



KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ

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ಸಂ. KU/Aca(S&T)/OS-Gen/2026-27/ 1208

ದಿನಾಂಕ: 1 AUG 2026

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2026-27ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಸ್ನಾತಕ ಪದವಿ-1, 2ನೇ ಹಾಗೂ 5, 6ನೇ ಸೆಮಿಸ್ಟರ್‌ಗಳಿಗೆ ಪರೀಕ್ಷೆಗಳನ್ನು ಆಳವಡಿಸುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ೧. ಎಲ್ಲ ನಿಬಂಧನೆಗಳ ಸಭೆ ಜರುಗಿದ ದಿನಾಂಕ: 23 / 24 / 25.07.2026.

೨. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆ ದಿನಾಂಕ: 20-07-2026.

ಮೇಲ್ಕಂಡ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆ ಮೇರೆಗೆ, ಸನ್ 2026-27ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕ ಪದವಿಗಳಾದ BA / B.Com / B.Sc / BCA / BBA ಮತ್ತು ಇನ್ನಿತರ ವೃತ್ತಿಯೇತರ / ವೃತ್ತಿಪರ ಕೋರ್ಸುಗಳಿಗೆ 1 ಮತ್ತು 2ನೇ ಸೆಮಿಸ್ಟರ್ ಹಾಗೂ 2026-27ನೇ ಸಾಲಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮಿಸ್ಟರ್‌ಗಳಿಗೆ ಪರೀಕ್ಷೆಗಳನ್ನು ಆಳವಡಿಸುವ ಕುರಿತು ಮುಂಬರುವ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಸ್ಥಿರೀಕರಣಕ್ಕೊಳಪಟ್ಟು (Pending approval of Academic Council) ಅಧಿಸೂಚನೆ ಪ್ರಕಟಿಸಿದೆ. ಅದರಂತೆ, ಪರೀಕ್ಷೆಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಬಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪರೀಕ್ಷೆಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ್ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳು ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯ ಪ್ರವೃತ್ತಿರಲು ಸೂಚಿಸಲಾಗಿದೆ.

ಅಡಕ: ಮೇಲಿನಂತೆ

N. Ramiah
ಕುಲಸಚಿವರು 31/7/26

ಗೆ,
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಬಂಧ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ನೋಡಲ್ ಅಧಿಕಾರಿಗಳು, UUCMS ಘಟಕ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ನಿರ್ದೇಶಕರು, ಐ.ಟಿ. ಶಾಖೆ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
6. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.



KARNATAK UNIVERSITY, DHARWAD

B.Sc. in Forensic Science and Criminology

V & VI sem SYLLABUS

With Effect from 2024-25

DISCIPLINE SPECIFIC CORE COURSE (DSC) FOR SEM I-VI,

DISCIPLINE SPECIFIC ELECTIVE (DSE) FOR SEM V, VI

SKILL ENHANCEMENT COURSE (SEC) FOR SEM IV/V/VI

AS PER NEP (Revised Credit System):2024-25

Karnatak University, Dharwad
B.Sc.in Forensic Science and Criminology
Effective from 2024-25

Sem.	Type of Course	Theory/ Practical	Course Code	Course Title	Instructi on hour/we ek	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summat ive	Total	
I	DSC-1	Theory	C1FSC1T1	Introduction to Criminology	04hrs	60	03hrs	20	80	100	04
	DSC-2	Practical	C1FSC1P1	Crime Data Analysis	04hrs	56	03hrs	10	40	50	02
II	DSC-3	Theory	C2FSC1T1	Fundamentals of Forensic Science	04hrs	60	03hrs	20	80	100	04
	DSC-4	Practical	C2FSC1P1	Scene of Crime Investigation	04hrs	56	03hrs	10	40	50	02
III	DSC-5	Theory	C3FSC1T1	Police Science	04hrs	60	03hrs	20	80	100	04
	DSC-6	Practical	C3FSC1P1	Police Investigation	04hrs	56	03hrs	10	40	50	02
IV	DSC-7	Theory	C4FSC1T1	Criminal Law and Penology	04hrs	60	03hrs	20	80	100	04
	DSC-8	Practical	C4FSC1P1	Criminal Justice Institutions Visits	04hrs	56	03hrs	10	40	50	02
*V	DSC-9	Theory	C5FSC2T1	Forensic Medicine and Toxicology	04hrs	60	03hrs	20	80	100	03
	DSE-1	Theory	C5FSC2T2	Digital Forensic and Cyber Crime OR	04hrs	60	03hrs	20	80	100	03
	DSE-2	Theory	C5FSC2T3	Forensic Instruments							
	DSC-10	Practical	C5FSC2P1	Medico legal Examination	04hrs	56	03hrs	10	40	50	02
*VI	DSC-11	Theory	C6FSC2T1	Dactyloscopy and DNA Fingerprinting	04hrs	60	03hrs	20	80	100	03
	DSE-3	Theory	C6FSC2T2	Artificial Intelligence and Crime Investigation OR	04hrs	60	03hrs	20	80	100	03
	DSE-4		C6FSC2T3	Forensic Documents and Ballistics							
	DSC-12	Practical	C6FSC2P1	Fingerprint Analysis	04hrs	56	03hrs	10	40	50	02
	DSE(PR) DSE(IN)	Practical	A 6CFS2P2	Project Work OR Internship	04hrs	56	--	50	--	50	02
IV/V/VI **	SEC	Practical	C0FSC6P1	Study of Marks and impression	04hrs	56	03hrs	10	40	50	02
Total					64hrs					1200	44

Note:

1. For V and VI semester DSE are choice-based theory special shall choose any one specialization.
2. Credits of Elective Course (EC) component is taken Specific Elective (DSE) of all the three major course
3. Theory paper with 3 or 4 credits shall have 100 mark exam) with 03 hours duration.
4. SEC with 2 credits shall have 50 marks (10 IA+40): 03 hours duration.
5. Semester end exam for compulsory course with 2 credits based examination.
6. Students shall study SEC for all the three major course IV, V or VI semester.
7. Student shall opt Project work / Internship in any on courses.

B.Sc. Semester–V

Discipline Specific Course (DSC-9)

Course Title:- FORENSIC MEDICINE AND TOXICOLOGY

Course Code: C5FSC2T1

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. Of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-9	Theory	03	04	60hrs.	3hrs.	20	80	100

Course Outcomes (COs): At the end of the course students will be able to:

CO1: To understand the basics of Medical Jurisprudence and Toxicology

CO2: Demonstrate the medico-legal importance of Death.

CO3: To familiarize with the poisons and their effects on human body.

CO4: To Familiarize with autopsy and its importance.

Unit	Course Title: FORENSIC MEDICINE AND TOXICOLOGY	60 hrs/sem
Unit-I	FORENSIC MEDICINE - Forensic Medicine: Meaning, definition and Importance - History of Forensic Medicine - Need, Scope, Importance and probative value of medical evidence in Crime Investigation - Legal and Ethical Aspects of Practice of Medicine - The Indian Medical Council and State Medical Council: Formation, Functions - Rights, Privileges and Duties of Registered Medical Practitioners.	15 hrs
Unit-II	THANATOLOGY - Thanatology, death, its causes, stages of death, signs of death and changes following death, Asphyxia and accidents - Death due to heat, cold and electrocution - Injuries classification and medico legal aspects - Sexual offences - Forensic psychiatry	15 hrs
Unit-III	FORENSIC TOXICOLOGY - Forensic Toxicology: Meaning, Definitions and Importance - General consideration and Laws in relation to poisons / Narcotic drugs and Psychotropic substances Act, - Common poisons and their classification - Identification of common poisons	15 hrs

	- Analytical Toxicology (Principles: Bedside & Common Lab. Tests), Collection, Preservation and Dispatch of Viscera to FSL - Regulatory Toxicology for prevention of Hazards to Health and Ecology	
Unit-IV	MAJOR POISONS Corrosive & irritant poisons: - Inorganic Corrosives: Sulphuric, Nitric & Hydrochloric Acid - Organic Corrosives: Phenol, Oxalic Acid - Inorganic Non-Metallic Irritants: Phosphorus, Halogens, Inorganic Metallic Irritants- Arsenic, Lead, Mercury, Copper - Organic Vegetable Irritants: Abrus, Castor, Croton, Calotropis, Semi carpus, Ergot. Neurotoxin: - Inebriates: Ethyl, Alcohol and Methyl Alcohol - Somniferous and Sedative Hypnotics – Opium and Derivatives, Barbiturates - Deliriant- Dhathura, Cannabis, Cocaine Asphyxiants and Other Poisons: - Asphyxiants (Gases): Carbon monoxide, Carbon Dioxide and Cyanides - Cardiac Poisons: Oleanders, Aconite and Tobacco - Other Poisons- Domestic/ Household Poisons- Kerosene, Detergents	15hrs

References:

1. Biswas G.,(2012). *Review of Forensic Medicine and Toxicology*, JP Medical Ltd.
2. Dettmeyer R. B., Verhoff M. A., and Schutz H. F. (2013), *Forensic Medicine: Fundamentals and Perspectives*, Springer Science & Business Media.
3. Gordon I & Shapiro H.A.(1982). *Forensic medicine*, Longman group ltd.
4. Guharaj P.V. & R. Chandran. (1982). *Forensic medicine*, Orient Longman Pvt ltd.
5. James J. P., Busuttil A., and Smock W. (2003). *Forensic Medicine: Clinical and Pathological Aspects*, Cambridge University Press.
6. Lahiri S.K.. (1973). *Elements of medical jurisprudence*, Prabasi press.
7. Lappas, Nicholas T., (2016). *Forensic Toxicology : Principles and Concepts*, Amsterdam: Elsevier.
8. Levine B. S., Kerrigan S.,(2020). *Principles of Forensic Toxicology*, Springer Cham.
9. Mant A.K.(2003). *Taylor's principles & practice of medical jurisprudence*, Wingking Tong co.ltd.
10. Nandy. (1995). *Principals of forensic medicine*, New central book agency.

Formative Assessment for Theory	
Assessment Occasion/type	Marks
InternalAssessmentTest1	05
InternalAssessmentTest2	05
Assignment	10
Total	20Marks
<i>Formative Assessment as per guidelines.</i>	

B.Sc. Semester–V

Discipline Specific Elective (DSE-1)

Course Title:- DIGITAL FORENSICS AND CYBERCRIME

Course Code: C5FSC2T2

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
(DSE-1)	Theory	03	04	60hrs.	3hrs.	20	80	100

Course Outcomes (COs): At the end of the course students will be able to:

CO1: To understand the concept of digital evidence, collection and preservation of evidence
And its significance.

CO2: To understand the importance of Cyber Security

CO3: Demonstrate the methods and techniques, best practices to protect against various kind
Of cyber- attacks.

CO4: To familiarize with the application of Cyber laws in general.

Unit	Course Title: DIGITAL FORENSICS AND CYBERCRIME	60 hrs/sem
Unit I	INTRODUCTION TO DIGITAL FORENSICS - History of computers and mobile generations. - General awareness of mobile and computer hardware devices, software, memory and processors. - Basic operating system in smart phone and computer- Android, KitKat, MS Dos and Windows. - Internet: Basic setup and internet working, Forensic utility of Smartphone, computer and internet. - Networks- LAN, WAN and MAN	15 hrs
Unit II	COMPUTER, SMART PHONE AND CYBERCRIME - Definition, distinction between computer, smart phone crimes and conventional crimes and reasons for commission of such crimes. - Different types of cybercrime: - Identity theft, cyber defamation, hacking, viruses, Trojan and worms, spoofing, spamming, phishing, software piracy. - Cloning of mobile and Sim cards, Imaging software, logic bombs, cyber stalking. - Cyber terrorism, credit and information theft.	15 hrs

Unit III	CYBER RELATED LAWS AND ENFORCEMENT AGENCIES - Information Technology Act 2000 and Information Technology (Amendment) Act 2008, Objectives, Applicability, Non-applicability, Definitions, Amendments and Limitations. - Offences Under IT Act, Offences Related with Digital Signature and Electronic Signature Under IT Act. Various cyber-crimes under Sections 43(a) to (j), 43A, 65, 66, 66A to 66F, 67, 67A, 67B, 70, 70A, 70B, 80 etc..Penalties Under IT Act, - Regulation of Certifying Authorities, Appointment and Powers and Functions of Controller, Cyber Appellate Tribunals. Investigation of malicious applications Agencies for investigation in India, their powers and their constitution as per Indian Laws Procedures, Intellectual Property Rights in the Cyber World.	15 hrs
Unit IV	CYBER SECURITY AND INVESTIGATION OF CYBERCRIME - Fraud detection in computer and mobile forensic: detecting fraud, technologies used for fraud detection; data mining and fraud detection. - Internet security system, tracing domain name or IP address, firewall security systems, wireless network security. - Security using Cryptography and Steganography. Investigation of Cybercrime: - Seizure of computers- Seizure of suspected computer, preparation required prior to seizure, collection and seizure of magnetic data. - Restoration of deleted files- familiarization of software, Encase, Cyber check suites, Encryption and decryption methods. - Legal and privacy issues.	15 hrs

References:

- Ashok Kumar, Manocha O. P. (2023). *Cyber Encounters: Cops Adventures With Online Criminals*, Penguin eBury Press.
- Goel S., Gladyshev P., Nikolay A., Markowsky G., and Johnson D. (2023), *Digital Forensics and Cyber Crime*, Springer Nature.
- Gupta and Agarwal. (2012) *Cyber Law*, Premier Publication Company, Allahabad.
- Halder, D., & Jaishankar, K. (2011). *Cyber crime and the Victimization of Women: Laws, Rights, and Regulations*. Hershey, PA, USA: IGI Global.
- Information Technology Act 2005 & IT Act Amendment, 2008
- Moore, R. (2005) *"Cyber crime: Investigating High-Technology Computer Crime,"* Cleveland, Mississippi: Anderson Publishing.
- Nelson B. Philips A., and Steuart C. (2014). *Guide to computer Forensics and Investigations*, Cengage Learning.
- Paranjape N.V. (2010). *Cyber Crimes and Law*, Central law Agency, Allahabad.
- Sammons J. (2015). *Digital Forensics: Threatscape and Best Practices*, Syngress.
- Sammons J. (2015). *Digital Forensics: Threatscape and best practices*, Syngress.

Formative Assessment for Theory	
Assessment Occasion/type	Marks
InternalAssessmentTest1	05
InternalAssessmentTest2	05
Assignment	10
Total	20Marks
<i>Formative Assessment as per guidelines.</i>	

B.SC. - V Semester
Discipline Specific Elective (DSE-2)

Course Title:-FORENSIC INSTRUMENTS

Course Code: C5FSC2T3

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSE-2	Theory	03	04	60 hrs.	3 hrs.	20	80	100

Course Outcome (COs): At the end of the course students will be able to:

CO1: Identify the different tools in forensic science

CO2: Understand the techniques and applications used in criminal investigation

CO3: Know the functions of advanced microscopes

CO4: Understand the importance of Forensic photography

Unit	Course Title: FORENSIC INSTRUMENTS	60 hrs/sem
Unit I	INTRODUCTION TO FORENSIC TOOLS AND TECHNIQUES - Importance and application of scientific techniques in forensic science - Application of Artificial intelligence in forensic science - Role of scientific techniques in establishing a crime	15 hrs
Unit II	MICROSCOPY - Fundamental principles. - Different types of microscopes: Simple microscope, research microscope, binocular microscope, Comparison Microscope, Electron microscope and Scanning Electronic Microscope (SEM). Magnification and Resolution. - Transmission Electron Microscopy (TEM), Stereomicroscope Polarization and application Forensic applications of microscopy. - Stereo-zoom Microscopy, Video Spectral Comparator (VSC) and Electrostatic Detection Apparatus (ESDA), Software's of fingerprints, classification and detection of cyber crimes	15 hrs
Unit III	FORENSIC PHOTOGRAPHY - Basic principles and applications of photography in forensic science. - Photographic evidence. 3D photography, Infrared and ultraviolet photography, Digital photography, Videography and CCTVs. - Crime scene and laboratory photography.	15 hrs

Unit IV	SPECTROSCOPIC TECHNIQUES • Introduction, Review of Spectroscopic. • Fundamental principles and Instrumentation and Techniques, Qualitative and Quantitative methods. • Ultraviolet-visible spectroscopy, Infrared spectroscopy, atomic absorption spectroscopy, atomic emission spectroscopy and Mass spectroscopy. • Colorimetric analysis and Lambert-Beer law, Forensic Applications.	15 hrs
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Recommended books:

1. Bell L. S. (2012). *Forensic Microscopy for Skeletal Tissue: Methods and Protocols*, Human Totowa, NJ.
2. Elkins K. M. (2018). *Introduction to Forensic Chemistry*, 1st edn, Boca Raton, CRC Press.
3. Gaensslen R. E., Kubic T. A., Desion P. J., and Lee H. C. (1985). *Instrumentation and Analytical methodology in Forensic Science*, American Chemical Society and Division of chemical Education.
4. Jackson G. and verbeck G. (2021). *Forensic Chemistry: Instrumentation and Applications*, Wiley Publication.
5. Kumar. S. S. (2021). *A Textbook on Measurement and Instrumentation*, Nation Press.
6. Marsh N. (2014). *Forensic Photography: A Practitioner's Guide*, John Wiley & Sons
7. Stuart B. H. (2012). *Forensic Analytical Techniques*, Wiley Publication.
8. Taylor K. T. (2000). *Forensic Art and Illustration*, 1st edn, Boca Raton, CRC Press.
9. Weiss, Sanford L. (1948). *Forensic Photography: Importance of Accuracy*, Upper Saddle River, N.J: Pearson/ Prentice Hall.
10. Wheeler and Barbara. (2008). *Practical Forensic Microscopy: a laboratory manual*, Chichester, England; Hoboken, NJ: John Wiley.

Formative Assessment for Theory	
Assessment Occasion/type	Marks
InternalAssessmentTest1	05
InternalAssessmentTest2	05
Assignment	10
Total	20Marks
<i>Formative Assessment as per guidelines.</i>	

B.Sc. Semester–V
Discipline Specific Course (DSC-10)

Course Title: MEDICO-LEGAL EXAMINATION

Course Code: C5FSC2P1

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-10	Practical	02	04	56hrs.	3hrs.	10	40	50

Course Outcomes (COs): At the end of the course, students will be able to:

CO1: Understand about Medico-legal cases

CO2: Know about body Fluids

CO3: Examine the importance of physical evidence

CO4: Evaluate wounds and injuries

List of the Experiments

1. Medico-legal aspects of Homicidal
2. Medico-legal aspects of Suicidal
3. Medico-legal aspects of Accidents
4. Examination of Human Skeleton
5. Identification of Sex and age through examination Bone remains
6. Examination of different wounds and injuries.
7. Preliminary Blood tests; Benzidine, phenolphthalein
8. Confirmatory Blood tests : Haemin crystal,
9. Microscopic and blood grouping.
10. Examination of morphology of hair
11. Examination and identification of fibres.
12. Documentation of Forensic Autopsy.

Instruction:

Course Teacher and HOD/ Coordinator/ Principal certified practical record book is mandatory for appearing semester end practical examinations

Formative and Summative examination pattern

Internal tests	10 marks
Viva –Voce	05 marks
Practical/ Visits Book	05 marks
Experiment/ institutes visits based questions	30 marks
Total	10+ 40 = 50 marks

B.Sc. Semester–VI

Discipline Specific Course (DSC-11)

Course Title:- DACTYLOSCOPY AND DNA FINGERPRINTING

Course Code: C6FSC2T1

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-11	Theory	03	04	60hrs.	3hrs.	20	80	100

Course Outcomes (COs): At the end of the course students will be able to:

- CO1: Understand the different types of finger prints
 CO2: Examine the fingerprints found in crime scene
 CO3: Evaluate the latent prints
 CO4: Understand relevance of fingerprint in crime detection

Unit	Course Title: - DACTYLOSCOPY AND DNA FINGERPRINTING	60 hrs/sem
Unit I	INTRODUCTION TO DACTYLOSCOPY Dactyloscopy: • Meaning, Nature and Importance • Historical Development of Fingerprint Science. • Principles of Fingerprints • Organization and functions of State and Central Fingerprint Bureaus • Evidentiary value of Fingerprint in the Court of Law • Foot prints: Meaning, Types and Importance • Components and measuring of Gait Pattern	15 hrs
Unit II	CLASSIFICATION OF FINGER PRINTS PATTERNS • Finger print patterns: Meaning and Types • Henry's ten Digit Classification of Fingerprints • Battely's Single digit Classification System • Ridge Characteristic. • Chance Prints: Meaning and Types, Poroscopy and Edgeoscopy	15 hrs
Unit III	DEVELOPMENT OF LATENT FINGER PRINTS AND FOOT PRINTS Development of Latent Finger Prints by: • Physical methods for latent fingerprint Development • Chemical methods for latent fingerprint Development • Iodine Fuming Method., Vacuum Metal Deposition (VMD) method Lifting Foot Prints: • Tracing and casting of Foot Prints • Electro Static lifting of latent foot prints.	15 hrs

Unit IV	DNA FINGERPRINTS • Meaning of DNA Fingerprints and Scopes. • Importance of DNA Fingerprints. • Legal Procedures for Conducting DNA Fingerprints. • Different Type's Cases Conduct DNA Fingerprints. • Source of DNA: Blood, Saliva, Hair, Skin tissues and Nail.	15hrs
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References:

1. Akhil Vij, Anoop Namboodiri, (2014) “ *Learning Minutiae Neighborhoods: A New Binary Representation for Matching Fingerprints*”,
2. B.S. Nabar., *Forensic Science in Crime Investigation*, 3rdEdn., Asia Law House, Hyderabad
3. Barry, A.J. Fisher; (2003.) *Techniques of Crime Scene Investigation*, 7th Ed, CRC Press, NY,
4. Bennett, W.W. & Karen, M.Hass, (2001). *Criminal Investigative*, 6th Ed. Worsworth Thompson Learning,
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Formative Assessment for Theory	
Assessment Occasion/type	Marks
InternalAssessmentTest1	05
InternalAssessmentTest2	05
Assignment	10
Total	20Marks
<i>Formative Assessment as per guidelines.</i>	

B.Sc. Semester–VI
Discipline Specific Elective (DSE-3)

Course Title:- ARTIFICIAL INTELLIGENCE IN CRIME INVESTIGATION
Course Code - C6FSC2T2

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSE-3	Theory	03	04	60hrs.	3hrs.	20	80	100

Course Outcome:

- CO 1. Students will be able to develop a fundamental understanding of the concepts, principles, and significance of Artificial Intelligence in crime investigation.
- CO 2. Students will be able to explain the role and applications of Artificial Intelligence in the criminal justice system, including policing, courts, and correctional administration.
- CO 3. Students will be able to apply basic knowledge of Artificial Intelligence to understand its use in crime prevention, crime detection, and criminal investigations.
- CO 4. Students will be able to identify and understand various Artificial Intelligence tools and technologies used in modern policing and law enforcement for effective crime management.

Unit	Course Title: Artificial Intelligence in Crime Investigation	60 hrs/sem
Unit I	Introduction to Artificial Intelligence in Crime Investigation - Artificial Intelligence: Concept, Meaning, Definition, and Scope - Evolution and Development of Artificial Intelligence - Importance and Significance of Artificial Intelligence in Crime Investigation - Applications of Artificial Intelligence in Criminal Intelligence Collection and Analysis - Opportunities, Challenges, and Ethical Issues in the Use of Artificial Intelligence for Law Enforcement	15 hrs
Unit II	Artificial Intelligence in Crime Investigation and Criminal Justice System - Artificial Intelligence in Crime Investigation: Concepts and Applications - Role of Artificial Intelligence in Crime Prevention - Role of Artificial Intelligence in Crime Detection and Investigation - Applications of Artificial Intelligence in the Criminal Justice System - Benefits, Challenges, and Limitations of Artificial Intelligence in Criminal Justice	15 hrs
Unit III	Introduction to Artificial Intelligence Tools in Policing - Surveillance Systems: Concept, Meaning, and Importance in Policing - Closed-Circuit Television (CCTV) Systems as an AI Tool in Policing - Smart Cameras and Video Analytics in Law Enforcement - Facial Recognition Systems (FRS): Applications in Policing - Global Positioning System (GPS) and Geographic Information System (GIS) as AI-Enabled Tools in Crime Prevention and Investigation	15 hrs
Unit IV	Artificial Intelligence in Access Control Systems - Access Control Systems: Concept, Meaning, and Importance in Security - AI-Enabled Barriers and Smart Access Control Technologies	15 hrs

	• Biometric Systems: Types and Applications in Security and Policing • Smart Access Cards and AI-Based Authentication Systems • Role of Artificial Intelligence in Access Control for Crime Prevention and Public Safety	
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7. Russell, S., & Norvig, P. (2021). Artificial Intelligence: A Modern Approach. 4th Edition. Pearson. (Recommended)

Journals

1. Artificial Intelligence and Law. Springer Journal. (Recommended for recent developments.)
2. King, T. C., Aggarwal, N., Taddeo, M., & Floridi, L. (2020). "Artificial Intelligence Crime: An Interdisciplinary Analysis of Foreseeable Threats and Solutions." Science and Engineering Ethics, 26(1), 89–120.

Digital References

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2. https://www.researchgate.net/publication/331099286_Artificial_Intelligence_Crime_An_Interdisciplinary_Analysis_of_Foreseeable_Threats_and_Solutions
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Formative Assessment for Theory	
Assessment Occasion/type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20Marks
<i>Formative Assessment as per guidelines.</i>	

B.Sc. Semester–VI
Discipline Specific Elective (DSE-4)

Course Title :- FORENSIC DOCUMENT AND BALLISTICS

Course Code: C6 FSC2T3

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSE-4	Theory	03	04	60hrs.	3hrs.	20	80	100

Course Outcomes (COs): At the end of the course students will be able to:

CO1: Understand the disputed documents

CO2: Understand the characteristics of handwriting

CO3: Know about the types of ammunition and firearms

CO4: Examine the importance of ballistics in criminal investigation

Unit	Course Title: FORENSIC DOCUMENT AND BALLISTICS	60 hrs/sem
Unit I	INTRODUCTION TO FORENSIC DOCUMENT - Document: Meaning and Definitions - Questioned Document: Meaning, Definitions and Types - Preliminary examination, collection, Handling and Transportation of document. - Organization and functions of Government Examiners for Question Document. - Laboratory analysis and court permission as evidence.	15 hrs
Unit II	FORENSIC DOCUMENT EXAMINATION - Handwriting: Meaning and Principles. - Class and individual characteristics of Handwritings. - Comparison of handwriting: Natural variations and fundamental divergences in handwritings. - Examination of signatures characteristics, Examination of paper and ink. - Forgery: Meaning and Types. I. Alterations in documents. Indented and invisible writings. II. Tools and Techniques for examination and Identification of Forgeries.	15 hrs
Unit III	FORENSIC BALLISTICS - Firearm: Meaning and historical development. - Classification of firearms. - Firing mechanisms of different firearms. - Ammunition: Types of ammunition, Constructional features and characteristics of different types of cartridges and bullets. - Different types of marks produced during firing process on cartridge – firing pin marks, Breech face marks, chamber marks, extractor and ejector marks.	15 hrs

Unit IV	FIREARM EVIDENCE • Matching of bullets and cartridge cases in regular firearms. • Automated method of bullet and cartridge case comparison. • Determination of range of fire and time of fire. • Mechanisms of formation of gunshot residues • Methods of analysis of gunshot residues from shooting hands and targets, with special reference to clothing.	15hrs
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Formative Assessment for Theory	
Assessment Occasion/type	Marks
InternalAssessmentTest1	05
InternalAssessmentTest2	05
Assignment	10
Total	20Marks
Formative Assessment as per guidelines.	

B.Sc. Semester–VI
Discipline Specific Course (DSC-12)

Course Title: FINGERPRINT ANALYSIS

Course Code: C6FSC2P1

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-12	Practical	02	04	56hrs.	3hrs.	10	40	50

Course Outcomes (COs): At the end of the course, students will be able to:

CO1: Understand Different type of fingerprints

CO2: Evaluate Fingerprints as a evidence

CO3: Analyze human skin and fingerprints

CO4: Understand different types of fingerprint identification methods.

List of the Experiments

1. Recording of Fingerprints of a living person.
2. Finger Print Pattern analysis.
3. Identification of Ridge Characteristics.
4. Comparison of Fingerprints
5. Lifting and Identification of Plastic Prints
6. E.R. Henry's classification
7. Developing Latent Fingerprints -Physical methods.
8. Developing Latent Fingerprints -Chemical Methods.
9. Recording of Footprints.
10. Comparison of Footprints.
11. Tracing of Foot Prints
12. Lifting of Sunken Footprints.

Instruction:

Course Teacher and HOD/ Coordinator/ Principal certified practical record book is mandatory for appearing semester end practical examinations

Formative and Summative examination pattern

Internal tests	10 marks
Viva –Voce	05 marks
Practical/ Visits Book	05 marks
Experiment/ institutes visits based questions	30 marks
Total	10+ 40 = 50 marks

B.Sc. Semester – VI

Discipline Specific Course (DSC-PR/IN)

**Course Title: PROJECT WORK/
INTERNSHIP (PR/IN)**

Course Code: C6FSC2P2

Type of Course	Theory / Practical	Credits	Instruction hour/ week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-PR/IN	Practical	02	30	15 days	03 Hrs	50 Report Submission Activities Viva	--	50

Internship:

A course requiring students to participate in a professional activity or work experience, or cooperative education activity with an entity external to the education institution, normally under the supervision of an expert of the given external entity. A key aspect of the internship is induction into actual work situations for 2 credits. Internships involve working with local governments, GOs, NGOs, Cos, Health Sector, Women & Child (such as panchayats, municipalities) or private organizations, business organizations, artists, crafts persons, and similar entities to provide opportunities for students to actively engage in on-site experiential learning.

Note;
1. Credit internship is equal to 30hrs on field experience.
2. Internship shall be Discipline Specific of 45-60 hours (2 credits) with duration 2 weeks (15 days.)
3. Internship may be full-time (full-time during last 2 weeks (15 days) before closure of the semester). College shall decide the suitable method for programme wise but not subject wise.
4. Internship mentor/supervisor shall avail work allotment during 6 th semester for a maximum of 20 hours.
5. The student should submit the final internship report to the mentor for completion of the internship. (Report submission after every 5 days (3 Reports))
6. Method of evaluation: Presentations/Report submission/Activity/Viva-Voce etc.
7. Based on the requirement of the program, the students are expected to work in Institutions like Forensic Labs, B.P.R & D., Police Stations, Women and Children Welfare Departments, Police Training Centers, NGOs or Institutions allied with Criminal Justice System (Subject to approval from the concerned Institutions) as a part of the Internship Course.
8. The students are expected to work in affiliation with these Institutions and document their experiences and learning outcome weekly to the Department.
9. Submission of an Internship Report is mandatory towards the end of the Semester.

Formative Assessment	
Report Submission	10
Assessment / Methodology	10
Presentation	10
Viva	20
Total	50

B.Sc. Semester–IV/ V/VI

Skill Enhancement Course (SEC)

Student shall study SEC in any one of the Semesters either in IV or V or VI semester

College shall decide to allot the students

Course Title: STUDY OF MARKS AND IMPRESSION

Course Code: C0FSC6T1

Type of Course	Theory /Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours /Semester	Duration of Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
SEC	Practical	02	04	56hrs.	3hrs.	10	40	50

Course Outcomes (COs): At the end of the course, students will be able to:

CO 1: Understand the importance of Glass Fractures in Crime Scene Analysis

CO 2: Develop the necessary investigation skills to become Scene of crime experts

CO 3: Understand the importance of Physical evidence

CO 4: Recognise the importance of Footprints in estimation of Anthropometric Measurements.

List of the Experiments

1. Examination of Glass Fractures for Determination of its Nature and Direction of Force.
2. Examination of Burnt Glass
3. Examination of Currency Notes
4. Examination of Coins for their Authenticity.
5. Comparison of Different Tool Marks.
6. Tool marks from blunt object and sharp object
7. Examination of Tyre Marks
8. Examination of Skid Marks and Identification of Speed and Weight of a Vehicle.
9. Identification of Accidents Vehicle
10. Examination of Surface footprints
11. Analysis of Sunken Footprint
12. Estimation of Height of a Person based on His/her Footprint by Anthropometric Measurements.

Instruction:

Course Teacher and HOD/ Coordinator/ Principal certified practical record book is mandatory for appearing semester end practical examinations

Formative and Summative examination pattern

Internal tests	10 marks
Viva –Voce	05 marks
Practical Record Book	05 marks
Experiment based questions	30 marks
Total	10+ 40 = 50 marks

Model Question Paper

B.Sc. Forensic Science and Criminology

GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC

(80 marks for semester end Examination with 3hrs duration)

Part-A

1. Question number 1-10 carries 2 marks each. Answer all of the questions : 20 marks

Part-B

2. Question number 11- 18 carries 5 Marks each. Answer any 06 questions : 30 marks

Part-C

3. Question number 19-22 carries 10 Marks each. Answer any 3 questions : 30 marks

(Questions must be covered with all the units equally)

Total: 80 Marks