



KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್&ಟಿ) ವಿಭಾಗ



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NAAC Accredited
'A' Grade 2014

website: kud.ac.in

No. KU/Aca(S&T)/JS/MGJ(Gen)/2023-24/59

Date: 04/09/2023

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2023-24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಪದವಿಗಳಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮಿಸ್ಟರ್
NEP-2020 ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

- ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ
ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 104 ಯುಎನ್‌ಇ 2023, ದಿ: 20.07.2023.
2. ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 2 ರಿಂದ 7, ದಿ: 31.08.2023.
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 04/09/2023

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2023-24ನೇ
ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music) /BVA / BTTM / BSW/ B.Sc./B.Sc. Pulp &
Paper Science/ B.Sc. (H.M)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS) / BBA & BA ILRD ಸ್ನಾತಕ ಪದವಿಗಳ 5
ಮತ್ತು 6ನೇ ಸೆಮಿಸ್ಟರ್‌ಗಳಿಗೆ NEP-2020ರ ಮುಂದುವರಿದ ಭಾಗವಾಗಿ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ
ಕೋರ್ಸಿನ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಭಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ.
ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ್ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ
ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ/ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ
ಸೂಚಿಸಲಾಗಿದೆ.

ಅಡಕ: ಮೇಲಿನಂತೆ


ಕುಲಸಚಿವರು.

ಗೆ,

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

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ
ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.



KARNATAK UNIVERSITY, DHARWAD

**BA/B.Sc. in Criminology and Forensic
Science**

SYLLABUS

With Effect from 2023-24

DISCIPLINE SPECIFIC CORE COURSE (DSCC) FOR SEM V & VI,

SKILL ENHANCEMENT COURSE (SEC) FOR SEM V

AS PER N E P - 2020

Karnatak University, Dharwad
B.A / B.Sc. in Criminology and Forensic Science
 Effective from 2023-24

Sem.	Type of Course	Theory/ Practical	Course Code	Course Title	Instructi onhour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summative	Total	
V	DSCC-9	Theory	B.A : 015FSC011 B.Sc. : 035FSC011	Medical Jurisprudence and Toxicology	04hrs	56	02 hrs	40	60	100	04
	DSCC-10	Practical	B.A : 015FSC012 B.Sc. : 035FSC012	Medico-legal Examination	04 hrs	56	03 hrs	25	25	50	02
	DSCC-11	Theory	B.A : 015FSC013 B.Sc. : 035FSC013	Digital Forensics and Cybercrime	04hrs	56	02 hrs	40	60	100	04
	DSCC-12	Practical	B.A : 015FSC014 B.Sc. : 035FSC014	Digital Forensics Examination	04 hrs	56	03 hrs	25	25	50	02
	SEC	Practical	B.A : 015FSC061 B.Sc. : 035FSC061	Techniques and Ethics in Interrogation	04hrs	56	03 hrs	25	25	50	02
VI	DSCC-13	Theory	B.A : 016FSC011 B.Sc. : 036FSC011	Forensic Dactyloscopy and DNA Fingerprinting	04hrs	56	02 hrs	40	60	100	04
	DSCC-4	Practical	B.A : 016FSC012 B.Sc. : 036FSC012	Examination of Fingerprints and Footprints	04 hrs	56	03 hrs	25	25	50	02
	DSCC-15	Theory	B.A : 016FSC013 B.Sc. : 036FSC013	Corporate Crimes	04hrs	56	02 hrs	40	60	100	04
	DSCC-16	Practical	B.A : 016FSC014 B.Sc. : 036FSC014	Examination of Frauds and Corporate Crimes	04 hrs	56	03 hrs	25	25	50	02
	Internship-1		B.A : 016FSC091 B.Sc. : 036FSC091	Internship				50	0	50	02

B.A / B.Sc. Semester – V

Discipline Specific Course (DSC)-9

Course Title: MEDICAL JURISPRUDENCE AND TOXICOLOGY (THEORY)

Course Code:- B.A : 015FSC011

B.Sc. : 035FSC011

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
DSCC-9	Theory	04	04	56 hrs.	2hrs.	40	60	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	Title:	56.hrs/sem
Unit I	<p>MEDICAL JURISPRUDENCE AND TOXICOLOGY CHAPTER- 1 INTRODUCTION TO JURISPRUDENCE</p> <ul style="list-style-type: none"> • Meaning and definition. • 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. • Infamous conduct, Professional secrecy and privileged communications, Medical Ethics and prohibition of Torture & care of Torture Victims. • Consent – Its relevance in Medical Practice & medical record maintenance. <p>CHAPTER- 2 MEDICAL JURISPRUDENCE</p> <ul style="list-style-type: none"> • Medical Negligence and contributory negligence, Precautionary measures and defenses for Medical Practitioners against legal actions, Medical/Doctors indemnity insurance, Consumer Protection Act relevant to medical practice. • Euthanasia – Current views and dilemmas, Different codes of Medical Ethics and Ethics in Research. • Common medico-legal problems in Hospital practice, Medico-legal, ethical & social problems in relation to AIDS. 	14 hours
Unit II	<p>INTRODUCTION TO FORENSIC MEDICINE CHAPTER- 3 MEANING OF FORENSIC MEDICINE</p> <ul style="list-style-type: none"> • Definition, Scope relevant Forensic Medicine. • History of Forensic Medicine. • Need, Scope, Importance and probative value of medical evidence in Crime investigation. 	14 hours

	<p>CHAPTER- 4 THANATOLOGY</p> <ul style="list-style-type: none"> • 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. 	
Unit III	<p>FORENSIC TOXICOLOGY</p> <p>Chapter- 5 INTRODUCTION TO TOXICOLOGY</p> <ul style="list-style-type: none"> • Introduction to Toxicology • Epidemiology of poisoning • General consideration and Laws in relation to poisons / Narcotic drugs and Psychotropic substances Act, • Duties and Responsibilities of attending Physician. • Basics of Environmental and Industrial Toxicology in relation to Health & Ecology; • Common poisons and their classification, Identification of common poisons, • 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. <p>Chapter- 6 CORROSIVE & IRRITANT POISONS:</p> <ul style="list-style-type: none"> • 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, Calotropiss, Semicarpus, Ergot. • Organic Animal Irritants – Snake Bite, Scorpion & other common insect bites diagnosis and Management; Medicolegal Aspects • Mechanical Irritants- diagnosis and treatment & Medicolegal Aspects 	14 hours
Unit IV	<p>MAJOR POISONS</p> <p>CHAPTER -7 NEUROTOXIC</p> <ul style="list-style-type: none"> • Inebriates- Ethyl Alcohol, Methyl Alcohol • Somniferous and Sedative Hypnotics – Opium and Derivatives, Barbiturates • Deliriant- Dhathura, Cannabis, Cocaine. • Insecticides/ Pesticides/ Agrochemical- Organo-phosphorus Compounds. Organo-chlorides, Carbamates Pyrethroids, Aluminium phosphide. • Spinal Poisons- Strychnine • Peripheral Poisons- Curare <p>CHAPTER -8 ASPHYXIANTS AND OTHER POISONS</p> <ul style="list-style-type: none"> • Asphyxiants (gases)- Carbon monoxide, Carbon Dioxide, Cyanogens and Cyanides • Cardiac poisons- Oleanders, Aconite, Tobacco • Other poisons: Domestic/ Household Poisons- Kerosene, Detergents, Disinfectants, Cosmetics, Rodenticide mothballs etc. . Therapeutic Drug Toxicity/ poisoning by Medicines- Salicylates, Paracetamol, Newer derivatives of sedatives Food Poisoning- Bacterial, Viral, Mushrooms, Chemical etc. iv. Drugs of dependence and Drug Abuse. 	14 hours

References:

1. Andrew R.W.Jackson, Julie M Jackson, 2011, “Forensic Science”, Pearson Education Limited.
2. B.S.Nabar , 2001, forensic science in Crime Investigation”, Asia law House.
3. J C Upshaw Downs, Anjali Ranadive, Swienton , 2002, “Ethics in Forensic Science, AcademicPress Publications.
4. Jay A Siegel, KatheyMirakovits, 2013, “Forensic Science: The Basics”, CRC press.
5. Jim Fraser, Robin Williams, 2013, ”Hand book of Forensic Science”, Routldge publications.
6. Max.M.Houck, Jay A Siegal,2010, “Fundamentals of Forensic Science” Academic Press.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	40 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A / B.Sc. Semester – V

Discipline Specific Course (DSC)-10

Course Title: MEDICO-LEGAL EXAMINATION (PRACTICAL)

Course Code: B.A : 015FSC012

B.Sc. : 035FSC012

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
DSCC-10	Practical	02	04	56 hrs.	3hrs.	25	25	50

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

CO1: To demonstrate a clear understanding of the legal procedures and protocols involved in medico-legal examinations.

CO2: To be capable of properly collecting, documenting, and preserving physical evidence in accordance with legal standards.

CO3: To accurately assess and document injuries sustained by individuals, whether they are victims of accidents, assaults, or other incidents.

CO4: To be prepared to provide expert testimony in court if required.

Expt. No,	Title:	56.hrs/sem
Unit-I	INTRODUCTION TO MEDICO-LEGAL EXAMINATION 1. Medico-legal Aspects of Homicidal, Suicidal and Accidental. 2. Examination of human skeleton. 3. Identification of Sex and Age through Bone remains. 4. Examination of different wounds and Injuries.	(28 Hrs)
Unit-II	EXAMINATION OF HAIR AND FIBER 5. Examination of hair. 6. Morphology of hair. 7. Examination and Comparison of Natural and Synthetic fibers.	(28 Hrs)

Instruction to the Examiners

1. Conduct experiments.
2. Applying forensic techniques.
3. Introduction and overview.
4. Legal framework and Ethics.
5. Evidence collection and Preservation.
6. Assessment and Documentation.

Formative Assessment

Journal	-	05
IA Test 1 st & 2 nd	-	20 (10+10)
Total	-	25

Summative Assessment for Practical	
Assessment	Distribution of Marks
Record	05
Plan, Procedure & Conduction	05
Results & Discussion	05
Applying Forensic Techniques	05
Viva	05
Total	25 Marks

B.A / B.Sc. Semester – V

Discipline Specific Course (DSC)-11

Course Title: DIGITAL FORENSICS AND CYBERCRIME (THEORY)

Course Code: B.A : 015FSC013

B.Sc. : 035FSC013

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
DSCC-11	Theory	04	04	56 hrs.	2hrs.	40	60	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	Title:	56.hrs/sem
Unit I	<p>INTRODUCTION TO DIGITAL FORENSICS</p> <p>CHAPTER- 1 BASICS OF COMPUTER</p> <ul style="list-style-type: none"> Basic Computer Knowledge, types of computers, components of computer, input and output devices, operating system types. Computer memory - Volatile and Non-Volatile memory, types of storage media – Hard Drive, SSD, Optical Devices. <p>CHAPTER- 2 BASICS OF DIGITAL FORENSICS</p> <ul style="list-style-type: none"> Introduction and Principles of Digital Forensics, Good Forensic Practices, Daubert's Standards. Collection of Evidence - Single System, Networked System and Remote System. Search and Seizure of Volatile and Non-volatile Digital Evidence, Imaging and Hashing of Digital Evidences. Introduction to Deleted File Recovery, Steganography and Steganalysis, Data Recovery Tools and Procedures. Importance of Log Analysis in Forensic Analysis. Validating Forensic Data, Addressing Data-Hiding Techniques, Performing Remote Acquisition, data carving. <p>CHAPTER 3 NETWORK AND MOBILE FORENSICS</p> <ul style="list-style-type: none"> Monitoring of computer network and activities, Live Packet Capturing and Analysis. Network Intrusion, Detection and Analysis. Network Devices – hubs, Switches, routers, repeaters. Basic HTTP, World Wide Web, Web Browsers, Web Servers, Domain Names, URL and DNS. IP addressing –types and classes. Types of Networks – LAN, MAN and WAN. Investigating network attacks. Evidence collection from Routers & CCTV DVRs. 	14 hours

	<ul style="list-style-type: none"> • Mobile volatile memory analysis, memory image analysis, recovering cached and internet artifacts, internet browsing artifacts, runtime disk explorer, memory dump analyzer, crash dump analyzer, cryptoanalysis. • Types of Evidence present in mobile phones - Files present in SIM card, phone memory dump, and evidences in memory card. • Seizure and Preservation of mobile phones and PDA. Mobile phone evidence extraction process. • Tracking of mobile phone location. Analysis of mobile data like SMS, call logs, contacts, media files, recordings and important mobile application data. • CDR and IPDR analysis. 	
Unit II	<p>INTRODUCTION TO CYBERCRIMES</p> <p>CHAPTER – 4 DEFINING CYBERSPACE AND CYBERCRIMES</p> <ul style="list-style-type: none"> • Cyberspace: -Concept of Cyberspace, Emergence of Cyberspace, Nature & Meaningof Cyberspace, Attributes of Cyberspace. • Definition and Origin; Distinction between Cyber Crime and Conventional Crime • Information Technology - its meaning and importance in the daily life of people in modern societies. <p>CHAPTER- 5 TYPES OF CYBERCRIMES</p> <ul style="list-style-type: none"> • Crimes targeting Computers: Unauthorized Access, Packet Sniffing, Malicious Codes including Trojans, Viruses, Logic Bombs, Password Sniffing, Denial-of-service (DOS) attack, Backdoors and Malwares and its types, E-mail Bombing, Salami Attack, Software Piracy, Industrial Espionage, Intruder attacks. • Cybercrimes against Individuals – E-mail spoofing and online frauds, Phishing and its forms, Spamming, Cyber-defamation, Cyberstalking, Cyber Bullying and harassment, Computer Sabotage, Pornographic offenses, Key loggers and Screen loggers. • Phases of cyber-attack – Reconnaissance, Passive Attacks, Active Attacks, Scanning, Gaining Access, Maintaining Access, Lateral movement and Covering Tracks. • Different types of tools used in cybercrime. 	14 hours
Unit III	<p>CYBER RELATED LAWS AND ENFORCEMENT AGENCIES</p> <p>CHAPTER – 6 REGULATORY FRAMEWORK OF INFORMATION AND TECHNOLOGY ACT</p> <ul style="list-style-type: none"> • 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.s • Regulation of Certifying Authorities, Appointment and Powers and Functions of Controller, Cyber Appellate Tribunal. <p>CHAPTER- 7 INVESTIGATION OF CYBER CRIMES</p> <ul style="list-style-type: none"> • Investigation of malicious applications Agencies for investigation in India, their powers and their constitution as per Indian Laws Procedures. • Procedure for Search and seizure of digital evidences in cyber-crime incident. Forensics Investigation Process - Pre-search consideration, Acquisition, Duplication& Preservation of evidences, Examination and Analysis of evidences, Storing of Evidences, Documentation and Reporting, Maintaining the Chain of Custody. • Data Acquisition of live system, Shutdown Systems and Remote systems, servers. E-mail Investigations, Password Cracking. 	14 hours

	<ul style="list-style-type: none"> • Seizing and preserving mobile devices. Methods of data acquisition of evidence from mobile devices. Data Acquisition and Evidence Gathering from social media. Performing Data Acquisition of encrypted systems. • Challenges and issues in cyber-crime investigation. • Intellectual Property Rights in the Cyber World. 	
Unit IV	<p>CYBER SECURITY</p> <p>CHAPTER -9 INTRODUCTION TO CYBER SECURITY</p> <ul style="list-style-type: none"> • Evolution and Impact of Internet, Internet Services, Concept of World Wide Web, History of World Wide Web, Purpose of Web, Functioning & Mechanism of Web. • Introduction to Cyber Security. Confidentiality, Integrity and Availability – Triad. • Attacks: Threats, Vulnerabilities and Risk. Risk Management, Risk Assessment and Analysis. Information Classification, Policies, Standards, Procedure and Guidelines. • Controls: Physical, Logical and Administrative; Security Frameworks, Defence in-depth: Layers of Security. • Identification and Authentication Factors. Authorization and Access Controls- Models, Methods and Types of Access Control. <p>CHAPTER- 10 NETWORK ARCHITECTURE & SECURITY</p> <ul style="list-style-type: none"> • Network Scanning, Eaves dropping techniques and counter measures. Network security including firewalls. Networks and vulnerabilities, networking software - Client side and server side, secure network infrastructure, security protocol layers, create usage policy, conduct risk analysis, security violation and restoration. • Network security zone, encapsulation of network services, allocation of traffic control functions. • DNS Enumerations, Analysis of Deep web/ dark web. • IP security architecture, Security protocols, IPSec, Web Security – Firewalls, IDS, IDPS – Types and Technologies. • Authentication Mechanisms: Passwords, Cryptographic authentication protocol, Kerberos, X.509 LDAP Directory. Digital Signatures. Web Security: SSL Encryption, TLS, SET. Intrusion detection. 	14 hours

References:

1. Aaron Philipp, David Cowen, Chris Davis; Hacking Exposed Computer Forensics Second Edition, McGraw Hill, USA, 2010.
2. Bill Nelson, Amelia Phillips and Christopher Steuart; “Guide to Computer Forensics and Investigations” – 3rd Edition, Cengage, 2010 BBS.
3. Cory Altheide and Halan Carvey; “Digital Forensics with Open Source Tools”, Syngress Publication.
4. Harish Chander; “Cyber Laws and IT Protection”, PHI Learning Pvt. Ltd, 2012.
5. LNIN National Institute of Criminology and Forensic Science, “A Forensic Guide for Crime Investigators – Standard Operating Procedures”, LNIN NICFS, 2016.
6. Matt Bishop, “Computer Security Art and Science”, Pearson/PHI, 2002.
7. Michael E Whiteman and Herbert J Mattord; “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003.
8. Nina Godbole and Sunit Belapore; “Cyber Security: Understanding Cyber Crimes, Computer Forensics and Legal Perspectives”, Wiley Publications, 2011.
9. Sherri Davidoff and Jonathan Ham; “Network Forensics – Tracking Hackers through Cyberspace”, Pearson Publications, 2012.
10. Vakul Sharma; “Information Technology: Law and Practice”, Universal Law Publishing Co.,India, 2011.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	40 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A / B.Sc. Semester – V

Discipline Specific Course (DSC)-12

Course Title: DIGITAL FORENSIC EXAMINATION (PRACTICAL)

Course Code: B.A : 015FSC014

B.Sc. : 035FSC014

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
DSCC-12	Practical	02	04	56 hrs.	3hrs.	25	25	50

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

CO1: To demonstrate the ability to effectively collect, preserve, and document digital evidence from various sources such as computers, mobile devices, and network logs.

CO 2: To exhibit proficiency in conducting thorough forensic analysis of digital evidence.

CO 3: To understand the legal and ethical considerations that pertain to digital forensics investigations.

CO 4: To develop strong report writing and communication skills.

Expt. No,	Title:	56.hrs/ sem
Unit-I	INTRODUCTION TO DIGITAL FORENSIC EXAMINATION 1. Encrypting and decrypting the partition using Bit locker. 2. Analyzing hidden files and folders including slack space for evidence. 3. Understanding Network Devices: Modem, Router, Switch, Hub, Repeater. 4. Email and IP Tracking Techniques.	(28Hrs)
Unit-II	EXAMINATION DIGITAL DATA SOURCES 5. Understanding Data Packet Sniffers. 6. Open-Source Forensic Tools. 7. Disk Forensics and Data Recovery.	(28Hrs)

Instruction to the Examiners

1. Conduct experiments.
2. Applying forensic techniques.
3. Introduction and overview.
4. Legal framework and Ethics.
5. Evidence collection and Preservation.
6. Assessment and Documentation.

Formative Assessment

Journal	-	05
IA Test 1 st & 2 nd	-	20 (10+10)
Total	-	25

Summative Assessment for Practical	
Assessment	Distribution of Marks
Record	05
Plan, Procedure & Conduction	05
Results & Discussion	05
Applying Forensic Techniques	05
Viva	05
Total	25 Marks

B.A / B.Sc. Semester – V

Skill Enhancement Course: SEC-3

Course Title: TECHNIQUES AND ETHICS IN INTERROGATION.

Course Code: B.A : 015FSC061

B.Sc. : 035FSC061

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
SEC-3	Practical	02	04	56 hrs.	3hrs.	25	25	50

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

CO 1: To understand the Preparation, Techniques, Ethics and Observation involved in the interrogation process within the field of Criminology and Forensic Science

CO 2: Understand the importance of effective interrogation in criminal investigation.

CO 3: Learning various interrogative techniques and their applications.

CO 4: Develop skills to ethically conduct interrogations and handle sensitive situations.

CO 5: Gain Proficiency in observing and analyzing verbal and non-verbal cues during interrogation.

Expt. No	Title:	56.hrs/sem
UNIT-I	INTRODUCTION TO INTERROGATION 1. Importance and Historical overview of Interrogation in Criminal Investigation. 2. Developing Pre-Interrogation Strategy. 3. Direct Questioning and Types of Interviewing. 4. Rapport Building, Active Listening, Empathy and Understanding in Interrogation.	28 hours
UNIT-II	OBSERVATIONAL SKILLS AND ETHICAL CONSIDERATIONS IN INTERROGATION 1. Human Rights and Interrogation. 2. False Confessions and Cultural Sensitivity in Interrogation. 3. Verbal and Non-Verbal clues, Microexpressions. 4. Body Language, Detecting Deception and Truthfulness.	28 hours

References:

1. Inbau, F.E., Reid, J.E., Buckley, J.P., & Jayne, B.C.(2013). *Criminal Interrogation and Confessions*. Jones & Bartlett Learning.
2. Godwin, G.M. (2018). *Criminal Psychology and Forensic Technology: A Collaborative Approach to Effective Profiling*. CPC Press.
3. Gordaon, N.J., & Fliesher, W.L.(2013). Effective Interviewing and Interrogation Techniques*. Academic Press.
4. Knapp,M.L., & Hall, J.A. (2010). *Non-verbal Communication in Human Interaction*. Wadsworth.
5. Leo, R.A.(2008). *Police Interrogation and American Justice*. Harvard University Press.
6. Oxburgh, G., Myklebust, T., Grant, T., & Milene,R.(2016). Investigative Interviewing: The Conversation Management Approach*. Wiley.
7. Turvey, B.E., & Crowder, S. (2019). *Ethical Justice: Applied Issues for Criminal Justice Students and Professionals*. Academic Press.

Instruction to the Examiners

1. Conduct experiments.
2. Applying Forensic Techniques.
3. Introduction and Overview.
4. Legal framework and Ethics.
5. Evidence collection and Preservation.
6. Assessment and Documentation.

Formative Assessment

Journal	-	05
IA Test 1 st & 2 nd	-	20 (10+10)
Total	-	25

Summative Assessment for Practical	
Assessment	Distribution of Marks
Record	05
Plan, Procedure & Conduction	05
Results & Discussion	05
Applying Forensic Techniques	05
Viva	05
Total	25 Marks

**B.A / B.Sc. in Criminology and
Forensic Science
VI Semester**

W. e. f.: 2023-24

B.A / B.Sc. Semester – VI

Discipline Specific Course (DSC)-13

Course Title: FORENSIC DACTYLOSCOPY AND DNA FINGERPRINTING (THEORY)

Course Code: B.A : 016FSC011

B.Sc. : 036FSC011

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
DSCC-13	Theory	04	04	56 hrs.	2hrs.	40	60	100

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

CO 1: Understanding the concept of Forensic Dactyloscopy and DNA and its significance.

CO 2: Familiarizing the fundamental principles and Laws of Individuality.

CO 3: To gain insights of crimes, scams and their investigation in Indian context.

CO 4: To understand the forensic importance of Forensic Dactyloscopy and DNA in CJS.

Unit	Title:	56.hrs/sem
UNIT I	<p>INTRODUCTION TO DACTYLOSCOPY</p> <p>CHAPTER -1 MEANING OF DACTYLOSCOPY</p> <ul style="list-style-type: none"> • Meaning and Scope; Print Science, Importance of Print Science. • Morphology of Fingerprints and Footprints. • Basic Features and Principles of Fingerprints. • Historical Development of Print Science. • Organization of State and Central Fingerprint Bureaus, Embryo genesis. • Dermatological formation and Diseases influence on the damages of fingerprints, Biometric uniqueness, and Finger prints as Evidence. <p>CHAPTER -2 CLASSIFICATION OF FINGER PRINTS PATTERNS</p> <ul style="list-style-type: none"> • Meaning and importance of classification of finger print patterns. • Explaining various types of classification of Finger prints; • Henry classification and its examination' • Secondary Classification System. • Sub- Secondary Classification System. • Secondary Sub- Secondary Classification System. • Key Classification • Final Classification and Single digit Classification System • Fingerprint Patterns: Fingerprint Peculiarities/Minutiae and Characteristic. <p>CHAPTER -3 SIGNIFICANCE OF PALM PRINTS</p> <ul style="list-style-type: none"> • Significance of palm prints, Ridges and characteristics, Ridge counting, Minutiae, Poroscopy and Edgescopy, • Characteristics of pores – size, position and latent print formation of pores. 	14 hours

Unit II	<p>DEVELOPMENT OF FINGER PRINTS. CHAPTER- 4 DEVELOPMENT OF FINGER PRINTS</p> <ul style="list-style-type: none"> • Types of Chance Prints at Scene of Crime • Development of Latent Finger Prints. <p>CHAPTER-5 PHYSICAL METHODS FOR LATENT FINGERPRINT DEVELOPMENT</p> <ul style="list-style-type: none"> • Powder Methods: Regular: - Black powder and white powder. Metallic: Aluminum powder and Magnetic black powder. Fluorescent: Greenescent and Pinkescent fluorescent powders. • Iodine Fuming Method. <p>CHAPTER-6 CHEMICAL AND PHOTOGRAPHY METHODS FOR FINGERPRINT DEVELOPMENT</p> <ul style="list-style-type: none"> • Gentian Violet, Cyanoacrylate and Silver Nitrate Method. • Ninhydrin Method etc. • Developing of Latent Prints and Visible prints by Slanting Photograph. <p>CHAPTER-7 BIOMETRIC, DIGITAL IMAGING AND GREEN METHODS</p> <ul style="list-style-type: none"> • Forensic application of Biometrics, Biometric Impression on Scanner/Live Scans. • Application of digital imaging process in Fingerprint science. • AFIS application in Police and Finger Print Bureau, Application of light sources infingerprint detection. 	14 hours
Unit III	<p>FOOTPRINTS CHAPTER- 8 DEVELOPMENT OF FOOT PRINTS</p> <ul style="list-style-type: none"> • Meaning, Types, Importance • Tracing of surface foot prints • Casting and lifting of surface and sub-sunken footprints. • Gait pattern analysis • Determination of Sex, Height, Age of a person 	14 hours
Unit IV	<p>DNA Finger Prints CHAPTER -9 MEANING AND IMPORTANCE OF DNA FINGER PRINTS</p> <ul style="list-style-type: none"> • Meaning of DNA Finger Prints and Scopes • Importance of DNA finger Prints • Legal procedure for conducting DNA finger Prints • Different type's cases conduct DNA Finger Prints. <p>CHAPTER – 10 LEGAL PROVISIONS OF DNA FINGER PRINTS.</p> <ul style="list-style-type: none"> • Source of DNA: Blood, Saliva, Hair, Skin Tissues and Nail etc. 	14 hours

References:

1. Andrew R.W.Jackson, Julie M Jackson, 2011, “ Forensic Science”, Pearson Education Limited.
2. B.S.Nabar , 2001, forensic science in Crime Investigation”, Asia law House.
3. J C Upshaw Downs, Anjali Ranadive, Swienton , 2002, “Ethics in Forensic Science, Academic Press Publications.
4. Jay A Siegel, KatheyMirakovits, 2013, “ Forensic Science: The Basics”, CRC press.
5. Jim Fraser, Robin Williams, 2013,”Hand book of Forensic Science”, Routlidge publications.
6. Max.M.Houck, Jay A Siegal,2010, “Fundamentals of Forensic Science” Academic Press.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	40 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A / B.Sc. Semester – VI

Discipline Specific Course (DSC)-14

Course Title: EXAMINATION OF FINGERPRINTS AND FOOTPRINTS(PRACTICAL)

Course Code: B.A : 016FSC012

B.Sc. : 036FSC012

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
DSCC-14	Practical	02	04	56 hrs.	3hrs.	25	25	50

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

CO1: To demonstrate the ability to properly identify and classify different types of Fingerprints and footprints.

CO2: To learn and apply appropriate techniques for collecting and preserving Fingerprint and Footprint evidence.

CO3: To develop the skills to compare and analyze Fingerprint and Footprint patterns.

CO4: To understand the role of Forensic experts in legal proceedings and be able to effectively communicate their findings and conclusions.

Expt. No,	Title:	56.hrs/sem
Unit-I	Examination of Fingerprints 1. Recording of fingerprints – Pattern analysis. 2. Identification of Ridge Characteristics. 3. Ridge tracing & ridge counting, Comparison of fingerprints 4. Developing latent fingerprints – Physical methods & Chemical Methods	(28 Hrs)
Unit-II	EXAMINATION OF FOOTPRINTS 5. Recording of foot prints. 6. Identification of Gait patterns 7. Tracing of surface footprints 8. Casting method of Sunken footprints	(28 Hrs)

Instruction to the Examiners

1. Conduct experiments.
2. Applying forensic techniques.
3. Introduction and Overview.
4. Legal framework and Ethics.
5. Evidence collection and Preservation.
6. Assessment and Documentation.

Formative Assessment

Journal	-	05
IA Test 1 st & 2 nd	-	20 (10+10)
Total	-	25

Summative Assessment for Practical	
Assessment	Distribution of Marks
Record	05
Plan, Procedure & Conduction	05
Results & Discussion	05
Applying Forensic Techniques	05
Viva	05
Total	25 Marks

B.A / B.Sc. Semester – VI

Discipline Specific Course (DSC)-15

Course Title: CORPORATE CRIMES (THEORY)

Course Code: B.A : 016FSC013

B.Sc. : 036FSC013

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
DSCC-15	Theory	04	04	56 hrs.	2hrs.	40	60	100

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

CO1: Understand the definition, nature, role of Corporate Crimes.

CO2: Explain the basic elements and major scope, types of Corporate Crimes.

CO3: Understanding the various types of corporate crimes occurred in India.

CO4: To know the existing Laws and Preventive measures towards Corporate Crimes in India.

Unit	Title:	56.hrs/sem
Unit I	INTRODUCTION CORPORATE CRIMES CHAPTER-1 NATURE OF CORPORATE CRIME <ul style="list-style-type: none"> • Meaning and Definition of Corporate Crimes. • Various Types of Corporate Crimes • Famous Cases of Corporate Crimes. CHAPTER- 2 FORMS OF CORPORATE CRIMES <ul style="list-style-type: none"> • Bankruptcy related Frauds • Exploiting assets and scams • Mortgage Frauds • Share Sale Frauds 	14 hours
Unit II	CORPORATE FRAUDS CHAPTER- 3 VARIOUS KINDS OF CORPORATE FRAUDS IN INDIA. <ul style="list-style-type: none"> • Meaning & Definition of Fraud • Types of Fraud: - Individual & Corporate • Characteristics of Fraud • Trends of Scams: National & Global Perspective. CHAPTER- 4 FRAUD IN BANKING SECTOR <ul style="list-style-type: none"> • Definition & Scope of Fraud in Banking Sector • Banking Impersonation. CHAPTER- 5 TYPES OF FRAUDS <ul style="list-style-type: none"> • Fraud against Accounts. • Fraud against Card (Debit/Credit) • Electronic Fraud and Miscellaneous Fraud 	14 hours

Unit III	INTRODUCTION TO INSURANCE FRAUDS CHAPTER- 6 MEANING OF INSURANCE FRAUDS <ul style="list-style-type: none"> • Definition, Nature and Scope of Insurance. • Losses due to Insurance Frauds. CHAPTER- 7 TYPES OF INSURANCE FRAUD <ul style="list-style-type: none"> • Property Insurance • Motor Vehicle Insurance • Health Insurance • Role of Investigation in Insurance Frauds 	14 hours
Unit IV	PREVENTION OF CORPORATE CRIMES CHAPTER- 8 MEASURES IN PREVENTING CORPORATE CRIMES IN INDIA. <ul style="list-style-type: none"> • Laws, Regulation and Supervision. • Corporate Governance. CHAPTER-9 PRIVATE SECTOR IN INDIA <ul style="list-style-type: none"> • Governance of Private Sectors in India. • Laws, Regulation and Supervision • Suspicious transaction reporting 	14 hours

References:

1. Anabui, Farad and Kakabadase, Andrew, 2004, Corporate sabotage, Jaico Publishing House.
2. Blum Richard H, 1972, Deleivers and Deceived, Charles, C. Thomas Publishers.
3. Bologna, Jack, 1984, Corporate Fraud, Butterworth Publishers.
4. Celia Wells, "Corporations and Criminal Responsibility".
5. Essential Commodities Act, 1955, 2005, Universal Law Publishing Co. Pvt. Ltd.
6. Ghosh Murrain, 1979, Black money – The case for India, Subarna Rekha, Calcutta.
7. Green Timothy, 1977, The Smuggling Business, Aldus Books, London. Internationally, Kogan Pagr Ltd.
8. Lal Bhure, 2003, Money Laundering: An insight into the dark world of Financial Frauds, Siddharth Publications.
9. Nabhi's Income Tax Guidelines and Mini Ready Reeckoner, 2009, Anabhi Publication Bare Acts.
10. PitchandiNand Sivamurthy A, 1985, Insurance Frauds, the Indian Society of Criminology, Department of Psychology, Madras.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	40 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A / B.Sc. Semester – VI

Discipline Specific Course (DSC)-16

Course Title: EXAMINATION OF FRAUDS AND CORPORATE CRIMES (PRACTICAL)

Course Code: B.A : 016FSC014

B.Sc. : 036FSC014

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
DSCC-16	Practical	02	04	56 hrs.	3hrs.	25	25	50

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

CO 1: Course Outcome: To identify various types of fraudulent activities and corporate crimes, including financial fraud, embezzlement, insider trading, and money laundering.

CO2: To gain proficiency in utilizing forensic examination techniques to gather and analyze evidence related to fraud and corporate crimes.

CO3: To develop an understanding of the legal and ethical implications surrounding fraud and corporate crimes.

CO4: To learn to conduct risk assessments to identify vulnerabilities that could lead to fraudulent activities.

CO5: To enhance their communication skills by preparing concise and accurate reports based on their findings from the examination of fraud and corporate crimes.

Expt. No,	Title:	56.hrs/sem
Unit-I	ANALYSIS OF CORPORATE CRIMES 1. To analysis the popular Indian Corporate Crimes. 2.Examination and Identification of the Forged Documents, Viz., a. EPIC (Voter card), Affidavits and other Government Documents, PAN card, Aadhar card, Marks cards frauds. b. Counterfeit of Notes and Coins. 3.Examination of Forged Signature	(28 Hrs)
Unit-II	EXAMINATION OF BANK AND IT FRAUDS 1. To analyze the Check Books, Debits cards and Credit cards Frauds. 2. Evaluate and study of preventive measures towards Frauds in local and national banks (Plastic Cards, E-transactions, Gold and other ornaments). 3. Examination of peculiar Characteristics of Different Documents like: Income Tax Returns, Insurance Bonds, Bond Agreements, Wills, E-certificates and E-documents.	(28 Hrs)

Instruction to the Examiners

1. Conduct experiments.
2. Applying forensic techniques.
3. Introduction and Overview.
4. Legal framework and Ethics.
5. Evidence collection and Preservation.
6. Assessment and Documentation.

Formative Assessment

Journal	-	05
IA Test 1 st & 2 nd	-	20 (10+10)
Total	-	25

Summative Assessment for Practical	
Assessment	Distribution of Marks
Record	05
Plan, Procedure & Conduction	05
Results & Discussion	05
Applying Forensic Techniques	05
Viva	05
Total	25 Marks

B.A / B.Sc. Semester – VI INTERNSHIP

Course Title: INTERNSHIP

Course Code: B.A : 016FSC091

B.Sc. : 036FSC091

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
INTERNSHIP	Practical	02	30	15 days		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.
- Internship shall be Discipline Specific of 45-60 hours (2 credits) with duration 2 weeks (15 days.)
- 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.
- Internship mentor/supervisor shall avail work allotment during 6th semester for a maximum of 20 hours.
- The student should submit the final internship report to the mentor for completion of the internship.
(Report submission after every 5 days (3 Reports))
- Method of evaluation: Presentations/Report submission/Activity/Viva-Voce etc.
- 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.
- The students are expected to work in affiliation with these Institutions and document their experiences and learning outcome weekly to the Department.
- 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

UG programme: 2023-24

GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSCC/ OEC

(60 marks for semester end Examination with 2 hrs duration)

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions : 10 marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04 questions : 20 marks

Part-C

3. Question number 12-15 carries 10 Marks each. Answer any 03 questions : 30 marks
(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary)

Total: 60 Marks

**Note: Proportionate weight age shall be given to each unit based on number of hours
Prescribed**