SHRI DAVARA UNIVERSITY
NAYA RAIPUR (C.G.)

PROGRAMME CURRICULUM
FOR

BACHELOR OF FORENSIC SCIENCE
SEMESTER-II
(EFFECTIVE FROM THE SESSION 2025-2029)

SHRI DAVARA UNIVERSITY

FOUR YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

S.NO	COURSE CODE	COURSE TITLE	TEACHING HOURS PER WEEK				EXAMINATION SCHEME				
		DISCIPLINE SPECIFIC COURSE	**L**	**T**	**P**	**C**	**THEORY**		**PRACTICAL**		**TOTAL MARKS**
							EX	**IN**	**EX**	**IN**	
1.	BSFS201	Criminal Law	2	2	0	4	70	30	-	-	100
2.	BSFS202	Forensic Biology and DNA Profiling	2	0	1	4	70	30	-	-	100
3.	BSFS203	Forensic Instrumentation	2	1	1	4	70	30	-	-	100
		GENERAL ELECTIVE									
5.	BSFS204	Changing social institutions in India	2	1	0	2	70	30	-	-	100
		ABILITY ENHANCEMENT COURSE									
6.	BSFS205	Hindi	2	0	0	2	35	15	-	-	50
		SKILL ENHANCEMENT COURSE									
7.	BSFS206	Basic Lab Techniques	2	0	0	2	35	15	-	-	50
		PRACTICAL LAB									
8.	BSFS207P	Forensic Biology and DNA Profiling	0	0	1	1	35	15	-	-	50
9.	BSFS208P	Forensic Instrumentation	0	0	1	1	35	15	-	-	50
Total Contact Hours per Week: 30		**Total Credit:**				**20**	**Total Mark**				**600**

SHRI DAVARA UNIVERSITY

FOUR-YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction			
Program: (Certificate/Diploma/Degree Honors)		**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS201		
Course Title	Criminal Law		
Course Type	**Discipline Specific Course (DSC)**		
Pre-requisite(if any)	**As per programme**		
Course Learning Outcomes (CLO)	● Explain the structure, principles, and key provisions of the IPC, CrPC, and IEA in relation to criminal justice administration. ● Analyze the essential elements of crime, classification of offences, hierarchy of criminal courts, and procedures including summary trials and expert witness testimony. ● Interpret relevant constitutional provisions (Articles 14, 15, 20, 21, 22, and 51A) and assess their role in safeguarding individual rights within the criminal justice system. ● Evaluate the objectives and enforcement of major socio-economic and environmental laws such as the Narcotic Drugs and Psychotropic Substances Act, Information Technology Act, and Environment Protection Act in combating crime.		
Credit Value	**4 Credits**	**Credit =60 Hours-learning & Observation**	
Total Marks	**Max. Marks: =100**	**Min Passing Marks: 40**	

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)		
Unit	**Topics (Course contents)**	
I	**Law to Combat Crime** ● Introduction towards Indian Penal Code, Criminal Procedure Code and Indian Evidence Act ● Relevant sections of IPC pertaining to offences against persons, property, ● CrPC, IEA and their Amendments.	**15**
II	**Crime and Criminology** ● Classification of cases, Types of offences, ● Essential elements of criminal law, ● Constitution and hierarchy of criminal courts, ● Legal procedure pertaining to expert witness testimony, Expert witness.	**15**
III	**Constitution of India** ● Preamble, Fundamental Rights, Directive Principles of State Policy– Articles 14, 15, 20, 21, 22, 51A, ● Summary trial-Section 260 (2) and Judgments in abridged forms-Section 355.	**15**
IV	**Acts Pertaining to Socio-economic and Environmental Crimes** ● Detailed description of Narcotic, Drugs and Psychotropic Substances (NDPS) Act, Drugs and Cosmetics Act, Explosive Substances Act, Arms Act, Dowry Prohibition Act, Prevention of Food Adulteration Act, Wildlife Protection Act.I.T. Act 2000	**15**

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

1. The Indian Penal Code – Ratanlal & Dhirajlal
2. The Code of Criminal Procedure – Ratanlal & Dhirajlal
3. The Indian Evidence Act – Batuk Lal
4. Introduction to the Constitution of India – D.D. Basu

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
Continuous Internal Assessment (CIA): 30 Marks
Marks End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): 30 (By Course Teacher)	**Internal Test/Quiz:20+20 Assignment/ Semenar-10 Total Marks-30**	**Better marks out of the two Tot Quiz + obtained marks in Assignment shall be considered against 15 Marks**

End Semester Exam (ESE):70	**Three sections (A,B &C)** **Section A : Objective (10*1=10 Marks)** **Section B: Short answer type (5*4=20 Marks)** **Section C : Descriptive answer type qts 1 out of 2 from each- (4*10=40 Marks)**

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SHRI DAVARA UNIVERSITY

COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction		
Program: (Certificate/Diploma/Degree Honors)	**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS202	
Course Title	Forensic Biology and DNA Profiling	
Course Type	**Discipline Specific Course (DSC)**	
Pre-requisite(if any)	**As per programme**	
Course Learning Outcomes (CLO)	• To understand the biological basis of forensic evidence. • To develop knowledge of identification and examination of biological samples. • To understand principles and techniques of DNA profiling. • To interpret forensic DNA results for legal applications.	
Credit Value	**4 Credits**	**Credit =60 Hours-learning & Observation**
Total Marks	**Max. Marks: =100**	**Min Passing Marks: 40**

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)		
Unit	**Topics (Course contents)**	
I	**Fundamentals of Forensic Biology** • Definition, scope, and significance • Historical development of forensic biology • Types: blood, semen, saliva, hair, bones, teeth, tissue	**15**
II	**Biological Evidence** • Types: blood, semen, saliva, hair, bones, teeth, tissues • Collection, preservation, packaging, and transportation • Chain of custody and contamination control	**15**
III	**Blood and Body Fluid Identification** • Composition and properties of blood • Presumptive and confirmatory tests for blood • Blood Group Systems(ABO system, Rh system, MNS, Kelly, Duff systems)	**15**
IV	**DNA Biology and Profiling Techniques** • DNA structure (Watson and Crick model) • Types of DNA (nuclear and mitochondrial) • Applications of DNA Profiling (Criminal investigation, Paternity testing, Missing persons identification, Mass disaster victim identification)	**15**

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

1. Forensic Biology (3rd Ed.) by Richard Li
2. Understanding Forensic DNA (Cambridge Univ. Press)
3. Fundamentals of Forensic Biology
4. Forensic DNA Applications: An Interdisciplinary Perspective (2nd Ed.)

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
Continuous Internal Assessment (CIA): 30 Marks
Marks End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): 30 (By Course Teacher)	**Internal Test/Quiz:20+20 Assignment/ Semenar-10 Total Marks-30**	**Better marks out of the two Tot Quiz + obtained marks in Assignment shall be considered against 15 Marks**

End Semester Exam (ESE):70	**Three sections (A,B &C)** **Section A : Objective (10*1=10 Marks)** **Section B: Short answer type (5*4=20 Marks)** **Section C : Descriptive answer type qts 1 out of 2 from each- (4*10=40 Marks)**

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SHRI DAVARA UNIVERSITY

FOUR-YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction			
Program: (Certificate/Diploma/Degree Honors)		**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS203		
Course Title	Forensic Instrumentation		
Course Type	**Discipline Specific Course (DSC)**		
Pre-requisite(if any)	**As per programme**		
Course Learning Outcomes (CLO)	1. To understand principles and working of analytical instruments used in forensic laboratories. 2. To develop knowledge of instrumental techniques for examination of physical and chemical evidence. 3. To interpret instrumental data in forensic casework. 4. To understand quality control and laboratory accreditation standards.		
Credit Value	**4 Credits**	**Credit =60 Hours-learning & Observation**	
Total Marks	**Max. Marks: =100**	**Min Passing Marks: 40**	

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)		
Unit	**Topics (Course contents)**	
I	**Fundamentals of Instrumental Analysis** ● Role of analytical instruments in forensic science ● Classification of instruments (optical, chromatographic, spectroscopic, electroanalytical) ● Accuracy, precision, sensitivity, specificity	**15**
II	**Spectroscopic Techniques** ● **UV–Visible Spectrophotometry:** (Principle and instrumentation, Applications in drug and toxicology analysis) ● **Infrared Spectroscopy (IR & FT-IR)**: Molecular vibrations,Identification of drugs, polymers, fibers, paints ● **Atomic Absorption Spectroscopy (AAS):** Principle and instrumentation Detection of metals in toxicological and environmental samples ● **Mass Spectrometry (Basic Principles):** Ionization techniques, Mass analyzers, Forensic applications	**15**
III	**Chromatographic Techniques** ● **Introduction to Chromatography:** Principle of separation, Types of chromatography ● **Thin Layer Chromatography**:Technique and applications in drug analysis ● **Gas Chromatography**: Instrumentation and detectors Forensic applications in arson and toxicology ● **High Performance Liquid Chromatography:** Instrumentation and working.	**15**

IV	**Advanced and Specialized Forensic Instruments** ● Electrophoretic Techniques ● Microscopic Techniques ● X-Ray Techniques ● Instruments in Questioned Documents: VSC & ESDA	15

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

1. Instrumental Methods of Chemical Analysis – Gurdeep R. Chatwal & Sham K. Anand
2. Instrumental Analysis – Skoog, Holler & Crouch
3. Principles of Instrumental Analysis – Skoog, West, Holler & Crouch

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
Continuous Internal Assessment (CIA): 30 Marks
Marks End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): 30 (By Course Teacher)	**Internal Test/Quiz:20+20 Assignment/ Semenar-10 Total Marks-30**	**Better marks out of the two Tot Quiz + obtained marks in Assignment shall be considered against 15 Marks**

End Semester Exam (ESE):70	**Three sections (A,B &C)** **Section A : Objective (10*1=10 Marks)** **Section B: Short answer type (5*4=20 Marks)** **Section C : Descriptive answer type qts 1 out of 2 from each- (4*10=40 Marks)**

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SHRI DAVARA UNIVERSITY

FOUR-YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction			
Program: (Certificate/Diploma/Degree Honors)		**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS204		
Course Title	Changing Social institutions in India		
Course Type	**General Elective (GE)**		
Pre-requisite(if any)	**As per programme**		
Course Learning Outcomes (CLO)	After completion of the course, the student will be able to achieve the following objectives- ● The students will learn and understand the classical background of Indian society. ● Students will learn about the Indian social structure. ● The course will enhance understanding about pre dominant issues of Indian society. ● This course will enhance the understanding about rural structure, development and issues.		
Credit Value	**1 Credits**	**Credit =30 Hours-learning & Observation**	
Total Marks	**Max. Marks: =50**	**Min Passing Marks: 20**	

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)		
Unit	**Topics (Course contents)**	
I	**Classical Indian society and Changes** ● Classical Indian Society and Changes ● Ashram, Purusharth ● Kanna: Views on Past and Present ● Caste Roles and Varna Formulations	**15**
II	**Indian Social Structure** ● Family Roles and its Changing Nature ● Marriage and its Challenges ● Kinship: Principle and Pattern ● Jajmani and Agrarian Relationship	**15**
III	**Rural Social System** ● Rural Development and Change ● Rural Migration and Urbanisation ● Religiosity and superstition in rural society ● Problem of Peasants	**15**
IV	**Social Issues in India** ● Poverty and Unemployment: Causes and Remedies ● Problem Of Corruption: Causes and Remedies ● Drugs Abuse: Types, Causes and Remedies ● Cyber Crime: Types, Causes and Remedies	

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

1. C.N. Shankar Rao, Indian Social Problems, S Chand Publications
2. Ram Ahuja, Social Problems in India, Rawat Publication
3. Indra Dewa, Society and Culture in India Online Resources, Rawat Publication

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
Continuous Internal Assessment (CIA): 30 Marks
Marks End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): 30 (By Course Teacher)	**Internal Test/Quiz:20+20 Assignment/ Semenar-10 Total Marks-30**	**Better marks out of the two Tot Quiz + obtained marks in Assignment shall be considered against 15 Marks**

End Semester Exam (ESE):70	**Three sections (A,B &C)** **Section A : Objective (10*1=10 Marks)** **Section B: Short answer type (5*4=20 Marks)** **Section C : Descriptive answer type qts 1 out of 2frm each- (4*10=40 Marks)**

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FOUR-YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction		
Program: (Certificate/Diploma/Degree Honors)	**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS205	
Course Title	Hindi	
Course Type	**ABILITY ENHANCEMENT COURSE (AEC)**	
Pre-requisite(if any)	**As per programme**	
Course Learning Outcomes (CLO)	**As per program** 1- विद्यार्थी हिन्दीभाषा एव व्याकरण संबंधीज्ञान से समृद्ध होंगे। 2- भाषा ज्ञान के माध्यम से भारतीय संस्कृति एवं भावनात्मक एकता के महत्व को समझने की क्षमता विकसित हो सकेगी। 3- मुहावरे एव लोकोक्तियाँ का महत्व समझ सकेंगे। व्यंग्य, निबंध एवं कविता विद्या से परिचित होंगे। 4- निबंध लेखन एवं अपठित गद्यांश के माध्यम से विद्यार्थियों का बौद्धिक विकास हो सकेगा।	
Credit Value	**1 Credits**	**Credit =30 Hours-learning & Observation**
Total Marks	**Max. Marks: =50**	**Min Passing Marks: 20**

PART -B: Content of the Course

Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)

Unit	**Topics (Course contents)**	
I	रचनाएं • भारतवंदना-सूर्यकांत त्रिपाठी 'निराला' (कविता) • जीव-हरिशंकर परसाई (व्यंग्य) चोरी और • प्रायश्चित-महात्मागांधी (निबंध)	**15**
II	हिन्दीव्याकरण एवं शब्दरचना • प्रत्यय, संधि, समास • पर्यायवाची शब्द, विलोम शब्द, अनेकार्थी शब्द, समश्रुत शब्द, • अनेक शब्दों के लिए एक शब्द	**15**
III	• हिन्दीव्याकरण एवं रचना पक्ष • मुहावरे एवं लोकोक्तियां • परिभाशिक षब्दावली एवं हिन्दी में पदनाम, षब्द षुद्धि, वाक्य षुद्धि	**15**
IV	रचनात्मकलेखन निबंधलेखन • अपठितगद्यांश (नोट- विद्यार्थी को किसी एक विषय पर निबंध व प्रदत्त गद्यांश का शिर्षक तथा सारांश लिखना होगा।)	

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

1- भारतीयता के अमर स्वर- डॉ. धनंजय वर्मा, मध्यप्रदेश हिन्दी अकादमी

2- आधुनिक हिन्दी व्याकरण और रचना- डॉ वासुदेव नंदन

3- हिन्दी भाषा और व्यवहार- डॉ. गंगा चरण त्रिपाठी

4- हिन्दी व्याकरण माला- डॉ. के.आर. गहिया, डॉ विमलेश शर्मा

5- हिन्दी व्याकरण- कामता प्रसाद गुरू

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
Continuous Internal Assessment (CIA): 30 Marks
Marks End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): 30 (By Course Teacher)	**Internal Test/Quiz:20+20 Assignment/ Semenar-10 Total Marks-30**	**Better marks out of the two Tot Quiz + obtained marks in Assignment shall be considered against 15 Marks**

End Semester Exam (ESE):70	**Three sections (A,B &C) Section A : Objective (10*1=10 Marks) Section B: Short answer type (5*4=20 Marks) Section C : Descriptive answer type qts 1 out of 2 from each- (4*10=40 Marks)**

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SHRI DAVARA UNIVERSITY

FOUR-YEAR UNDERGRADUATE PROGRAMME
FACULTY OF FORENSIC SCIENCE (2025-2029)
COURSE STRUCTURE
SEMESTER - II

PART-A: Introduction			
Program: (Certificate/Diploma/Degree Honors)		**B.Sc. Forensic Science**	**Session: 2025-2029**
Course Code	BSFS206		
Course Title	Basic Lab Techniques		
Course Type	**SKILL ENHANCEMENT COURSE**		
Pre-requisite(if any)	**As per programme**		
Course Learning Outcomes (CLO)	At the end of this course, the students will be able to:- ● Demonstrate proficiency in fundamental laboratory operations with safety consciousness. ● Select, calibrate, and operate basic laboratory instruments with confidence. ● Record, analyze, and present experimental data using scientific standards. ● Troubleshoot common experimental errors and apply quality control principles. ● Develop a "lab mindset": precision, curiosity, ethics, and reproducibility.		
Credit Value	**1 Credits**	**Credit =30 Hours-learning & Observation**	
Total Marks	**Max. Marks: =50**	**Min Passing Marks: 20**	

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) -60 Periods (60 Hours)		
Unit	**Topics (Course contents)**	
I	**Laboratory organization and management-** ● **Science laboratory:** scientific temper, scientific reporting, significance values/accuracy/ attitude, interaction with pupil present in the lab, dignity of work of lab staff. ● **Important components of a science laboratory:** features of a science laboratory, services in a science laboratory. ● **Organization of science labs:** preparation room, arrangement of stores, safety provisions, Labels- a cautionary note ● **Day-to-day management of laboratories:** day to day cleaning up, routine inspection and maintenance of laboratory, cleaning of laboratory and preparation rooms, color coding of services, emergency switch services, security and vandalism. ● **Stock control and purchase:** arranging stock, naming and maintenance of stock register, receiving of goods, processing of bills, accounting, controlling budget, information about equipment & miscellaneous records, purchase rules. ● **File and records:** sources of information in the lab, filing system for chemicals, requests for equipment & special files. ● **Use of computer in science laboratory:** component of a computer, overall function & application software.	**15**
II	**Filtration & Centrifugation: -** ● Definition, Principles, Construction, application, and uses, **Chromatography Basics: -** ● Principle of partition/adsorption, Rf value, solvent selection, visualization methods **Spectrophotometry Intro: -** ● Definition, Principles, Construction, application, and uses,	**15**

	pH & Conductivity Measurements: - ● Definition, Principles, Construction, application, and uses, **Gel Electrophoresis –** Principle, process (method) & uses **Colorimeters** – Principle, construction, types & uses.	
III	● **Light Microscopy Mastery: -**Definition, Principles, Types Construction, application, and uses, ● **Balances** – different parts & uses. ● **Colorimeters** – Principle, construction, types & uses. ● **Cell culture -** Culture media –NAM and PDA , Cell harvesting methods, Cell proliferation measurements. ● **Sterilization techniques: –** Chemical and physical methods of sterilization Principle, Construction and Uses of Autoclave and Laminar Air Flow ● **Cryopreservation –** different processes & uses.	**15**
IV	● **Scientific Record Keeping: -** Lab notebook standards (ALCOA+ principles), electronic lab notebooks (ELN) intro. ● **Basic Statistics for Labs: -** Mean, SD, CV, outlier detection (Q-test), graphing best practices. ● **Quality Control & Validation: -** Blanks, controls, replicates, LOD/LOX concepts, instrument verification. ● **Digital Tools & Emerging Tech: -** Intro to lab simulation apps, QR-coded reagents, AI-assisted data analysis demo.	

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended-

- Practical Biochemistry: Wilson & Walker, Cambridge University Press, Cambridge.2010
- Text book of Biotechnology: Chatwal G.R. Anmol publications Pvt. Ltd. New Delhi.2002
- Tools of Biochemistry: Cooper T.G Wiley India Pvt Ltd 2011
- Microbiology: Sharma P.D. Rastogi publication, Meerut.2020

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods: Maximum Marks: 100 Marks
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Marks End Semester Exam (ESE): 70 Marks

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