questions carrying 5 marks each
- The remaining 10 marks shall be awarded as follows:
  - Certified Journal: 5 marks
  - Viva Voce: 5 marks
- Practical examination will be of 3 hours duration and shall be conducted as per schedule.
- Practical examination shall be conducted for 2 consecutive days for 2 hr/ day where incubation condition is required.

SEMESTER - I

F.Y. B.Sc. Forensic Science (Major)
Semester-I
FRS-DSC-111: Introduction to Forensic Science

Total Hours: 30 **Credits: 2**

Course Objectives	• To introduce the fundamental concepts, scope, and principles of forensic science. • To familiarize students with the organizational structure, functioning and quality assurance practices of forensic science laboratories. • To develop an understanding of forensic evidence and its role in criminal investigation and justice administration. • To acquaint students with the various career opportunities and professional pathways available in forensic science.
Course Outcomes	• Explain the scope, historical development, and fundamental principles of forensic science. • Describe the structure, functions and quality assurance practices of forensic science laboratories and allied agencies. • Classify crimes and different types of forensic evidence and describe their significance in criminal investigations. • Identify career opportunities and professional pathways available in the field of forensic science.

Unit	Contents	Hours

Unit	Contents	Hours
Unit I	**Fundamentals of Forensic Science and Forensic Organizations** **Part A: Fundamentals of Forensic Science** • Introduction to Forensic Science o Definition and meaning of forensic science o Scope and importance of forensic science • History and Development of Forensic Science o Historical development and evolution of forensic science in India and worldwide o Contributions of pioneering forensic scientists • Principles of Forensic Science o Principle of exchange, individuality, comparison, analysis, probability, progressive change • Branches of Forensic Science **Part B: Forensic Organizations** • Forensic Science Laboratories o Functions of forensic science laboratories o Organizational structure of forensic laboratories o Central, State and Mobile Forensic Science Laboratories o National and International Crime Investigation Agencies o Medico-legal services • Quality Assurance in Forensic Science o Need for quality assurance o Standard operating procedures (SOPs) o Laboratory accreditation, NABL o Good laboratory practices o Ethics in forensic science	**15**

Unit	Contents	Hours
Unit II	**Forensic Evidences in Criminal Investigation and Career Opportunities** **Part A: Crime and Forensic Evidence** • Crime and Criminal Investigation o Concept and classification of crimes ▪ Crimes against persons ▪ Crimes against property • Introduction and classification of Evidence o Definition, importance and characteristics of evidence o Classification of Evidence: physical, chemical and biological evidences o Trace and circumstantial evidence • Types of Evidences o Biological evidences: Blood, Semen, Saliva, Hair o Physical evidences: Fibres, Glass, Paint, Soil, bullet, cartridges, electronic etc o Chemical evidences: ions, volatile liquids, petroleum products, insecticides and pesticides, dyes and colourants, explosives etc **Part B: Career Opportunities** • Career Opportunities in Forensic Science o Government and private sector opportunities o Research and academic careers o Emerging fields in forensic science o Insurance sector o Start-up own laboratories/private investigator	**15**

Study Resources	• Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London. • James S. H., Nordby J. J., Bell S. (2014), Forensic Science: An Introduction to Scientific and Investigative Techniques, 4th edition, CRC Press, Boca Raton. • Tilstone W. J., Savage K. A., Clark L. A. (2006), Forensic Science: An Encyclopedia of History, Methods and Techniques, ABC-CLIO, California. • Sharma B. R. (2014), Forensic Science in Criminal Investigation and Trials, 5th edition, Universal Law Publishing Co., New Delhi. • Nanda B. B., Tewari R. K. (2001), Forensic Science in India: A Vision for the Twenty First Century, Select Publishers, New Delhi. • Chatterjee S. K. (2011), Forensic Science in India, 3rd edition, Central Law Agency, Kolkata. • Kumar A. (2018), Textbook of Forensic Science and Criminalistics, Atlantic Publishers and Distributors, New Delhi. • Sharma R. K. (2015), Principles and Practices of Criminalistics, LexisNexis Butterworths Wadhwa, Nagpur. • Nath S. (2010), Forensic Science and Criminal Investigation, Pointer Publishers, Jaipur.

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समर्थ कॉलनी जवळ, जळगांव – ४२५ ००२. (महाराष्ट्र, भारत) । दूरध्वनी क्र. : +९१ २५७–२२३७३६३, २२३४२८१ । ई–मेलः mjcollege@kces.in । वेबसाईटः mjcollege.kces.in

F.Y. B.Sc. Forensic Science (Major)
Semester-I
FRS-DSC-112: Practical on Introduction to Forensic Science

Total Hours: 60 **Credits: 2**

Course Objectives	• To introduce students to basic forensic laboratory practices and safety procedures. • To develop skills in observation, identification of evidences, and its handling and documentation. • To provide practical exposure to fundamental forensic science techniques and instruments. • To train students in preparing mock case files and applying forensic documentation to simulated criminal investigations.
Course Outcomes	• Demonstrate safe laboratory practices and proper evidence handling procedures. • Perform basic forensic documentation and evidence packaging techniques. • Identify common forensic instruments, evidence types, and laboratory procedures. • Prepare a comprehensive mock case file incorporating documentation, evidence inventory and chain of custody records.

Sr. No.	Contents	
1	Study of forensic science laboratory organization, facilities, and laboratory safety measures.	
2	Familiarization with laboratory equipment, instruments, and personal protective equipment (PPE).	
3	Development of observation and descriptive recording skills using various objects.	
4	Preparation of laboratory notes and scientific records.	
5	Preparation of observation sheets and evidence documentation forms.	
6	Classification of Crimes Using Case Studies	
7	Demonstration of basic forensic photography techniques.	
8	Identification and Classification of Physical Evidences	
9	Observation and Examination of Physical Evidence	
10	Identification and Classification of Biological Evidence	
11	Observation and Examination of Biological Evidence	
12	Identification and Classification of Chemical Evidence	
13	Observation and Examination of Chemical Evidence	
14	Microscopic examination and classification of selected trace materials.	
15	Preparation of a mock case file including documentation, evidence inventory, and chain of custody record.	

Study Resources	• Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London. • James S. H., Nordby J. J., Bell S. (2014), Forensic Science: An Introduction to Scientific and Investigative Techniques, 4th edition, CRC Press, Boca Raton. • Tilstone W. J., Savage K. A., Clark L. A. (2006), Forensic Science: An Encyclopedia of History, Methods and Techniques, ABC-CLIO, California. • Sharma B. R. (2014), Forensic Science in Criminal Investigation and Trials, 5th edition, Universal Law Publishing Co., New Delhi. • Robinson E. M. (2016), Crime Scene Photography, 3rd edition, Academic Press, London. • Gardner R. M., Bevel T. (2009), Practical Crime Scene Processing and Investigation, 2nd edition, CRC Press, Boca Raton. • Fisher B. A. J., Fisher D. R. (2012), Techniques of Crime Scene Investigation, 8th edition, CRC Press, Boca Raton. • Mozayani A., Noziglia C. (2011), The Forensic Laboratory Handbook: Procedures and Practice, Humana Press, New York. • White P. C. (2010), Crime Scene to Court: The Essentials of Forensic Science, Royal Society of Chemistry, Cambridge.

*Students are required to perform any 12 practicals from the above list, covering a total of 60 hours of practical work.

F.Y. B.Sc. Forensic Science (Open Elective)
Semester-I
FRS-OE-111: Basics in Forensic Science

Total Hours: 30 **Credits: 2**

Course Objectives	• To introduce students to the basic concepts, scope, and significance of forensic science in the criminal justice system. • To create awareness regarding the legal aspects and admissibility of forensic evidence in judicial proceedings. • To develop practical understanding of crime scene investigation and evidence management procedures. • To familiarize students with the classification and significance of different types of forensic evidence.
Course Outcomes	• Explain the fundamental principles and branches of forensic science. • Recognize the legal admissibility and courtroom significance of forensic evidence in judicial processes. • Describe procedures involved in crime scene investigation and evidence handling. • Classify different types of forensic evidence and describe their significance in criminal investigations.

Unit	Contents	Hours
Unit I	**Fundamentals of Forensic Science and Legal Aspects** **Part A: Fundamentals of Forensic Science** • Introduction, definition and scope of forensic science • History and development of forensic science with special reference to India • Principles of forensic science • Branches of forensic science • Role of forensic science in criminal justice system • Ethics in forensic investigations **Part B: Legal Aspects of Forensic Evidence** • Role of forensic experts in courts • Bharatiya Sakshya Adhiniyam (BSA) 2023 • Expert testimony and legal admissibility of forensic evidence	**15**

Unit	Contents	Hours
Unit II	**Crime Scene Investigation and Forensic Evidence** **Part A: Crime Scene Investigation** • Crime scene: Definition and types • Crime scene management • Securing and documenting crime scenes • Collection, packaging and preservation of evidence • Chain of custody • Importance of photography and sketching **Part B: Classification of Forensic Evidence** • Classification of forensic evidence o Physical, biological and chemical evidences o Trace and circumstantial evidences	**15**

Study Resources	• Fisher B. A. J., Fisher D. R. (2012), Techniques of Crime Scene Investigation, 8th edition, CRC Press, Boca Raton. • Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Sharma B. R. (2020), Forensic Science in Criminal Investigation and Trials, 6th edition, Universal Law Publishing Co., New Delhi. • Nanda B. B., Tewari R. K. (2018), Forensic Science in India: A Vision for the Twenty First Century, Select Publishers, New Delhi.

SEMESTER - II

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F.Y. B.Sc. Forensic Science (Major)
Semester-II
FRS-DSC-121: Introduction to Criminalistics

Total Hours: 30 **Credits: 2**

Course Objectives	• To introduce students to the principles and procedures of crime scene investigation. • To develop competence in crime scene documentation and systematic search methods. • To develop understanding of evidence recognition, collection, preservation, and documentation. • To familiarize students with evidence management, chain of custody, and courtroom presentation procedures used in forensic investigations.
Course Outcomes	• Explain the systematic procedures involved in crime scene investigation. • Demonstrate crime scene documentation techniques and apply appropriate search methods. • Demonstrate knowledge of collection, preservation, and transportation of forensic evidence. • Apply evidence management principles, maintain chain of custody documentation, and describe courtroom presentation of evidence.

Unit	Contents	Hours

Unit	Contents	Hours
Unit I	**Crime Scene Investigation and Documentation** **Part A: Crime Scene Investigation** • Introduction to Crime Scene o Definition and importance of crime scene o Objectives of crime scene examination o Role of crime scene investigator o Interdisciplinary nature of crime scene investigation • Types of Crime Scenes o Indoor crime scenes o Outdoor crime scenes o Mobile crime scenes o Primary and secondary crime scenes o Macroscopic and microscopic crime scenes • Crime Scene Approach and Security o Initial response to crime scene o Assessment of crime scene o Securing and isolating the crime scene o Establishing perimeter control o Prevention of contamination **Part B: Crime Scene Documentation and Search Methods** • Plan of action • Protection of crime scene • Crime Scene Documentation o Importance of documentation o Crime scene notes o Crime Scene Sketching (rough and final) o Photography and videography • Crime Scene Search Methods o Zone/quadrant, Line/strip, Grid, Spiral, Wheel/ray etc o Selection of appropriate search method	**16**

Unit	Contents	Hours
Unit II	**Evidence Collection and Management System** **Part A: Collection and Preservation of Physical Evidence** • Collection, Preservation, Packaging and Forwarding of Physical Evidences of: o Biological origin o Chemical origin o Physical origin **Part B: Evidence Management System** • Evidence Handling Procedures o Labeling of evidence o Sealing procedures o Storage requirements o Transportation of evidence o Contagious evidences o Radiations and radioactive evidences • Chain of Custody o Definition and significance o Documentation requirements o Transfer of custody o Legal implications of broken chain of custody • Evidence Management System o Evidence inventory o Evidence tracking systems o Evidence disposal procedures o Digital evidence management • Courtroom Presentation of Evidence o Preparation of exhibits o Role of expert witness o Presentation of evidence in court o Challenges in evidence presentation	**14**

Study Resources	• Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London. • Gardner R. M., Bevel T. (2009), Practical Crime Scene Processing and Investigation, 2nd edition, CRC Press, Boca Raton. • Fisher B. A. J., Fisher D. R. (2012), Techniques of Crime Scene Investigation, 8th edition, CRC Press, Boca Raton. • James S. H., Nordby J. J., Bell S. (2014), Forensic Science: An Introduction to Scientific and Investigative Techniques, 4th edition, CRC Press, Boca Raton. • White P. C. (2010), Crime Scene to Court: The Essentials of Forensic Science, Royal Society of Chemistry, Cambridge. • Tilstone W. J., Savage K. A., Clark L. A. (2006), Forensic Science: An Encyclopedia of History, Methods and Techniques, ABC-CLIO, California. • Sharma B. R. (2014), Forensic Science in Criminal Investigation and Trials, 5th edition, Universal Law Publishing Co., New Delhi. • Chisum W. J., Turvey B. E. (2011), Crime Reconstruction, 2nd edition, Academic Press, Burlington. • Mozayani A., Noziglia C. (2011), The Forensic Laboratory Handbook: Procedures and Practice, Humana Press, New York.

F.Y. B.Sc. Forensic Science (Major)
Semester-II
FRS-DSC-122: Practical on Criminalistics

Total Hours: 60 **Credits: 2**

Course Objectives	• To develop practical skills in crime scene examination and documentation. • To train students in collection, packaging, and preservation of evidence. • To provide hands-on experience in evidence management procedures. • To familiarize students with systematic crime scene search methods and their practical application.
Course Outcomes	• Perform systematic crime scene documentation and search procedures. • Collect and preserve various types of forensic evidence using standard protocols. • Prepare evidence records and maintain chain of custody documentation. • Conduct a complete mock crime scene investigation integrating search, documentation, evidence collection and submission procedures.

Sr. No.	Contents	
1	Preparation of crime scene notes and observation records.	
2	Preparation of rough sketch and finished sketch of a mock crime scene.	
3	Crime scene photography using different photographic techniques.	
4	Videographic documentation of a mock crime scene.	
5	Demonstration and application of line/strip search method.	
6	Demonstration and application of grid search method.	
7	Demonstration and application of spiral search method.	
8	Demonstration and application of zone/quadrant search method.	
9	Collection and packaging of blood-stained evidence.	
10	Collection and preservation of hair samples.	
11	Collection and preservation of fibre evidence.	
12	Collection and packaging of glass fragments.	
13	Collection and packaging of soil samples.	
14	Preparation of evidence labels, seals, and chain of custody forms.	
15	Mock crime scene investigation involving search, documentation, collection, packaging, and submission of evidence.	

Study Resources	• Fisher B. A. J., Fisher D. R. (2012), Techniques of Crime Scene Investigation, 8th edition, CRC Press, Boca Raton. • Gardner R. M., Bevel T. (2009), Practical Crime Scene Processing and Investigation, 2nd edition, CRC Press, Boca Raton. • Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London. • James S. H., Nordby J. J., Bell S. (2014), Forensic Science: An Introduction to Scientific and Investigative Techniques, 4th edition, CRC Press, Boca Raton. • White P. C. (2010), Crime Scene to Court: The Essentials of Forensic Science, Royal Society of Chemistry, Cambridge. • Robinson E. M. (2016), Crime Scene Photography, 3rd edition, Academic Press, London. • Robinson E. M. (2010), Crime Scene Photography, Elsevier Academic Press, Burlington. • Chisum W. J., Turvey B. E. (2011), Crime Reconstruction, 2nd edition, Academic Press, Burlington. • Mozayani A., Noziglia C. (2011), The Forensic Laboratory Handbook: Procedures and Practice, Humana Press, New York.

*Students are required to perform any 12 practicals from the above list, covering a total of 60 hours of practical work.

F.Y. B.Sc. Forensic Science (Open Elective)
Semester-II
FRS-OE-121: Forensic Science in Everyday Life

Total Hours: 30 **Credits: 2**

Course Objectives	• To introduce students to the application of forensic science in personal identification and questioned document examination. • To develop understanding of forensic techniques used in cybercrime and financial crime investigation. • To create awareness of forensic applications in toxicology, wildlife, environmental and consumer protection contexts. • To appreciate the relevance of forensic science in society, its emerging trends, and career opportunities.
Course Outcomes	• Identify various methods used in personal identification and document examination. • Explain the role of forensic science in cybercrime and financial investigations. • Describe the application of forensic science in toxicology, wildlife, environmental and consumer fraud investigations. • Appreciate the relevance of forensic science in addressing modern societal challenges and identify emerging career opportunities.

Unit	Contents	Hours
Unit I	**Biomatrix, Document Examination and Cyber-Financial Forensics** **Part A: Biomatrix and Document Examination** • Personal identification: Concept and importance • Fingerprints and their classification • DNA profiling: Basic concept and applications • Questioned documents • Handwriting examination • Signature verification and forgery detection **Part B: Cyber and Financial Forensics** • Introduction to cybercrime • Types of cybercrime • Digital evidence and cyber forensics • Financial frauds and white-collar crimes • Banking and credit card frauds • Fake currency • Role of forensic science in fraud investigation	**18**

Unit	Contents	Hours
Unit II	**Forensic Science and Society** **Part A: Specialized Forensic Applications** • Forensic toxicology: Basic concepts • Wildlife and environmental forensics • Consumer fraud investigations (adulteration, duplicacy etc) **Part B: Forensic Science, Trends and Careers** • Forensic science in media and public awareness • Challenges and future trends in forensic science • Career opportunities in forensic science	**12**

Study Resources	• Casey E. (2011), Digital Evidence and Computer Crime, 3rd edition, Academic Press, Burlington. • Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Sharma B. R. (2020), Forensic Science in Criminal Investigation and Trials, 6th edition, Universal Law Publishing Co., New Delhi. • Vacca J. R. (2020), Computer Forensics: Computer Crime Scene Investigation, 3rd edition, Charles River Media, Boston. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London.

F.Y. B.Sc. Forensic Science (Open Elective)
Semester-II
FRS-OE-122: Practical on Forensic Science in Everyday Life

Total Hours: 60 **Credits: 2**

Course Objectives	• To provide hands-on experience in basic forensic science techniques. • To develop skills in evidence observation, documentation and interpretation. • To familiarize students with forensic applications relevant to everyday life and criminal investigations. • To develop basic competence in fingerprint analysis, questioned document examination and digital evidence recognition.
Course Outcomes	• Demonstrate basic forensic laboratory and crime scene skills. • Identify and document different types of forensic evidence. • Apply elementary forensic techniques for examination and interpretation of evidence. • Perform basic fingerprint, questioned document and digital evidence examination techniques used in everyday forensic applications.

Sr. No.	Contents	
1	Study of forensic science laboratory divisions and functions.	
2	Observation and identification of Physical evidence.	
3	Observation and identification of Biological evidence.	
4	Observation and identification of Chemical evidence.	
5	Crime scene photography and documentation (demonstration).	
6	Demonstration of chain of custody procedures.	
7	Recording and classification of 10 digit fingerprint.	
8	Development of latent fingerprints using powder method.	
9	Identification of fingerprint patterns.	
10	Examination of handwriting characteristics.	
11	Comparison of genuine and forged signatures.	
12	Detection of alterations in documents.	
13	Study of digital evidence and cybercrime case examples.	
14	Examination of counterfeit currency features.	
15	Mock case study involving collection, documentation and presentation of evidence.	

Study Resources	• Fisher B. A. J., Fisher D. R. (2012), Techniques of Crime Scene Investigation, 8th edition, CRC Press, Boca Raton. • Saferstein R. (2023), Criminalistics: An Introduction to Forensic Science, 13th edition, Pearson Education, New York. • Sharma B. R. (2020), Forensic Science in Criminal Investigation and Trials, 6th edition, Universal Law Publishing Co., New Delhi. • Houck M. M., Siegel J. A. (2015), Fundamentals of Forensic Science, 3rd edition, Academic Press, London. • Mozayani A., Noziglia C. (2011), The Forensic Laboratory Handbook: Procedures and Practice, 2nd edition, Humana Press, New York. • James S. H., Nordby J. J., Bell S. (2014), Forensic Science: An Introduction to Scientific and Investigative Techniques, 4th edition, CRC Press, Boca Raton. • Tilstone W. J., Savage K. A., Clark L. A. (2006), Forensic Science: An Encyclopedia of History, Methods and Techniques, ABC-CLIO, Santa Barbara. • White P. C. (2010), Crime Scene to Court: The Essentials of Forensic Science, Royal Society of Chemistry, Cambridge. • Robinson E. M. (2016), Crime Scene Photography, 4th edition, Academic Press, London. • Nanda B. B., Tewari R. K. (2018), Forensic Science in India: A Vision for the Twenty First Century, Select Publishers, New Delhi.

*Students are required to perform any 12 practicals from the above list, covering a total of 60 hours of practical work.