

UNIVERSITY OF MYSORE

Established: 1916

Vishwavidyalaya Karyasoudha
Crawford Hall, Mysore-570 005

Dated: 18.08.2021

No.AC.2(S)/151/2021-22

NOTIFICATION

Sub: Changes of the syllabus for Criminology & Forensic Science (CB) for UG/PG from the academic year 2021-22.

Ref: 1. Decision of Board of Studies in Criminology & Forensic Science (CB) meeting held on 27.11.2020.

2. Decision of the Faculty of Science & Technology Meeting held on 08.02.2021.

3. Decision of the Academic Council meeting held on 07.04.2021.

The Board of Studies in Criminology & Forensic Science (CB) which met on 27.11.2020 has resolved and changes were made to restructure the UG Syllabus in accordance with the CBCS guidelines of the University of Mysore.

The Post Graduate Syllabus has also been restructured in accordance with the said Guidelines and upgraded in the areas concerned changes in the syllabus of M.Sc. in Criminology & Forensic Science course from the academic year 2021-22.

The Faculty of Science and Technology and Academic Council meeting held on 08.02.2021 and 07.04.2021 respectively have approved the above said proposal and the same is hereby notified.

The detailed Syllabus and Curriculum of Criminology & Forensic Science course is annexed. The contents may be downloaded from the University Website i.e., www.uni-mysore.ac.in.

DRAFT APPROVED BY THE REGISTRAR

18/8
DEPUTY REGISTRAR (ACADEMIC)
Deputy Registrar (Academic)
University of Mysore
Mysore-570 005

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DoS in Psychology, MGM.
3. The Chairperson, BoS in Criminology & Forensic Science (CB), Manasagangotri, Mysore.
4. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
5. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
6. Office file.

University of Mysore
Board of Studies (Combined) in Criminology and Forensic Science,
November 2020.

The Meeting of the Board of Studies (Combined) was convened on 27th November, 2020 at Maharajas College, University of Mysore, Mysuru. The meeting commenced with the Chairman welcoming the members.

Members Present:

1. Dr. Lancy D'Souza (Member)
2. Dr. Arun M (Member)
3. Dr. Maruthi T.R. (Member)
4. Dr. G.B. Aravind (Member)
5. Dr. Nagaraju K.S (Chairman)

Members Absent:

1. Dr. R. N Mangoli
2. Dr. Venumadhava G.S
3. Dr. Nandini G Devaramani
4. Dy Dir, Karnataka Police Academy
5. Dy. Dir. RFSL Mysuru.

The meeting proceeded with the proposed agenda, contained in the letter intimated.

Agenda -1

Changes to be implemented in the UG/PG syllabus to be implemented from the academic year 2021-2022.

The members resolved unanimously to adhere to the decision made during the immediate past Board meeting, where exhaustive changes were made to restructure the Undergraduate syllabus, in accordance with the CBCS Guidelines of the University of Mysore. The Post Graduate Syllabus has also been restructured in accordance with the said Guidelines and upgraded in the areas concerned.

Agenda 2

Introduction of New Diploma/ Certificate Programmes (Courses)

The Board unanimously resolved not to introduce any new due to the want of Permanent Faculty to engage the classes of the existing programme and courses of Criminology and Forensic Science, Maharajas College, Constituent College of University of Mysore.

Further, No proposals have been received by the Board from the Affiliated Colleges under the University of Mysore, to be inclined to commence a Diploma or a Certificate Course of this nature.

Agenda-3

The Panel of Examiners for the 2021-2022 Examinations has been prepared and will be sent to the Office of the Registrar (Evaluation), University of Mysore, Mysuru.

Agenda-4

Other Matters:

- A. Dr. G.B. Aravind raised the point that another Board of Studies was notified by the University of Mysore, Vide Notification No. UA2/28(1)/ 2016-2017, dated 24-09-2020. This was made at the behest of Dr, C. K Renukarya, Director PBMM Education Center, KRS Road, Metagalli, Mysuru. The contention is, that there already exists a board for both Criminology and Forensic Science at the University and all the Technical Members are the same. Hence, the Forensic Science board may be brought within the purview of this board. Further, Members totally unconnected to the field of forensic Science have been included as members and invitees, who should be unlisted from the primary Board of Studies in Criminology and Forensic Sciences. Also, the board newly created does not have members from the professional bodies and as well as the Industry, as is the norm in all other Boards of Studies.
- B. The Members of the Board were unanimous in requesting the University of Mysore to fill in the Vacant Positions in the Department of Criminology and Forensic Science, as the Quality of the programme has suffered due to the lack of effective leadership and the understanding of the different aspects of teaching, Learning and Evaluations, in the existing scenario.

Chairman (B.O.S)

UNIVERSITY OF MYSORE
PROFORMA OF INSTRUCTIONS AND EXAMINATION

**UNDER CHOICE BASED CREDIT SYSTEM (CBCS) AND CONTINUOUS ASSESSMENT GRADING PATTERN (CAGP) OF THE OPTIONAL
SUBJECT: CRIMINOLOGY AND FORENSIC SCIENCE in B.A/B.Sc PROGRAMME**

Duration of the Course: **3 Years (6 Semesters)** Medium of Instructions: **Kannada & English**

Semester	Course	Title the Paper	Instruction Hrs (L:T:P)/ Week	Credit	Duration of Exam (hrs)	Marks		Total Marks
						IA (C1+C2)	Final Exam (C3)	
I	DSC-1A- Theory	PRINCIPLES OF CRIMINOLOGY	4:0:0	4	3	10+10	80	100
	DSC-1A- Practical	PRACTICAL -1	0:0:4	2	3	05+05	40	50
II	DSC-2B- Theory	INTRODUCTIONS TO FORENSIC SCIENCE	4:0:0	4	3	10+10	80	100
	DSC-2B- Practical	PRACTICAL- 2	0:0:4	2	3	05+05	40	50
III	DSC-3C- Theory	LAW OF PRINTS AND IMPRESSIONS	4:0:0	4	3	10+10	80	100
	DSC-3C- Practical	PRACTICAL- 3	0:0:4	2	3	05+05	40	50
IV	DSC-4D- Theory	LAW OF CRIMES	4:0:0	4	3	10+10	80	100
	DSC-4D- Practical	PRACTICAL- 4	0:0:4	2	3	05+05	40	50
DISCIPLINE SPECIFIC ELECTIVE PAPERS DSE-1 DSE -2& DSE-3 (CHOOSE ANY ONE)								
V	DSE-5A Theory	POLICE ADMINISTRATION	4:0:0	4	3	10+10	80	100
	DSE-5B Theory	CORRECTIONAL ADMINISTRATION	4:0:0	4	3	10+10	80	100
	DSE-5C Theory	CYBER CRIME AND CYBER FORENSICS	4:0:0	4	3	10+10	80	100
	DSE-5D Practical	PRACTICAL-5 COMPULSARY PAPER	0:0:4	2	3	05+05	40	50
VI	DSE-6A Theory	POLICE SCIENCE - TECHNIQUES OF CRIME INVESTIGATION	4:0:0	4	3	10+10	80	100
	DSE-6B Theory	FORENSIC MEDICINE & TOXICOLOGY	4:0:0	4	3	10+10	80	100
	DSE-6C Theory	FORENSIC SCIENCE INSTRUMENTATION	4:0:0	4	3	10+10	80	100
	DSE-6D Practical	PRACTICAL-6 COMPULSARY PAPER	0:0:4	2	3	05+05	40	50
SKILL ENHANCEMENT COURSE (SEC) (COMPULSORY PAPER)								
III	SEC-1- PAPER	FIELD WORK / PROJECT	2:0:0	2	3	05+05	40	50
IV	SEC-2- PAPER	CRIMINOLOGY and FORENSIC SKILLS	2:0:0	2	3	05+05	40	50
GENERIC ELECTIVE								
V	GE-1	ELEMENTS OF FORENSIC SCIENCE	2:0:0	2	3	05+05	40	50
	GE-2	FORENSIC BALLASTICS	2:0:0	2	3	05+05	40	50
VI	GE-3	FINGERPRINT SCIENCE	2:0:0	2	3	05+05	40	50
	GE-4	CRIME SCENE INVESTIGATION	2:0:0	2	3	05+05	40	50

**UNIVERSITY OF MYSORE
CRIMINOLOGY AND FORENSIC SCIENCE**

**Syllabus with New CBCS-CAGP Regulation 2020-21
B.A/B.Sc. Degree programme in Criminology and Forensic Science**

**I SEMESTER
DISCIPLINE SPECIFIC COURSE PAPER-DSC-1A**

PRINCIPLES OF CRIMINOLOGY

QP Code: 93121

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits-4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The concept of crime and importance of criminology.*
- b. The causes of criminal behavior.*
- c. The forms and consequences of crime in society.*
- d. The types of social problems that cause harm to society*

Unit-I: Introduction to Criminology.

- (a) Definition, Nature, Scope and Importance.
- (b) Relationship with other social sciences.
- (c) Criminal Law-Definition, meaning, origin and characteristics.

Crime:

- (a) Meaning, Definitions and Characteristics.
- (b) Classification: English Common Law, Indian Penal Code, Indian Police Crime particulars

Unit II: Schools of Criminology-I

- (a) Pre-Scientific Schools.
 - i. Demonological School ii. Free-Will, Classical and Neo-Classical Schools.
- (b) Cartographic School.
- (c) Socialistic School.

Unit III: Schools of Criminology-II

- (a) Typological School
 - i. Lombrosian. ii. Mental Testers, iii. Psychiatric
- (b) Sociological
 - i. Imitation.

- ii. Differential Association
- iii. Multiple Factor Approach.

Unit IV: Causes & Types of Crime.

Social & Economic Causes

Political: Political Fusion & Crime.

Psychological: Family & Crime.

Habitual, Mass Media & Crime, Educational Institution & Crime

Professional Criminals.

White Collar criminals.

Unit V: Social Problems: Meaning, Causes & Preventions.

- (a) Juvenile Delinquency
- (b) Prostitution.
- (c) Dowry menace.
- (d) Drug abuse.

BOOKS FOR REFERENCE

SL.No	Name of the Author	Name of the Book
01	<i>Gireppagowdar</i>	<i>Aparadhashastra</i>
02	<i>PonnianN</i>	<i>Criminology and penology</i>
03	<i>Ram Ahuja</i>	<i>Criminology</i>
04	<i>Rajesh M.R</i>	<i>Aparadhashastramathusudharanaadalitha</i>
05	<i>Reckless W.C</i>	<i>Crime Problem</i>
06	<i>Sharma, R.N</i>	<i>Criminology and penology</i>
07	<i>Sethna M.J</i>	<i>Society and Criminal</i>
08	<i>Sutherland and Cressy</i>	<i>Principles of Criminology</i>
09	<i>Sirohi J.P.S</i>	<i>Criminology and Criminal Administration</i>

I SEMESTER
DISCIPLINE SPECIFIC COURSE PAPER - DSC-1A
PRACTICAL

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs./week

Exam Duration: 3

LTP Credits = 2

Hrs*Each practical is of 4 hours duration (2hours practical = 1 credit)

1. Identification of Criminologically important News Caption from a given News Paper.

Sl No	Name of the Caption	Page No	Column No

2. Identification and analysis of Crime News items reported in a Newspaper.

Sl No	Nature of Crime	Page No	Column No	Place of occurrence	Gist

3. Identification and Classification of Crimes reported in a Newspaper.

Sl No	Types of Crime	No of Crimes	Causes
1	Offences Against Human Body A B C		
2	Offences Against Property A B C		
3	Other IPC Offences A B C		

4	Miscellaneous Crimes		
	a)		
	b)		

4. Comparison and analysis of Crimes reported in two newspapers Published on the same date and day.

Sl No	Page No [D]	Nature of Crime [H]	Place	e No [I]	Nature of Crime [E]	Place
1						
2						
Total						

5. Collection of news Paper Clippings on reported crime

6. Graphical representation of crimes reported in a Newspaper and crime statistics.

B.A/B.Sc. Degree programme in Criminology and Forensic Science

II SEMESTER

DISCIPLINE SPECIFIC COURSE PAPER- DSC-2B

INTRODUCTION TO FORENSIC SCIENCE

QP Code: 93122

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks = 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The significance of forensic science to human society.*
- b. The fundamental principles and profile of forensic science.*
- c. The divisions in a Forensic Science Laboratory.*
- d. The use of Trace Evidence, Ballistics and Document examination by forensic scientists.*

Unit I: Introduction.

Definitions and Pioneers.
Historical development of Forensic Science.
Principles of Forensic Science.

Unit II: Forensic Science Laboratories.

Organization of Directorate of Forensic Institutions State Forensic Science Laboratories.
Divisions of Forensic Science laboratories and its Functions.
Use of important instruments – Microscopes, Spectroscopy, SDM, Video Spectral Comparator & Invisible Rays.
Role of experts in crime investigation and detection.

Unit III: Trace Evidences

- a)** Hair and fiber.
- b)** Glass Fractures
- c)** Tool marks
- d)** Paint and Soil.

Unit IV: Forensic Ballistics.

- a)** Meaning, Classification of firearms and ammunition.

- b) Identification of firearm and the shooter.
- c) Explosives: meaning & classification Types

Unit V: Examination of Documents and Currency.

- a) Questioned Documents: Meaning and Types- (i) Forgeries –Meaning & Types
- b) Identification of hand written documents – Authors
- c) Differentiation of genuine and counterfeit currency coins & Notes.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	Anand Murthy Malaki	AparadhaVignyanaNyayavignyanadhaacharaneMathubalipashu shastra
02	Gireppagowdar, B.S	VaidyakiNyayashastramatthunayavignyana
03	Kirk. Paul Leland	Criminalistics
04	Nabar, B.S	Forensic Science
05	Safferstien, Richard M	Criminalistics
06	Sharma B.R	Forensic Science in Criminal Investigation and Trail
07	Sodderman and O'Connell	Modern /criminal Investigation

II SEMESTER

DISCIPLINE SPECIFIC COURSE PAPER - DSC-2B

PRACTICAL

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs/week

*Each practical is of 4 hours duration (2hours practical = 1 credit)

Exam Duration: 3 Hrs

LTP Credits – 2

1. Examination of Hair.
2. Glass Fractures.
3. Tool Marks.
4. Physical Examination of **Bullets** for- Nature, Material, size, shape, fired or extracted, number of lands and grooves, direction of twist, caliber and nature of weapon.
5. Physical Examination of **Cartridges**: nature, material, size, shape fired extracted, misfire, live or extracted, rimmed/rimless/semi rimmed, rim fire or center fire, caliber and nature of weapon.
6. Examination of Questioned Documents-Handwritten analysis
7. Physical examination of coins
8. Examination of Currency notes.

B.A/B.Sc. Degree programme in Criminology and Forensic Science -

III SEMESTER

DISCIPLINE SPECIFIC COURSE PAPER - DSC-3C

LAW OF PRINTS AND IMPRESSIONS

QP Code: 93123

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4

Learning Objectives: After studying this paper the students will know –

- a. The history and fundamental principles of fingerprinting.*
- b. Application of Fingerprints as the most infallible means of identification.*
- c. The method of classifying criminal record by fingerprints was worked out in India, and by Indians.*
- e. The physical and chemical techniques of developing fingerprints on crime scene evidence.*
- f. The significance of foot and tyreprints.*

Unit I: Introduction to fingerprints

- a) Meaning, importance and historical development.
- b) Principles of Dactyloscopy.
- c) Organization of State and Central Fingerprint Bureaus.

Unit II: Identification and Classification of Patterns

- a) Recording of fingerprints.
- b) Identification of patterns and ridge characteristics.
- c) Henry's Primary and Secondary Classification.

Unit III: Chance Prints

- a) Meaning & Types.
- b) Development of Chance Prints – Powder, Liquid & Gaseous Method
- c) Recent Developments – Lifting & Preservation.

Unit IV: Footprints.

- a) Meaning, importance.
- b) Types of footprints.
- c) Methods of recording and lifting.
- d) Gait pattern.

Unit V: Tyre Impressions.

- a) Meaning and importance in crime investigation.
- b) Methods of recording and lifting.
- c) Skid marks and its importance.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	Bridges, Vollmer and Monair	Practical Fingerprinting
02	Chatterji S.K	Finger, palm and sole prints
03	Eshwara Yeneera	<i>Beralu Mudregalu</i>
04	Goyal and Kapoor	Scientific aid to fingerprinting
05	Surendranath	Fingerprints
06	Venkiah	Law of Prints and Impressions

III SEMESTER

DISCIPLINE SPECIFIC COURSE PAPER - DSC-3C

PRACTICAL

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

***Each practical is of 4 hours duration (2hours practical = 1 credit)**

1. Recording of fingerprints.
2. Identification of patterns and ridge characteristics.
3. Primary and Secondary Classification of finger prints.
4. Development of fingerprints.
5. Tracing of Footprints.
6. Taking of Plaster cast of sunken footprints/Tyre impression.

**III SEMESTER
COMPULSORY PAPER**

SKILL ENHANCEMENT COURSE (SEC) -SEC-1

FIELD WORK / PROJECT

Code No:

Marks: C1 – 05, C2 – 05

C3(Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 2 Hrs/week.

***Each practical is of 4 hours duration (2hours practical = 1 credit)**

Exam Duration: 3 Hrs

LTP Credits – 2

TOPICS

Topics for FW/P:

1. Crime in urban and rural areas.
2. Railway crimes.
3. Study on violent crimes.
4. Prison administration.
5. Police administration.
6. Police training.
7. Police-Community relations 8. Police help-line.
9. Forest crimes.
10. Criminal personality tendencies- groups; tribes.
11. P.O. Act- released offenders on probation.
12. Prisoners Act- Released convicts.
13. Victims of Crime.
14. Communal violence.
15. Juveniles in conflict with law.
16. Child labor.
17. Drug abuse 18. Voluntary agencies.
19. Ragging.
20. Economic offences.
21. Cyber crimes.
22. Prostitution- sex workers.
23. Human Rights.

24. Female criminality.
25. Crimes against women.
26. Crimes against children.
27. Mass media and crime.
28. Case Studies.
29. Pornography.
30. Crimes against weaker sections.
31. Habitual Criminals
32. Consumer Protection.

STUDY METHODOLOGY:

The students are given an option to select one of the above-mentioned topics. During the allocated session, the topic will have to be studied and a specific methodology is to be followed;

1. Selection of the topic
 2. Study the topic to evolve the statement of the problem
 3. Literature survey
 4. Methodology
 5. Collection of data or information on the institution or case (depending upon the topic and method)
 6. Analysis and interpretation of the data.
 7. Findings and conclusions.
-
- Each of the students will be assigned a study supervisor.
 - The pedagogy to be followed is to mentor the student, review progress and suggest corrections.
 - The student will have to attend the designated classes and the teacher assigned will conduct the contact session in relation to the research methods to his/her assigned students.
 - The designated classes for the field work will be mentioned in the college and department time table.
 - The contact sessions will be deemed to be a part of the practical workload of the designated teacher.
 - Finalization and submission of the report will have to take place at least one week before the scheduled university practical examination.
 - The report shall contain letters of permission from the institutions and endorsement thereof as to having visited the institution for collection of information.
 - The copies of the filled in questionnaires will have to be submitted in a separate file in case if the student has used the survey method.
 - The reports shall be evaluated at the term end examination, conducted by the University of Mysore.
 - The evaluation will also be based upon the *viva-voce*, in relation to the report.

B.A/B.Sc. Degree programme in Criminology and Forensic Science

**IV SEMESTER
DISCIPLINE SPECIFIC COURSE PAPER- DSC-4D**

LAW OF CRIMES

QP Code: 93124

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4

Learning Objectives: After studying this paper the students will know –

- a. Elements of Indian Penal Code, to be aware of various forms of substantive offences.*
- b. Criminal Procedure Code related to police work and forensic science.*
- c. Acts governing evidence to be used in a Court of Law.*

Unit I: Introduction to Indian Penal Code

- a) Historical development.
- b) General Explanations (Ss.19, 21-25, 28-30, 34-38 and S.52).
- c) General Exceptions (Ss.76-106.)

Unit II: Offence against Persons.

- a) Culpable Homicide and Murder (Ss.299-304, 304 A & B and 307.).
- b) Hurt- Simple and Grievous (Ss.319-325).
- c) Kidnapping and Abduction. (359-363), Rape (Ss.375, 376.)

Unit III: Offences against property

- a) Theft and Extortion (Ss.378-384).
- b) Robbery and Dacoity (Ss.390, 391-395.)
- c) Cheating, Criminal trespass and House Breaking. (Ss.415-420, 441-447)

Unit IV: Code of Criminal Procedure

- a) Introduction, organization and powers of Criminal Law Courts in India.

- b) Police powers of arrest, search and seizure.
- c) Provisions regarding bail and bond, summons, warrants and proclamations.

Unit V: Indian Evidence Act.

- a) Historical development and Meaning.
- b) Admissions, Confessions and Dying Declarations.
- c) Experts, Oral and Documentary Evidence.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	<i>Rathan Lal and Dhiraj Lal</i>	<i>Indian Penal Code</i>
02	<i>Rathan Lal and Dhiraj Lal</i>	<i>Code of Criminal Procedure</i>
03	<i>Rathan Lal and Dhiraj Lal</i>	<i>Indian Evidence Act</i>
04	<i>Goyal and Kapoor</i>	<i>EBC Criminal Manual</i>

IV SEMESTER

DISCIPLINE SPECIFIC COURSE PAPER- DSC-4D

PRACTICAL

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

***Each practical is of 4 hours duration (2hours practical = 1 credit)**

1. Preparation of Simulated Summons
 - a) To accused.
 - b) To witness.
 - c) To produce a document or a thing. Petty Offence
2. Preparation of Simulated Warrants.
 - a) Warrant of arrest to an accused.
 - b) Warrant of arrest to a witness.
 - c) Warrants of search a suspected place of deposit
 - d) Warrants of seizure.
3. Preparation of Proclamations.
 - a) To accused.
 - b) To witness.
4. Visit to Court of Law & Preparation of Report

**IV SEMESTER
COMPULSORY PAPER
SKILL ENHANCEMENT COURSE (SEC) - SEC-2
CRIMINOLOGY / FORENSIC SKILLS**

LTP Credits – 2

The student will have to choose any one of the following topics for experimental study:

- 1.** Fingerprinting.
- 2.** Footprints.
- 3.** Chelioscopy or lip prints.
- 4.** Hair examination
- 5.** Fiber and fabric examination
- 6.** Blood grouping studies.
- 7.** Questioned documents
- 8.** Crime scene investigation
- 9.** Biometric studies (other than fingerprints)
- 10.** Forensic Speaker identification
- 11.** Wildlife forensics
- 12.** Forensic photography
- 13.** Study of poisonous plants
- 14.** Trace evidences
- 15.** Fraud analysis in the Insurance sector (NBFI's may also be included)
- 16.** Medico-legal autopsy.
- 17.** Cybercrime cases in social media (Harassment, Stalking, Bullying and Defamation)
- 18.** Child in conflict with Law
- 19.** Contemporary Crimes
- 20.** Psychometric analysis of violent individuals.
- 21.** Offender Profiling
- 22.** Crime prone area survey (Crime Prevention by Environmental Design)
- 23.** Victimization survey and compensation process.
- 24.** Crime prevention
- 25.** Alternate Dispute Resolution(*Lok Adalath*)

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 - 2) Study the topic to evolve the statement of the problem
 - 3) Literature survey
 - 4) Methodology
 - 5) Collection of data or information on the institution or case(depending upon the topic and method)
 - 6) Analysis and interpretation of the data.
 - 7) Findings and conclusions.
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B.A/B.Sc. Degree programme in Criminology and Forensic Science

**NOTE: TO CHOOSE ANY ONE OF THE FOLLOWING PAPERS.
PRACTICAL PAPER IS COMPULSORY.**

**V SEMESTER
DISCIPLINE SPECIFIC ELECTIVE PAPERS - DSE-5A**

PAPER 1 - POLICE ADMINISTRATION

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know –

- a. Historical evolution of police in India.*
- b. Police organization of the state and Center in India.*
- c. Functioning of various types of Police Stations, crime prevention, and*
- d. Police –Public Partnership and Human Rights.*

Unit I: Introduction

Historical development of (a) Ancient, (b) Medieval and (c) Modern Indian Police.

General organization of the State Police-Administrative hierarchy and the Ranges.

Special units:

C I D- Organization and functions of various branches

- a) Economic Crime Wing – Cyber division
- b) Intelligence Wing.
- c) Training wing
- d) Technical Services – SCRB, FSL, FPB. DCRE, KSRP, GRP, Forest & Food Cell,

Unit II: Central Police Organizations

Organizational set up and functions of

- a) Line Units: - Assam Rifles; CRPF; BSF; ITBP; CISF; RPF; NSG & SPG.
- b) Staff Units: - BPR&D – NCRB, SVNPA, LN JNICFS, CDTS,
- c) Directorate of Forensic Sciences- CFSL, CFPB, GEQD, DNA fingerprint unit.
- d) Mixed Units: - CBI, IB & R and A Wing.

Unit III: Police Station

- a) Meaning & establishment of a Police Station – Rural; Urban and Metropolitan (As per Police Manual).
- b) Types & functions of different kinds of police stations.
 - i. Civil Police Station.
 - ii. Traffic Police station.
 - iii. Women Police Station.
- c) Crime control records maintained in the Police Stations.

Unit IV: Crime prevention.

- a) Police methods: E-Beat, Patrolling, Surveillance and Criminal Intelligence.
- b) Voluntary agencies in crime prevention.
- c) Police Relationship with Media & other related departments.
- d) Auxiliary Units: - Civil Defense, V D P's and Special police Officers Wing.

Unit V: Human Rights and Police Public relationship

- a) Brief History of Human Rights.
- b) Police as protector of human rights.
- c) Human Right Commissions & Human Right Protection Act (Salient features)
- d) Community Policing – Police-Public relations, Police relationship with – Media & other Departments.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	<i>Bailey</i>	<i>Police and Politics in India</i>
02	<i>Gupta</i>	<i>Police in India</i>
03	<i>Giriraj Shah</i>	<i>Indian Police – A Retrospect</i>
04	<i>Human Rights Bulletin</i>	<i>By Human Rights Commission</i>
05	<i>James Vadakumchary</i>	<i>Human Rights and Police in India</i>
06	<i>Mahajan</i>	<i>Indian Police</i>
07	<i>Mehertaj Begum</i>	<i>District Police Administration</i>
08	<i>RamanujamT</i>	<i>Prevention and Detection of Crime</i>
09	<i>Shankar Sen</i>	<i>Indian Police Today</i>
10	<i>Sharma P. D</i>	<i>Police and Political Order in India</i>
11	<i>Venugopala Rao</i>	<i>Police Administration</i>

B.A/B.Sc. Degree programme in Criminology and Forensic Science

V SEMESTER

DISCIPLINE SPECIFIC ELECTIVE PAPERS - DSE-5B

PAPER 2 – CORRECTIONAL ADMINISTRATION

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Exam Duration: 3 Hrs

Teaching Hours – 4 Hrs/week

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know-

- a. Concepts of punishment and Correctional Administration.*
- b. Types of punishments in the past and present.*
- c. Prison as institution of correction, its types and the problems therein.*
- d. Victimology.*

Unit I: Introduction

- a) Historical Development of Penology and Definitions of Punishment.
- b) Concepts of correctional administration
- c) Theories of punishments: Retributive, Prevention, Deterrence and Reformative.

Unit II: Punishment.

- a. Corporal
- b. Imprisonment.
- c. Fine and forfeiture of property
- d. Capital punishment.

Unit III: Prison.

- a) Historical development of Indian prisons.
- b) Prison administration- Classification of prisons & Prisoners.
- c) Non-institutional programmes- Probation; Parole and After-Care & Functions.
- d) Juvenile Correctional Institutions

Unit IV: Unusual problems in Correctional Institutions.

- a) Homosexuality.

- b) Custodial relations
- c) Prison Violence – Human Rights Violation.
- d) Psychotherapy - Client-Centered therapy and Free Association.
- e) Treatment of Prisoners

Unit V: Victimology.

- a) Meaning, development and importance.
- b) Typology of victims
- c) Victimizing factors & Victim Compensation.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	<i>Gireppagowdar</i>	<i>Aparadhashastra</i>
02	<i>Paranjape</i>	<i>Criminology & Penology</i>
03	<i>Ponnian N</i>	<i>Criminology and Penology</i>
04	<i>Rajesh M.R</i>	<i>Aparadhashastramathusudharanaadalitha</i>
05	<i>Reckless W.C.</i>	<i>Crime Problem</i>
06	<i>Sethna M.J</i>	<i>Society and Criminal</i>
07	<i>Sirohi J.P.S.</i>	<i>Criminology and Criminal Administration.</i>
08	<i>Sharma, R.N</i>	<i>Criminology and Penology</i>
09	<i>Srivatsava S.S.</i>	<i>Criminology & Correctional Administration</i>
10	<i>Sutherland and Cressy</i>	<i>Principles of Criminology</i>
11	<i>Tim Newburn</i>	<i>Criminology</i>

B.A/B.Sc. Degree programme in Criminology and Forensic Science

V SEMESTER

DISCIPLINE SPECIFIC ELECTIVE PAPERS - DSE-5C

CYBER CRIMES AND CYBER FORENSICS

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The basics of digital forensics.*
- b. The cases which fall under the purview of digital crimes.*
- c. The types of digital crimes.*
- d. The elements involved in investigation of digital crimes.*
- e. the fundamentals of cyber security.*

Unit- I: Computer Fundamentals

Fundamentals of computer hardware and accessories, development of hard disk, physical construction, CHS and LBA addressing, encoding methods and formats. Memory and processors – methods of storing data, Operating systems, Networks- LAN, WAN and MAN.

Unit- II: Cybercrimes and Law

Definition and types of computer crimes. Distinction between computer crimes and conventional crimes. Reasons for commission of computer crimes. Breaching security and operation of digital systems.

Computer virus, and computer worm – Trojan horse, trap door, super zapping, logic bombs.

Types of computer crimes – computer stalking, pornography, hacking, crimes related to intellectual property rights, computer terrorism, hate speech, private and national security in cyber space.

An overview of hacking, spamming, phishing and stalking.

Unit- III: Cyber Laws

Salient Features of the Information Technology Amendment Act 2008; and changes arising out of the Enactment of the ITA-2000 to the Indian Penal Code, Code of Criminal Procedure and the Indian Evidence Act.

Unit- IV: Computer Forensic Investigations

Seizure of suspected computer. Preparation required prior to seizure. Collection and seizure of magnetic data, Treatment of exhibits, Extraction of information, Restoration of deleted files –familiarization of software, Encase, Cyber check suites, Encryption and decryption methods. Protocol to be taken at the scene. Extraction of information from the hard disk. Treatment of exhibits. Creating bitstream of the original media. Collection and seizure of magnetic media. Legal and privacy issues. Examining forensically sterile media. Restoration of deleted files. Password cracking and E-mail tracking. Encryption and decryption methods. Tracking users.

Unit: V-Basics of Information Security

Information Security - Overview of Information security, CIA Triad, Threats and Vulnerabilities and Risk, Policy, Standards, Procedures, Guidelines and Baselines.

Information Asset Classification: Classification of Information, Information Assets – Owner, Custodian, User.

Access control, Authentication and Authorization. Information assurance and defensive measures. Digital Document Security.

Cryptography: Definitions and Concepts, Symmetric and Asymmetric Cryptosystems, Classical Encryption Techniques – Substitution Techniques, Transposition Techniques, Block Ciphers and Stream Ciphers, Hybrid Encryption Techniques, One-Time Pad. E-mail security, Internet and Web Security. Steganography and Steganalysis.

References

- 1) *R.K. Tiwari, P.K. Sastry and K.V. Ravikumar, Computer Crimes and Computer Forensics, Select Publishers, New Delhi (2003).*
- 2) *C.B. Leshin, Internet Investigations in Criminal Justice, Prentice Hall, New Jersey (1997).*
- 3) *R. Saferstein, Criminalistics, 8th Edition, Prentice Hall, New Jersey (2004).*
- 4) *E. Casey, Digital Evidence and Computer Crime, Academic Press, London (2000).*
- 5) *Nina Godbole and SunitBelapore; “Cyber Security: Understanding CyberCrimes, Computer Forensics and Legal Perspectives”, Wiley Publications, 2011.*
- 6) *Shon Harris, “All in One CISSP, Exam Guide Sixth Edition”, McGraw Hill, 2013.*
- 7) *Bill Nelson, Amelia Phillips and Christopher Steuart; “Guide to Computer Forensics and Investigations” – 3rd Edition, Cengage, 2010 BBS.*
- 8) *William Stallings; “Cryptography and Network Security: Principles and Practices”, Fifth Edition, Prentice Hall Publication Inc., 2007.*
- 9) *Atul Jain; “Cyber Crime: Issues, Threats and Management”, 2004.*
- 10) *Majid Yar; “Cybercrime and Society”, Sage Publications, 2006.*
- 11) *Michael E Whiteman and Herbert J Mattord; “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003.*
- 12) *Matt Bishop, “Computer Security Art and Science”, Pearson/PHI, 2002.*
- 13) *Peter Singer and Allan Fredman; “Cybersecurity and Cyberwar: What Everyone needs to know”, Oxford University Press, 2014.*

14) RaefMeeuwisse; “Cybersecurity for Beginners”, Icutrain Ltd., 2015.

V SEMESTER
DISCIPLINE SPECIFIC ELECTIVE PAPERS-DSE-5D
PRACTICAL-5 COMPULSORY PAPER

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs/week

***Each practical is of 4 hours duration (2hours practical = 1 credit)**

Exam Duration: 3 Hrs

LTP Credits – 2

1. Portrait Parle [by using the template of Portrait Building System (PBS)]
2. Analysis of Crime Statistics-Tabular column Method.
3. Graphical representation by Line Drawing, Bar Diagram and Histogram.
4. Giving of Information to Police(Any three different types of IPC Cases)
5. Registration of FIR. (Any three different types of Crimes)
6. KIM's Game
7. Visit to Civil and Cyber Police Station, Prison, Juvenile Correctional Institution and submission of report. (To be written by hand in the practical record).

B.A/B.Sc. Degree programme in Criminology and Forensic Science
(FOR NON-CRIMINOLOGY AND FORENSIC SCIENCE STUDENTS)

V SEMESTER
GENERIC ELECTIVE - GE-1

ELEMENTS OF FORENSIC SCIENCE

QP Code:

Marks: C1 – 5, C2 – 5

C3 (Main exam) -40= Total Marks – 50

Teaching Hours – 2Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

Learning Objectives: After studying this paper the students will know-

- a. The concept of forensic science*
- b. Branches of forensic science*
- c. Laboratory services offered at the Central and State levels in India.*

Unit-I: Fundamental Concepts of Forensic Science

Definitions, Nature, Scope and role of forensic science. Historical development and contribution of pioneers. Principles of forensic science,

Unit-II: Branches of Forensic Science

Branches of Forensic Science, Traditional and Contemporary
Frye Case and Daubert Standards.

Unit-III: Forensic Science Laboratories and Training institutes

Hierarchical set up of Central Forensic Science Laboratories, State Forensic Science Laboratories, Government Examiners of Questioned Documents, Fingerprint Bureaus, National Crime Records Bureau, Police & Detective Training Institutes, Bureau of Police Research & Development, Directorate of Forensic Science.

References:

1. *B.B. Nanda and R.K. Tiwari, Forensic Science in India: A Vision for the Twenty First Century, Select Publishers, New Delhi (2001).*
2. *M.K. Bhasin and S. Nath, Role of Forensic Science in the New Millennium, University of Delhi, Delhi (2002).*
3. *S.H. James and J.J. Nordby, Forensic Science: An Introduction to Scientific and Investigative Techniques, 2nd Edition, CRC Press, Boca Raton (2005).*
4. *W.G. Eckert and R.K. Wright in Introduction to Forensic Sciences, 2nd Edition, W.G. Eckert (ED.), CRC Press, Boca Raton (1997).*
5. *R. Saferstein, Criminalistics, 8th Edition, Prentice Hall, New Jersey (2004).*

B.A/B.Sc. Degree programme in Criminology and Forensic Science

V Semester

GENERIC ELECTIVE- GE-2

FORENSIC BALLISTICS

QP Code:

Marks: C1 – 5, C2 – 5

C3 (Main exam) -40= Total Marks – 50

Teaching Hours – 2Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

Learning Objectives: After studying this paper the students will know -

- a. The classification of firearms and their firing mechanisms.*
- b. The methods of identifying firearms.*
- c. The characteristics of ammunition.*
- d. The importance of firearm evidence.*

Unit I: Firearms and Ammunition

History and development of firearms. Classification of firearms. Weapon types and their operation. Firing mechanisms of different firearms. Types of ammunition. Constructional features and characteristics of different types of cartridges and bullets. Primers and priming compounds. Projectiles.

Unit II: Fire arm evidence

Different types of marks produced during firing process on Bullets-Striations Marks; and cartridge – firing pin marks, breech face marks, chamber marks, extractor and ejector marks.

Unit III: Firearm Evidence

Matching of bullets and cartridge cases in regular firearms. Identification of bullets, pellets and wads fired from improvised, country made firearms. Automated method of bullet and cartridge case comparison. Determination of range of fire and time of fire.

References:

1. *B.J. Heard, Handbook of Firearms and Ballistics, Wiley and Sons, Chichester (1997).*
2. *W.F. Rowe, Firearms identification, Forensic Science Handbook, Vol. 2, R. Saferstein (Ed.), Prentice Hall, New Jersey (1988).*

3. A.J. Schwoeble and D.L. Exline, *Current Methods in Forensic Gunshot Residue Analysis*, CRC Press, Boca Raton (2000).
4. E. Elaad in *Encyclopedia of Forensic Science*, Volume 2, J.A. Siegel, P.J. Saukko and G.C. Knupfer (Eds.), Academic Press, London (2000).

B.A/B.Sc. Degree programme in Criminology and Forensic Science

**NOTE: TO CHOOSE ANY ONE OF THE FOLLOWING PAPERS
PRACTICAL PAPER IS COMPULSORY**

**VI SEMESTER
DISCIPLINE SPECIFIC ELECTIVE PAPERS-DSE-6A**

PAPER 1-POLICE SCIENCE- TECHNIQUES OF CRIME INVESTIGATION

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits-4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The concept of criminal investigation, its legal and scientific aspects and approaches.*
- b. The Crime Scene, its types and methods of examination, documentation.*
- c. The methods of interview and interrogation.*

Unit I: Introduction

(a) Investigation- Meaning & importance.

- a) Tools of Investigation.
- b) General procedure of Investigation of a Cognizable offence.
- c) Qualities of an Investigating Officer.

Unit II: Scene of Crime

- a) Meaning and types
- b) Methods of search.
- c) Collection and preservation of Physical clues.

Unit III: Methods of investigation of:

(a) Murder; (b) Suicide; (c) Burglary; (d) Traffic accidents.

Unit IV: Methods of Interview and Interrogation.

- a) Types of witnesses and methods of their interview.
- b) Interrogation of suspects.
- c) Scientific approach to interrogation- Polygraph; Narco analysis, BrainFinger Printing.

Unit V: Observation and identification.

- a) Sketching and Photography & Videography.
- b) Portrait Parle.
- c) M.O. Index
- d) Identification parade.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	<i>Ramanujan P</i>	<i>Prevention Detection of Crime</i>
02	<i>Sullivan</i>	<i>Police Science</i>
03	<i>Swenson and Wendell</i>	<i>Techniques of Crime Scene Investigation</i>
04	<i>De Angeles</i>	<i>Crime Scene Investigation</i>
05	<i>Sodderman and O'Connell</i>	<i>Modern Criminal Investigation</i>
06	<i>Horgan</i>	<i>Criminal Investigation</i>
07	<i>Sheshagiri Rao</i>	<i>Prevention and Detection of Crime</i>

B.A/B.Sc. Degree programme in Criminology and Forensic Science

VI SEMESTER

DISCIPLINE SPECIFIC ELECTIVE PAPERS-DSE-6B

PAPER-2. INTRODUCTION TO FORENSIC MEDICINE & TOXICOLOGY

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The concept of medical science in criminal investigation, its legal and scientific aspects and approaches.*
- b. The nature and medico-legal aspects of wounds, injuries and death.*
- c. The methods of examination of biological fluids and skeletal remains*
- d. Elements of Toxicology.*

Unit I: Introduction

- (a) Definitions, meaning and historical development.
- (b) Inquest: Police, Magistrates and Medical Examiners System. (c) Personal identification of the living.

Unit II: Wounds & Injuries

- (a) Meaning & types of Wounds and injuries;
- (b) Characteristics and Medico-legal importance of wounds and injuries; (c) Examination of Human Skeleton determination of age & Sex.

Unit III: Death

- (a) Meaning and modes of death
- (b) Changes after death.
- (c) Asphyxial death: Meaning, types & Medico-legal importance of hanging, Strangulation and drowning.

Unit IV: Body Fluids and DNA.

- (a) Blood.
- (b) Semen.
- (c) DNA Profiling.

Unit V: Toxicology

- (a) Poisons-Meaning and Definition.
- (b) Classification of poisons – Origin based.
- (c) Signs, symptoms and Medico legal importance of Arsenic, Alcohol, Barbiturates, Cyanide, Datura, Opium and Organo -Phosphorus poisons.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	Krishna Vij	Forensic Medicine
02	Dr. Narayana Reddy	Synopsis of Forensic Medicine
03	<i>Dr. Parikh.</i>	Medical Jurisprudence and Toxicology
04	Dr. Pillai V. V.	Toxicology
05	Nagaloti Math	Kanoonuvydyakiya Shastra

B.A/B.Sc. Degree programme in Criminology and Forensic Science

VI Semester

DISCIPLINE SPECIFIC ELECTIVE PAPERS-DSE-6C

FORENSIC SCIENCE INSTRUMENTATION

QP Code:

Marks: C1 – 10, C2 – 10

C3 (Main exam) -80= Total Marks – 100

Teaching Hours – 4 Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 4:0:0

Learning Objectives: After studying this paper the students will know –

- a. The importance of chromatographic and spectroscopic techniques in processing crime scene evidence.***
- b. The utility of colorimetry, electrophoresis and neutron activation analysis in identifying chemical and biological materials.***
- c. The significance of microscopy in visualizing trace evidence and comparing it with control samples.***
- d. The usefulness of photography and videography for recording the crime scenes.***

Unit I: Instrumentation

Sample preparation for chromatographic and spectroscopic evidence.

Chromatographic methods. Fundamental principles and forensic applications of thin layer chromatography, gas chromatography and liquid chromatography.

Spectroscopic methods. Fundamental principles and forensic applications of Ultraviolet-visible spectroscopy, infrared spectroscopy, atomic absorption spectroscopy, atomic emission spectroscopy and mass spectroscopy. X-ray spectrometry. Colorimetric analysis and Lambert-Beer law.

Electrophoresis – fundamental principles and forensic applications.

Neutron activation analysis – fundamental principles and forensic applications.

Unit II: Microscopy

Fundamental principles. Different types of microscopes. Electron microscope. Comparison Microscope. Forensic applications of microscopy.

Unit III: Forensic photography

Basic principles and applications of photography in forensic science.

3D photography. Photographic evidence. Infrared and ultraviolet photography. Digital photography. Videography. Crime scene and laboratory photography.

References:

1. *D.A. Skoog, D.M. West and F.J. Holler, Fundamentals of Analytical Chemistry, 6th Edition, Saunders College Publishing, Fort Worth (1992).*
2. *W. Kemp, Organic Spectroscopy, 3rd Edition, Macmillan, Hampshire (1991).*
3. *J.W. Robinson, Undergraduate Instrumental Analysis, 5th Edition, Marcel Dekker, Inc., New York (1995).*
4. *D.R. Redsicker, The Practical Methodology of Forensic Photography, 2nd Edition, CRC Press, Boca Raton (2000).*

VI SEMESTER
DISCIPLINE SPECIFIC ELECTIVE PAPERS-DSE-6D

PRACTICAL-6

Code No:

Marks: C1 – 05, C2 – 05

C3 (Main exam) -30+5+5 = Total Marks – 50

Teaching Hours – 4 Hrs/week

***Each practical is of 4 hours duration (2hours practical = 1 credit)**

Exam Duration: 3 Hrs

LTP Credits – 2

1. Preliminary examination of blood.
 - (a) Benzadine and Leucomalachite Test.
2. Confirmatory Tests
 - (a) Tiechman's Test.
 - (b) Takayama's Test.
 - (c) R B C .
 - (d) Haemotoporophyrin Test
 - (e) Blood Grouping.
3. Examination of Skeletal remains for age and sex determination.
4. Examination of Crime Scene of Murder and Burglary, preparation of Rough, neat sketch and Reconstruction of Crime Scene.
5. Handling, Packing and Forwarding of material evidence of articles with
 - a) Fingerprints;
 - b) Fingerprints and Blood stains;
 - c) Blood stained Cloth;
 - d) Hair sample;
 - e) Bullets/cartridge case,
 - f) Suspected liquid.

B.A/B.Sc. Degree programme in Criminology and Forensic Science

**VI SEMESTER
GENERIC ELECTIVE - GE-3**

FINGER PRINT SCIENCE

QP Code:

Marks: C1 – 5, C2 – 5

C3 (Main exam) -40= Total Marks – 50

Teaching Hours – 2Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

Learning Objectives: After studying this paper the students will know –

a. The fundamental principles on which the science of fingerprinting is based.

b. Fingerprints as the most infallible means of identification.

c. Types of fingerprints found at a crime scene and their development

f. The significance of foot, palm, ear and lip prints.

Unit 1: Basics of Fingerprinting

Introduction and history, with special reference to India.

Biological basis of fingerprints. Formation of ridges. Fundamental principles of fingerprinting. Types of fingerprints. Fingerprint patterns. Fingerprint characters/minutiae.

Methods of Recording of Plain and rolled fingerprints.

Classification of fingerprint record.

Unit 2: Development of Fingerprints

Type of Chance prints at a crime scene and their development.

Latent fingerprints' detection by physical and chemical techniques.

Preservation of developed fingerprints.

Digital imaging for fingerprint enhancement.

Unit 3: Other Impressions

Importance of footprints. Casting of foot prints, Electrostatic lifting of latent foot prints. Palm prints and their historical importance.

Gait Pattern and its use in crime investigation.

BOOKS FOR REFERENCE

SL.	Name of the Author	Name of the Book
01	<i>Bridges, Vollmer and Monair</i>	<i>Practical Fingerprinting</i>
02	<i>Chatterji S.K.</i>	<i>Finger, palm and sole prints</i>
03	<i>EshwaraYeneera.</i>	<i>BeraluMudregalu</i>
04	<i>Goyal and Kapoor</i>	<i>Scientific aid to fingerprinting</i>
05	<i>Surendranath</i>	<i>Fingerprints</i>
06	<i>Venkiah</i>	<i>Law of Prints and Impressions</i>

B.A/B.Sc. Degree programme in Criminology and Forensic Science

**VI SEMESTER
GENERIC ELECTIVE - GE-4**

CRIME SCENE INVESTIGATION

QP Code:

Marks: C1 – 5, C2 – 5

C3 (Main exam) -40= Total Marks – 50

Teaching Hours – 2Hrs/week

Exam Duration: 3 Hrs

LTP Credits – 2

Learning Objectives: After studying this paper the students will know –

- a. The methods of securing, searching and documenting crime scenes.***
- b. The art of collecting, packaging and preserving different types of physical and trace evidence at crime scenes.***
- c. The legal importance of chain of custody.***
- d. The tools and techniques for analysis of different types of crime scene evidence.***

Unit: I- Crime Scene Preliminaries

Meaning and Types of crime scenes – indoor and outdoor Mobile; primary secondary and tertiary. Securing and isolating the crime scene. Crime scene search methods. Safety measures at crime scenes. Legal considerations at crime scenes.

Unit II: Crime Scene Documentation

Documentation of crime scenes – photography, videography, sketching and recording notes.

Duties of first responders at crime scenes. Coordination between police personnel and forensic scientists at crime scenes. The evaluation of 5Ws (who?, what?, when?, where?, why?) and 1H (how?).

Unit III: Crime Scene Evidence Management.

Classification of crime scene evidence – physical and trace evidence. Locard principle.

Collection, labeling, sealing of evidence. Hazardous evidence. Preservation of evidence.

Chain of custody. Reconstruction of crime scene.

REFERENCES

1. M. Byrd, *Crime Scene Evidence: A Guide to the Recovery and Collection of Physical Evidence*, CRC Press, Boca Raton (2001).
2. T.J. Gardener and T.M. Anderson, *Criminal Evidence*, 4th Ed., Wadsworth, Belmont (2001).
3. S.H. James and J.J. Nordby, *Forensic Science: An Introduction to Scientific and Investigative Techniques*, 2nd Edition, CRC Press, Boca Raton (2005).
4. W.J. Tilstone, M.L. Hastrup and C. Hald, *Fisher's, Techniques of Crime Scene Investigation*, CRC Press, Boca Raton (2013).



University of Mysore
Department of Studies in Criminology and Forensic Science
 Maharaja's College, Mysore 570 005

Course: M.Sc.

Subject: Criminology and Forensic Science

Degree: M.Sc. in Criminology & Forensic Science

First & Second Semester – Common Papers

Third & Fourth Semester – Specialization “A” Criminology & Specialization “B” Forensic Science papers follows respectively

For Choice Based Credit System (CBCS) and Continuous Assessment Grading Pattern (CAGP) for Post Graduate Degree Program with Revised Syllabus W.e.f. 2020-21

COURSE MATRIX

I SEMESTER M.Sc.

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17201	Criminalistics	H C	3	1	0	4
2	17202	Forensic Medicine	H C	3	1	0	4
3		Practical	H C	0	1	3	4
4	17203	Theories of Criminology	SC*	3	1	0	4
5	17204	Criminal Justice System	SC*	3	1	0	4
6		Crime Scene and Forensic Photography	SC*	3	1	0	4

* To select any Two from Soft Core Papers.

II SEMESTER M.Sc.

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17211	Forensic Prints and Impressions	H C	3	0	1	4
2	17212	Research Methodology and Statistical Methods	H C	3	1	0	4
3	17213	Cyber Crime and Cyber Forensics	SC*	3	1	0	4
4	17214	Criminal Major Acts	SC*	3	1	0	4
5		Laboratory Quality Management and Standards	SC*	3	1	0	4
6	17215	Forensic Science	O E	3	1	0	4
7	17216	Forensic Medicine and Toxicology	O E	3	1	0	4

* To select any Two from Soft Core Papers.

III SEMESTER M.Sc.

Specialization “A” - CRIMINOLOGY

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17220	Correctional Administration	H C	3	1	0	4
2	17221	Techniques of Crime Investigation	H C	3	1	0	4
3		Term Work	HC	0	2	4	6
4	17222	Police Administration	SC*	3	1	0	4
5	17223	Victimology	SC*	3	1	0	4
6	17224	Cyber Crime and Cyber Law	O E	3	1	0	4
7	17225	Police Organization	O E	3	1	0	4

*To Select any ONE from Soft Core.

Specialization “B” - FORENSIC SCIENCE

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17226	Forensic Science-I (Physical Sciences)	H C	3	0	1	4
2	17247	Forensic Science Instrumentation	H C	3	1	0	4
3	17228	Forensic Science-III (Biological Sciences)	H C	3	0	1	4
4	17229	Forensic Examination of Explosives	SC*	3	1	0	4
5	17230	Forensic Examination of Documents	SC*	3	1	0	4
6	17224	Cyber Crime and Cyber Law	OE	3	1	0	4
7	17225	Police Organization	OE	3	1	0	4

*To Select any ONE from Soft Core Papers

IV SEMESTER M.Sc.

Specialization “A” CRIMINOLOGY

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17241	Security and Vigilance	H C	3	1	0	4
2		Dissertation Work	H C	0	2	8	10
3	17242	Questioned Documents	SC*	3	1	0	4
4	17243	Corporate Crimes	SC*	3	1	0	4
5	17244	Forensic Psychology	SC*	3	1	0	4
6	17245	Law of Prints & Impressions	OE	3	1	0	4
7	17246	Victimology	OE	3	1	0	4

*To Choose any ONE from Soft Core.

Specialization “B” FORENSIC SCIENCE

Sl.No	Code	Title	Type	L	T	P	CREDITS
1	17227	Forensic Science-II (Chemical Sciences)	H C	3	1	0	4
2		Dissertation Work	H C	0	2	8	10
3	17248	Forensic Toxicology	SC*	3	1	0	4
4	17244	Forensic Psychology	SC*	3	1	0	4
5	17245	Law of Prints & Impressions	OE	3	1	0	4
6	17246	Victimology	OE	3	1	0	4

*To Choose any ONE from Soft Core Papers.

**Choice Based Credit System (CBCS) and
Continuous Assessment Grading Pattern CAGP)**

M.Sc. CRIMINOLOGY & FORENSIC SCIENCE

I SEMESTER

HARD CORE (COMPULSORY PAPER)

3:1:0=4 CREDITS

CRIMINALISTICS

QP Code: 17201

Learning Objectives: After studying this paper the students will know –

a. Principles and branches of forensic science

b. Forensic Ballistics, Explosives and Trace Evidence in the detection of crime.

EXISTING	CHANGES
Unit-1 Principles of Criminalistics; Forensic Science Organizations: State and Directorate of Forensic Sciences and allied institutions; Laws relating to expert evidence, with reference to Cr.P.C. and I.E.A.;	Unit-1 Principles of Criminalistics; Forensic Science Organizations: State and Directorate of Forensic Sciences and allied institutions; Branches/Divisions/Sections of Forensic Sciences Laboratory Laws relating to expert evidence, with reference to Cr.P.C. and I.E.A.; Frye, Daubert Standards and guidelines for expert testimony.
Unit-2 Forensic Ballistics: Classification of firearms and ammunition. Identification of firearm, shooter and the range of firing and determination of trajectory.	Unit-2 Forensic Ballistics: Classification of firearms and ammunition. Components of Fire Arms Identification of firearm, shooter and the range of firing and determination of trajectory.
Unit-3 Explosives: Classification, investigation and laboratory identification. Investigation and detection of arson; fire accelerants and their detection.	No Change
Unit- 4	No Change
Trace evidences: Hair, Fiber, Fabric, Glass, Paints and Soil; its collection, examination and role in crime detection; Forensic detection of imitated and duplicated goods.	

References:

1. Criminal investigation- J. Horson.
2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990).
3. Crime investigation- Paul L Kirk – Edited by John I Thronton (1974).
4. Criminal investigation- Soderman and O’Connell.
5. Forensic Science in Investigation and Trails- Sharma B.R
6. Forensic Sciences- Eckert, William.
7. Code of Criminal Procedure. Rathanlal and Dhirajlal (2019).
8. Indian Evidence Act.-Avtar Singh, Rathanlal and Dhirajlal (2019).

To add:

9. Indian Evidence Act- Rathanlal and Dhirajlal
10. Fundamentals of Forensic Science, Houck, M.M & Siegel, J.A; Academic Press, London, 2006.
11. Techniques of Crime Scene Investigation, 7th Ed, Barry, A.J. Fisher; CRC Press, New York, 2003.
12. Forensic Science- An Introduction to Scientific and Investigative Techniques, James, S.H and Nordby, J.J; CRC Press, USA, 2003.
13. Advanced Technology in Forensic Investigation, Annama John Cosmo Books Thrissur (2019)

FORENSIC MEDICINE

QP Code: 17202

Learning Objectives: After studying this paper the students will know –

- a. The Meaning and Development, importance of Personal Identification.*
- b. The types of wounds, Death and changes after death.*
- c. The importance of ascertaining various body fluids, including the DNA Profiling.*

EXISTING	CHANGES PROPOSED
Unit-1 Introduction to Forensic Medicine, Meaning and development of Forensic Medicine Personal Identification of Living and dead and elementary study of Human Anatomy. Inquest – Police, Magistrate and Medical Examiner's Inquest.	No Changes
Unit-2 Mechanical Injuries – Meaning, Types and Medico-legal importance. Thermal injuries-Meaning, Types - Burns, Electric Shock & Lightning.	Unit-2 Mechanical Injuries – Meaning, Types and Medico-legal importance. Regional injuries and Transportation injuries. Thermal injuries-Meaning, Types - Burns, Electric Shock & Lightning.
Unit-3 Death – Meaning, Mode of Death and changes after death. Asphyxial death – Meaning and Types and Medico-legal importance of Asphyxial death.	No Changes
Unit-4 Body Fluids- Blood semen, Sweat, Saliva and Urine- Composition, Lab Tests & Medicolegal importance. D.N.A – Profiling- Collection of Sample, Lab Test- PCR Test, RLFP and Southern Blot Test.	Unit-4 Body Fluids- Blood semen, Sweat, Saliva and Urine- Composition, Lab Tests & Medicolegal importance. D.N.A – Profiling- Collection of Sample, Lab Test- PCR Test, and Southern Blot Test.
	Activities in addition to the regular Classes: <ol style="list-style-type: none"> 1. Observation of examination of accused and collection of evidentiary material of accused and victim of sexual offences; 2. Mortuary Visit: Witnessing postmortem examination of cases of accidents, assault, hanging and poisoning; 3. Visit to scene of crime for reconstruction of events. Note: All the above activities shall be done under the direct supervision of the faculties of the department or by the faculty of Forensic Medicine.

<p>Reference:</p> <ol style="list-style-type: none"> 1. Medical jurisprudence and toxicology – Dr. N.J. Modi 2. Synopsis of Forensic medicine – Dr. Narayana Reddy 3. Parikh’s Medical Jurisprudence and Toxicology. 	<p>Reference: In addition to existing</p> <ol style="list-style-type: none"> 1. Text book of Forensic Medicine and Toxicology – Dr. Krishan Vij 2. Synopsis of Forensic medicine – Dr. KS Narayana Reddy 3. Parikh’s Medical Jurisprudence and Toxicology.
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PRACTICAL

CRIMINALISTICS AND FORENSIC MEDICINE

1. Laboratory examination and identification of the species of Hair.
2. Examination of Glass Fractures for identification of direction of force.
3. Examination of genuine and counterfeit coins and currency notes.
4. Examination of soil to determine its origin by D.G Tube Method.
5. Visit to R F S L to know the uses of Forensic Instrumentation and report writing.
6. Identification and confirmatory tests for blood:
 - a. Presumptive tests.
 - b. Microcrystal tests.
 - c. Microscopic tests.
 - d. Spectroscopic tests
 - e. Blood grouping.
 - f. Precipitin Test
7. Visits to RFSL, Dept of Forensic Medicine, Mortuary, Emergency and Burns ward and report writing.
8. Visit to D.N.A. Laboratory, Anthropological Survey of India and report writing.

TO CHOOSE ANY TWO SOFTCORE PAPERS FOR EIGHT CREDITS IN A SEMESTER

SOFT CORE

3:1:0=4CREDITS

THEORIES OF CRIMINOLOGY

QP Code:17203

Learning Objectives: After studying this paper the students will know –

- a. The importance of criminology.*
- b. The causes of criminal behavior.*
- c. The significance of criminal behavior on society.*

UNIT-1

Introduction to formulation of theories:

Classical Theory – Cesar Beccaria, Jeremy Bentham ;

Psycho-Biological Perspectives: Biological-Italian School; Mental Deficiency-Henry H. Goddard;

Emotional Disturbances Theory-William Healy; Psychoanalytical Theory-Sigmund Freud.

UNIT – 2

Theory of Anomie-Emile Durkheim; Strain Theory-Robert Merton. Cultural

Deviance Theory; Differential Association Theory-EH Sutherland; Cultural

Conflict Theory- Thorston Sellin.

UNIT – 3

Sub-Culture Theories: Albert Cohen's Theory of Sub-Culture;

Opportunity Theory- Cloward and Ohlin. Techniques of Neutralization-Sykes and Matza

Violence Theory- Marvin Wolfgang; Concerns Theory- Walter Miller

UNIT – 4

Containment Theory-Walter Reckless; Labeling Theory Becker/Lemert

Theory of Social Control-Travis Hirschi; Routine Activity Theory- Cohen and Felson; Rational-Choice

Perspective-Ronald Clarke and Derek Cornish. Multiple Causation Theory- Cyril Burt, George B. Vold.

References:

1. Criminology and Criminal Administration-Dr. S.S. Srivastava
2. Criminology-Adler, Muller & Laufer-4ed.
3. Criminology Theories-Frank P. Williams III, Marilyn D. Mc Shane
4. Criminology-George B. Vold
5. Principles of Criminology-E.H. Sutherland & D.R. Cressey

CRIMINAL JUSTICE SYSTEM**QP Code:17204**

Learning Objectives: After studying this paper the students will know –

- a. The meaning and importance of criminal Justice System.*
- b. The various wings of the system and their role.*
- c. The importance of coordination of each to another.*

Unit-1: Introduction:

Meaning, purpose and relevance. Historical evolution-National and International. Types of Justice Systems-Accusatorial and Inquisitorial.

Unit-2: Police and Prosecution System:

Police as an agency of Criminal Justice System. Role of Police in Modern Society. Meaning, purpose and organization of Prosecution System. Relationship between Police and Prosecution, need of co-ordination in Criminal Justice System.

Unit-3: Judiciary:

Meaning and importance of Judiciary. Organisation and features of Indian Judicial System Supreme Court, High Courts and District Courts. Fundamentals of Judicial Functioning: Due Process, Speedy Trials and Fair Deal to victims of crime; Writ Provisions. Modernisation and reforms in Criminal Justice System.

Unit-4: Prison System

Meaning, Scope, Organisation and Objectives of Prison. U.N Standard Minimum Rules for Treatment of Prisoners and other standards, Covenants and Agreements. Human Rights in Prison System. Importance of Co-ordination between components of Criminal Justice System Police, Prosecution, Judiciary and Prison system.

References:

1. Report of Commonwealth Secretariat 2002, Crime and Social Justice, London.
2. Crime and Criminal Justice System in India: Mehraj-Ud-Din Mir.
3. Criminology and Penology: Paranjape N.V.
4. Criminology and Criminal Administration: Sirohi J.P.S.
5. Criminology and Correctional Administration: Srivatsava S.S.
6. Criminology: Ram Ahuja.
7. Justice Malimath Committee Report on Criminal Justice Reforms.
8. Prison Reforms Committee Reports 9. Police Reforms Committee Reports.

EXISTING

Geographical Information Science (G I S) And Global Positioning Systems (G P S) In Crime Analysis.

3:1:0= 4 Credits

Unit-1

Introduction, definitions, terminology and concepts of GIS and GPS; Criminological entities, attributes and significance; its typology and relationship to Criminology.

Unit-2

GIS architecture: Components of GIS, GIS workflow, theoretical framework, categories, levels and scales of measurement, its interface to crime mapping; Calculation of crime incidence, crime surveying with GIS and charting criminocentric „Hot-Spots“ using GPS.

Spatial crime data modeling. Introduction, sources of crime/criminal spatial data, stages, graphical representation of distribution of types of crimes/criminals.

Unit-3

GIS data management systems: introduction, functions and components of DBMS, GIS related crime data file management, simple list, ordered sequential files, and indexed files.

Introduction to network, LAN, WAN, MAN. Introduction to internet, applications of internet, dialup connection and direct connection to internet, protocols(HTTP, FTP, Telnet).

Internet addressing – IP address, domain name, URL, world wide web, applications of www. Introduction to email, Browser, uses of browser, contents of browser with respect to internet explorer, types of browsers. **Unit-4**

Introduction to HTML, structure of HTML, basic tags for text designing, inserting an image, background image, background image, background color, paragraphs, hyperlinks, tables, frames and forms.

Concept of database, tables, rows, attributes, usage of MS-Access- data types, table creation and storing data. Introduction to queries-append, delete, insert, list. MS-Access forms and reports, table sorting, searching, summary, functions. **References:**

Borough, P.A (1986) „Principles of GIS for land resources“

Chrisman, N.R. (1997) „Exploring GIS systems“

Krishnan N, Windows and MS Office with Database Concepts, SciTech Publications.

Thomas A Powell, HTML, TMH publications.

Anji Reddy (2001) „Remote sensing and GIS)

TO BE REPLACED WITH

CRIME SCENE AND FORENSIC PHOTOGRAPHY**QP Code:****Soft Core****3:1:0= 4 Credits**

Learning Objectives: After studying this paper the students will know –

- a. The methods of securing, searching and documenting crime scenes.*
- b. The art of Photographing and Video graphing different types of physical and trace evidence at crime scenes.*
- c. The legal importance of Police Photography.*
- d. The tools and techniques for analysis of different types of crime scene evidence by the use of digital photography.*

Unit-1: Introduction to Photography

History and Development of Photography. Basic principles and techniques of Black & White and color photography, Photography in indoor and outdoor scene of crime; aerial photography, Aperture and focus adjustment. Significance of Photography in Forensic Science. Photo prints: Developing techniques and methods of photography, Different kinds of developers and fixers, modern developments in photography, linkage of cameras and film negatives.

Unit-2: Types of Camera and Photographic methods

Introduction, Photographic instruments, fundamentals of light and vision, light source, geometry and photometry of image formation, types of camera, features, camera movement, and Optical filters. Specialized photography - UV, IR, transmitted light and side light photography, close-up, midrange and bird-eye view photography, trick photography, contact photography. Digital photography, software for digital photography, file formats for digital photographs – jpg, gif, bmp, tiff, mpeg, etc. Radiography, Photomicrography, microphotography, photography using scientific equipment, juxtapose charts and demonstrative photographs, photographs as secondary evidence, case studies.

Unit-3: Surveillance Photography

Surveillance Photography: its methods, techniques and tactics. Surveillance photography – Cameras and accessions for surveillance photography moving surveillance on foot, 2person foot surveillance moving, surveillance with vehicles, fixed surveillance, Use of photography in reconstructing the scene of crime and its presentation in the court of law. Image magnification, Uand I. R. illumination, Art factual evidences (Bloodstain, fingerprint, imprints, and micro evidences).

Unit-4: Digital Photography

Digital water marking and digital imaging, photogrammetric, Videography/ highspped Videography, crime scene and laboratory photography. Photography of objects- Close up, normal, telephoto and processing. Aerial Photography. Remote sensing & Geo-mapping. Document and finger print photography. Photography in identification of docile and hostilehuman objects, etc. Digital photography, how digital camera works and basics of digital imaging. 3-D Photography/Videography, videography/high speed videography, High-speed photography, legal aspects of visual evidence, Admissibility in the court.

References:

1. *Blitzer, H.L and Jacob, J; Forensic Digital Imaging and Photography, Academic Press, 2002*
2. *Henry Horeustein; Colour Photography -A working Manual, Little Brown Co.Boston (1995).*
3. *B.H.E. Jacobson, Ray GG Attridge; The Manual of Photography, Focal Press, London (1988).*
4. *Jahne B; Digital Image Processing, Heidelberg Springer(1996).*
5. *Workinson J; Art of Digital Video, Oxford Focal Press (1994).*
6. *Upton Kobre, Brill; Photography, Pearson Education, Inc (2006).*
7. *H.L. Blitzer and J.Jacobia; Forensic Digital Imaging and Photography, Academic Press (2002)*
8. *David R.Redsicker; The Practical Methodology of Forensic Photography- 2nd Ed. CRC Press LLC (2001)*
9. *R.E. Jacobson, S.F.Ray, G.G.Attridge, The Manual of Photography- Photographic and Digital Imaging, N.R. Oxford.*

II SEMESTER

HARD CORE (COMPULSORY PAPER)

3:0:1=4 CREDITS

FORENSIC PRINTS AND IMPRESSIONS

QP Code:17211

Learning Objectives: After studying this paper the students will know –

- a. The biological aspects and the fundamental principles of fingerprinting.*
- b. Fingerprints patterns and methods of identification.*
- c. The physical and chemical techniques of developing fingerprints on crime scene evidence.*
- d. The significance of foot prints.*
- e. Fundamentals of Forensic Anthropology*

EXISTING	CHANGES PROPOSED
Unit- 1 Biological aspects, Skin Structure and ridge formation its role in formulation of the Principles of Finger Prints; Historical data of Fingerprints; Role of pioneers.	No Changes
Unit-2 Recording techniques, Classification Henry's ten digit classification system. Battley's Single digit system. Use of A F I S and I A F I S and contemporary innovations in storage and retrieval of fingerprints.	No Changes
Unit-3 Development of Finger Prints from various Surfaces by powders, Gases and Liquids; Photography, Lifting and Marking-up as evidence; Ridge characteristics, comparison of fingerprints, legal compliance; Poroscopy and edgeoscopy.	No Changes
Unit-4 Footprints; classification, modes of recording, comparison and lab analysis. Blood stain pattern interpretation- utility, physical properties of blood, Angle of impact, points of convergence, origin, Low, Medium, High Velocity blood stains, Crime Scene examination, Photographic documentation of bloods pattern. Forensic Odontology- Meaning, Development & Uses, Human dentition, Dental Identification	Unit-4 Footprints; classification, modes of recording, comparison and lab analysis. Blood stain pattern interpretation- utility, physical properties of blood, Angle of impact, points of convergence, origin, Low, Medium, High Velocity blood stains, Crime Scene examination, Photographic documentation of bloods pattern. Forensic Odontology- Meaning, Development & Uses, Human dentition, Dental Identification

<p>methods, Scientific basis, Comparison of Dental Identification to other methods. Bite Marks:</p> <p>Forensic Anthropology – Introduction, Scope, Utility, General Idea of human Skeleton, Identification by Facial imaging, Skull to Photo Super imposition, Facial reconstruction, photographic Comparison.</p>	<p>methods, Scientific basis, Comparison of Dental Identification to other methods. Bite Marks: examination, preservation, analysis and interpretation.</p> <p>Forensic Anthropology – Introduction, Scope, Utility, General Idea of human Skeleton, Identification by Facial imaging, Skull to Photo Super imposition, Facial reconstruction, photographic Comparison.</p>
<p>References :</p> <p>1) Introduction to Forensic Sciences Second Edition : William J Eckert</p> <p>2) Criminalistics and Scientific investigation : Fredric Cunliffe & Piazza 3) Modern Criminal investigation :Soderman&O’connel. 4) Synopsis of forensic Medicine : Narayan Reddy.</p> <p>5) Modi’s Medical Jurisprudence and Toxicology : Dr.N.J.Modi 6) Laws of Prints and Impressions : Venkiah.</p> <p>7) Criminalistics- Introduction to forensic Science : Richard M Safferstin. 9) Criminal Investigation, Practical fingerprinting, thumb impression : Bridges B.C, August Vollmer and M.Monair</p>	

PRACTICAL

1. Recording of Fingerprints and identification of patterns.
2. Classification of fingerprints by Henry’s and Battley’s Methods.
3. Identification of Ridge Characteristics and Comparison of Fingerprints.
4. Lifting of surface and sunken footprints and identification of characteristics.
5. Bite mark examination and lifting.
6. Examination of simulated blood splatter and interpretation.
7. Visit to City FPB to study the equipment and techniques; report writing.

HARD CORE (COMPULSORY PAPER) 3:1:0=4 Credits

RESEARCH METHODOLOGY AND STATISTICAL METHODS

QP Code:17212

Learning Objectives: After studying this paper the students will know –

- a. The fundamental concepts of Scientific Research.*
- b. Application and importance of statistics in the field of Criminology/Forensic Science.*
- c. Various measures for providing statistical proof of the research study*
- d. Research Report Writing.*

Unit-1

Introduction to Research. Scientific Approaches to Criminological Researches. Hypothesis formulation and testing, preparation of research proposal. Survey of Literature methodology and Sampling Techniques.

Unit –2

Data collection, analysis structuring and transformation. Report Writing- Organization of the materials, Preliminaries. Drafting of the Thesis, Preparation of the Bibliography and references.

Unit-3

Theory of Measurement, Scale of Measurement, Statistical Methods for Various scales of Measurements & Importance in Criminology and Forensic Science. Frequency distribution; meaning and different methods of graphical representation (Histogram, Frequency Polygon Ogive Curves) Lorenz Curve and Gini Co-efficient. Linear Regression and Co-relation-

Meaning, Methods and uses of Scattered Diagram, Karl Pearson's Co-efficient of Co-relation, Spearman's rank co-relation.

Unit-4

Measures of Central Tendency- Mean, Mode, Measures of Variability, Co-efficient of Variation, Quartiles, Deciles and Percentiles, Median, Cumulative frequency, Correlation and regression; Testing of Hypothesis- Statistical Hypothesis, Type 1 and Type 2 errors, Critical Value, P-Value, c. Parametric Tests- tests of Hypothesis based on L, Z and F, One way ANOVA, Non-Parametric Test- Tests of Hypothesis based on Chi-Square Test, Sign Test and Kruskal Wallies one way ANOVA by ranks

References:

1. Thesis and Assignment Writing. Anderson, J. Durston, B.H. and Poole.M (1970)
2. Guide to Scientific and Technical Writing- Cooray, P.G. (1992).
3. Statistics and Data Analysis- Davis, J.C. (1986).
4. Research Methodology, Methods and Techniques- Kothari, C.R. (1990).
5. Methods of Criminological Research- Victor Jupp.
6. Understandable Statistics- Concepts and Methods- Barse, Charles Henry and Barse Corrinne Pellillo(1987).
7. Research methods and Statistics- Ramchandra N. .
8. Statistics- Goode and Hatt.

TO CHOOSE ANY TWO SOFTCORE PAPERS FOR EIGHT CREDITS IN A SEMESTER

SOFTCORE

3:1:0= 4 CREDITS

CYBER CRIME AND CYBER FORENSICS

QP Code:17213

Learning Objectives: After studying this paper the students will know –

- a. The fundamental concepts of Cyberspace and its applications.*
- b. Various forms of offences under the sphere of its applicability.*
- c. The laws relating to cybercrime, applicable in India.*
- d. The method of detection of cybercrime and use of cyber security.*

Unit-1

Cyber Space; meaning, definition and scope. Utility of Cyber Space. Concept of cybercrimes; Criminological perspective as a type of economic crime. Role of “*mens rea*” and types of criminal liability in cybercrime. Criminological Theories for Cyber Crime.

Unit-2

Cyber crimes; meaning, definitions, nature and characteristics. Types of cyber crimes and classifications (General, pioneers and INTERPOL). Types of Malware:- a) Viruses, b) Worms, c) Trojan Horses, d) Blended Attacks, e) Tracking Cookies f) Attacker tools, g) Keystroke Loggers, h) Rootkits;

Unit-3

Laws relating to Cyber crime; Salient features of IT Amendment Act-2008, with emphasis on aspects relating to offences, punishments, investigative powers and regulations. Amendments arising due to enactment of IT Amendment Act-2008 in IPC, Cr.P.C., I.E.A.,

Unit-4

Investigation of Cyber Crimes, collection of evidence, implications and challenges. Elementary aspects of Cyber Forensics. Cyber Security, Global, National, Industrial and individual levels, BIS 7799 and ISO17799. Credit Card Frauds, their types, investigation and detection.

Reference:-

- | | |
|---|----------------------------|
| Laws on Cyber Crimes | : Dr. Pramod Kr. Singh. |
| Cyber laws and Cyber crimes | : Barkha and U. Ram Mohan. |
| E-crimes and remedies | : Vasu Deva. |
| Combating Cyber Crimes | : Paul T Augustine. |
| Taxmann's Law of Information Technology | :D.P.Mittal |
| Taxmann's Law onIntellectual Property and Copyrights Act. | |

CRIMINAL MAJOR ACTS**QP Code:17214**

Learning Objectives: After studying this paper the students will know –

- a. The fundamental Nature of Substantive Laws*
- b. The Procedural Laws in India.*

Unit-1

Introduction to I.P.C. General Explanations (Ss.19, 21-25,28-30, 34-38 and S.52), General Exceptions (Ss.76-106.) and of punishments.

Unit-2

Offence against Persons and property. Abetment, Criminal Conspiracy, Culpable Homicide and Murder (Ss.299-304, 304 A & B and 307.) Assault; Criminal Force and Criminal Intimidation; Kidnapping and Abduction. (359-363).

Theft and Extortion (Ss.378-384); Robbery and Dacoity (Ss.390, 391-395.); cheating and Criminal Breach of Trust. Offences relating to marriages.

Unit-3

Code of Criminal Procedure. Police powers of arrest, Provisions regarding Appeals, bail and bond, summons, warrants and proclamations. Preventive Action of the Police; Information to Police and their powers to investigate.

Unit -4

Indian Evidence Act. Relevancy of Fact (S.5,10, 14 and 15) Admissions, Confessions and Dying Declarations. Experts - Oral and Documentary Evidence. Burden of proof of witness (S. 118 and 119)

Books for Reference: -

1. Rathan Lal and Dhiraj Lal : Indian Penal Code
2. Rathan Lal and Dhiraj Lal : Code of Criminal Procedure.
3. Rathan Lal and Dhiraj Lal : Indian Evidence Act.
4. EBC Criminal Manual

EXISTING

SELF STUDY PAPER

RESEARCH IN CRIMINOLOGY AND FORENSIC SCIENCE

SOFT CORE

0:2:2=4CREDITS

1. The Candidate shall select the Topic in consultation with the assigned supervisor. The topic shall be related to research trends in the field of Criminology and Forensic Science.
2. The Candidate shall collect Five Researched Articles and Five Research Papers or Thesis related to the assigned topic.
3. The Candidate shall analyze the Published Research Articles, Papers or Thesis collected by him/her and compile the same in a report and submit it within the stipulated time.

TO BE REPLACED WITH

SOFT CORE

3:1:0=4CREDITS

LABORATORY QUALITY MANAGEMENT AND STANDARDS

QP Code:

Learning Objectives: After studying this paper the students will know –

- a. The importance of standards and techniques in processing crime scene evidence.*
- b. The utility of Quality Systems in the maintenance of Laboratory Quality Assurance.*
- c. The significance of Laboratory Management.*
- d. The Importance of Laboratory Safety.*

UNIT-1: Standards for analysis

Basic standards – Need of standards in analytical sciences – Basic chemical standards – Analytical standards – Reference materials – high purity substances – Certified reference materials – working or secondary standards – matrix effect in standards – Biological standards – Biochemical standards – Microbial cell lines and standards

UNIT-2: Quality Management and Laboratory Accreditation

Introduction – Quality - Quality system – Quality plan – Inspection and testing – Test records – Control of inspection Handling, storage, packaging, preservation and delivery of the material – Control of quality records – Internal quality audits – Quality assurance– Training. Laboratory Accreditation – ISO 9000 and ISO 14000 and 17000 series of standards – Accreditation Boards – NABL guidelines for accreditation in India. Proficiency testing system. Internal quality control; Inter and intra laboratory testing programmes. Designing and running the proficiency testing programmes. Confidentiality. Advantages of accreditation.

UNIT-3: Laboratory Management

Administration of Laboratories – Types of laboratories – Connection between field work and laboratory. Educational requirements of laboratory personnel; Routine laboratory work and Research and development.

Internal organization of a laboratory. Architectural requirements – Laboratory design – Floor area furniture design – Auxiliary services – Receipt of reports and remnants – Record management – Requirement of equipment, glassware, chemicals and other material – Purchase procedure – Disposal of wastes.

Review of the laboratory – Project proposal – Definition of system requirements – specifications. Commercial or Bespoke LIMS; Evaluation; Purchase and installation. – Demonstration, Validation, user training and implementation.

UNIT-IV: Laboratory Safety.

Security of the premises. Laboratory Information Management system (LIMS) classification of LIMS functions – Sub-division by functional area – Definition of LIMS – Strategic design of LIMS – System development life cycle.

Laboratory safety; planning and written safety plan.

Safety policies, Safety resources, operations: Hazards of chemicals, solvents, poisons and explosives.

Storage facilities – Biological hazards - Pressure vessels and their handling – Electrical safety – Fume cup boards- Exhausts system – Protective Equipment-Emergency care and medical facilities.

REFERENCES

1. Woodget, B. W. and Cooper, D.: *Sample and Standards, ACOL Series*, Wiley 1987.
2. Dux, J. P., *Hand Book of Quality Assurance for Analytical Chemistry Laboratory*, Van Nostrand, 1986.
3. Duncan, W. L.: *Total Quality: Key Terms and Concepts*, 1995.
4. Shah, D. H.: *QA Manual, Business Horizons*, 2000.
5. Kumar, K.: *Quality Management*, ABD Pub., 2000.
6. Ross, J.: *Total Quality Management*, Vanity Book, Intl., 1995.
7. Seiler, J. P., *Good Laboratory practice*, Springer, 2000.
8. Diwan, P.: *Quality in Totality, Manager's Guide to TQM and ISO 9000*, Deepti & Deepti Pub., 2000.
9. Gyani, G. J.: *Training Manual on ISO 9000; 2000 and TQM*, Raj Pub., 1999
10. Olson, M. H. and Davis, G. B.: *Management Information Systems*, McGraw Hill, 1998.
11. *Specific Guidelines for Accreditation of Forensic Science Laboratories*, DST, 1998.
12. *Guide for Safety in The Chemical Laboratory: Manufacturing Chemist's Association*, 1972.
13. Steere N. V.(Ed.): *Hand Book of Laboratory Safety*, CRC, 1967.
14. Tilstone, W. J. and Lothridge, K.: *Crime Laboratory Management*, Taylor and Francis, 2004.
15. Clair, J. S: *Crime Laboratory Management*, Academic Press, 2003.
16. Dux, J. P., *Hand Book of Quality Assurance for Analytical Chemistry Laboratory*, Van Nostrand, 1986.

OPEN ELECTIVES

Open Elective paper

3:1:0=4CREDITS

FORENSIC SCIENCE

QP Code:17215

Learning Objectives: *After studying this paper the students will know –*

- a. The significance of forensic science to human society.*
- b. The fundamental principles, divisions and functions of forensic science.*
- c. The basics of clue examination and photography.*

Unit-1

Principles of Forensic Science;

Forensic Science Organizations: State and Directorate of Forensic Sciences and allied institutions; Laws relating to expert evidence, with reference to Cr.P.C. and I.E.A.;

Unit -2

Forensic Ballistics; Classification of firearms and ammunition; Identification of firearm, shooter and the range of firing and determination of trajectory.

Unit-3

Tool marks; examination, preservation and tool reconstruction.

Restoration of obliterated and defaced numbers/marks from objects

Unit-4

Forensic Photography: Laboratory and Police Photographic Techniques and Court Presentation;

Portrait Parle: Bertillon's, Identity Kit and Computerized Portrait Building System.

References:

1. Criminal investigation- J. Horson
2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990)Prentice Hall, NJ.
3. Crime investigation- Paul L Kirk –Edited by John I Thronton (1974) Wiley and Sons,
4. Criminal investigation- Soderman andO"Connell.
5. Forensic Science in Investigation and Trails- Sharma B.R.
6. Code of Criminal Procedure. Rathanlal and Dhirajlal (2007), Wadhwa & Co. Nagpur.
7. Avtar Singh- Indian Evidence Act.

FORENSIC MEDICINE AND TOXICOLOGY**QP Code:17216**

Learning Objectives: After studying this paper the students will know –

- a. The Meaning and Development, importance of Personal Identification.*
- b. The types of wounds, Death and changes after death.*
- c. The importance of ascertaining various body fluids, including the DNA Profiling.*

EXISTING	CHANGES PROPOSED
Unit-1 Introduction, Meaning, Historical Development and Importance. Characteristics and Medico-legal importance of wounds and injuries. Examination of Human Skeleton determination of age & Sex.	
Unit-2 Death, Meaning and modes of death. Changes after death. Asphyxial death: Meaning, types & Medico-legal importance of hanging, Strangulation and drowning.	
Unit-3 Blood- Laboratory Examination for Identification. Semen- Laboratory Examination for Identification. D N A Profiling Techniques.	
Unit-4 Poisons-Meaning and General Considerations. Toxicological Classification of poisons and Clinical Classification of Poisons. Signs, symptoms and Medico legal importance of Arsenic, Alcohol, Barbiturates, Cyanide, Datura, Opium and Organo -Phosphorus poisons.	Unit-4 Poisons-Meaning and General Considerations. Classification of poisons, antidotes for poisons, Signs, symptoms and Medico legal importance of Arsenic, lead, Alcohol, Barbiturates, Cyanide, carbon-monoxide, Datura, cannabis, Opium, aluminium phosphide and Organo – Phosphorus
Reference 1. Modi Dr. : Medical Jurisprudence and Toxicology. 2. Narayana Reddy Dr. :Synopsis of Forensic Medicine. 3. Parikh.Dr. : Medical Jurisprudence and Toxicology	References: 1. Narayana Reddy K.S. :Synopsis of Forensic Medicine. 2. Parikh. : Medical

<p>4. Pillai V. V. Dr. : Toxicology. 5. Jurisprudence and Toxicology</p> <p>Dr. NagalotiMath : Kanoonuvydyakiya</p> <p>Shastra.</p> <p>6. Dr. Ashoka : Polisu</p> <p>Vignyanamathunyayavidyakiya shastra 7.</p> <p>Eckert, William : Introduction to</p> <p>Forensic Sciences.</p> <p>8. B.S.Naber : Introduction to</p> <p>Forensic Science.</p> <p>9. Sharma B.R. : Forensic</p> <p>Science for Criminal Investigation and Trails.</p>	<p>3. Krishan Vij : Text Book of Forensic</p> <p>Medicine and Toxicology.</p>
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III SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

HARD CORE (COMPULSORY PAPER)

3:1:0=4

Credits

CORRECTIONAL ADMINISTRATION

QP Code:17220

Learning Objectives: After studying this paper the students will know –

- a. The Meaning of punishments and Development of correctional institutions.*
- b. The types of Institutional corrections.*
- c. Community Corrections and other non-institutional correctional methods*

Unit-1

Introduction, Historical Development of Correctional Administration. National Institute of Social Defence and Central Advisory Board on Correctional Services. State Organisations for Correctional Services, State level Boards and Committees.

Unit-2

Institutional Treatment. Therapy, guidance and vocational training. Individual treatment Vs Group therapy, problems in Indian context. Unusual problems in correction of offenders in institutions.

Unit-3

Community Vs Institutional Corrections. Guided Group Interaction, Foster Homes, Group Homes and Half-way Houses. Intensive Community Treatment.

Unit -4

Non-Institutional Correction- Probation, Parole and After Care Service.

References:

1. Principles of Criminology :E.H.Sutherland and Cressy
2. Crime Problem: Walter C Reckless
3. Crime Correction and Society :Jhonson.
4. Psychological Disorders and Crime: Neustatter.
5. Criminology and Penology : Paranjape N.V.
6. Criminology and Criminal Administration: Sirohi J.P.S.
7. Criminology and Correctional Administration: Srivatsava S.S.
8. Criminology : Ram Ahuja.
9. Prison Reforms Committee Reports

III SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

HARD CORE (COMPULSORY PAPER)

3:1:0=4

Credits

TECHNIQUES OF CRIME INVESTIGATION

QP Code:17221

Learning Objectives: After studying this paper the students will know –

- a. The methods of securing, searching and documenting crime scenes.*
- b. Use of technology in crime scene management.*
- c. The art of collecting, packaging and preserving different types of physical and trace evidence at crime scenes*

Unit-1

Introduction to Police Science. Application of Science & Technology in Police Work. Use of computers, video conferencing and role of media in police science and police work.

Investigation- meaning, legal provisions and compliance by the police. Modes of investigation Use of informers, crime charts / maps, MOB Records, Criminal intelligence.

Unit- 2

Scientific aids and equipment in police work –I O’s Kit, Invisible rays, Metal detectors, portable x-ray units and Photographic Kit, their contents and uses. Scene of Crime – Meaning & types –

Methods of Search, recording; sketching, photography and videography and Panchanama.;

Unit-3

Scientific methods of investigation of Homicides, Suicides, Unnatural deaths and Motor vehicle accidents.

Investigative techniques of Drug related offences, Forgery and Securities and offences relating to Smuggling of Antiquities.

Unit-4

Scientific techniques of collection of Clue materials- Types: Biological, Physical and chemical. Location and identification from the crime scene, victim and the suspects. Method and procedure of collection, preservation and transportation of physical clues to the experts. Scientific Interrogation of suspects, techniques and limitations; Methods and techniques employed in Interviewing of witness; use of portraits, Computerized portrait building system.

References:

1. Prevention and Detection of Crime – P. Ramanujam
2. Modern Criminal Investigation – Sodderman and O'Connell
3. Techniques of Crime Scene Investigation – Stevenson & Wendell.
4. Elements of Criminal Investigation – Weston and Walls
5. Criminal Investigation- Hans Gross.
6. Hand Book of Forensic Science – K.P.A. Publication
7. Criminal Investigation – O'Hara
8. Scientific Aids to Investigation-Giriraj Shah (1999) Anmol Publicatins, New Delhi.

III SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

HARD CORE (COMPULSORY PAPER)0:2:4=6 Credits

TERM WORK

BLOCK PLACEMENT/INTERNSHIP, INSTITUTIONAL VISITS AND STUDY TOUR

The candidate shall visit the Institutions selected in consultation with the assigned faculty member and work in an organization for **minimum of fifteen days** (Thirty Sessions) as part of Block Placement/Internship and submit a report.

The candidate shall remain in the Institution/Organization assigned to him/her during Block Placement/Internship Period. **Each Faculty** Member will have a Maximum of **Five Candidates** under her/him for supervision. The faculty member assigned for this work will have a contact session of **four hours per week**, to be mentioned in the College and Department Time table, as work load for the respective faculty.

The Study Tour or Conference/Seminar/workshop is **Compulsory for all the candidates** which carry **Two Credits**. However, in case if the candidates have not attended the scheduled tour or Conference/Seminar/workshop, will have a chance to **participate either Study Tour organized by the Department or visit various Institutions and Organizations** assigned by the concerned faculty to complete the Tour Activity.

III SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

SOFT CORE PAPER3:1:0=4 Credits

POLICE ADMINISTRATION

QP Code:17222

Learning Objectives: After studying this paper the students will know –

- a. The Organization of the State and Central Police*
- b. Police Station and its management*
- c. Methods of crime prevention adopted by the police and other authorized agencies.*

Unit I: Introduction: State Police

- (a) Historical development of (a) Ancient, (b) Medieval and (c) Modern Indian Police.
- (b) General organization of the State Police-Administrative hierarchy and the Ranges;
- (c) Special units:
 - 1. **C I D**- Organization and functions of various branches
 - a) Economic Crime Wing – Cyber division
 - b) Intelligence Wing.
 - c) Training wing
 - d) Technical Services - SCRB, FSL, FPB.
 - 2. DCRE, KSRP, GRP, Forest & Food Cell,

Unit II: Central Police Organizations

Organizational set up and functions of

- (a) Line Units: - Assam Rifles; CRPF; RPF; ITBP; CISF; BSF; NSG & SPG.
- (b) Staff Units: - BPR&D – NCRB, SVNPA, LN JNICFS, CDTs,
- (c) Directorate of Forensic Sciences- CFSL, CFPB, GEQD, DNA fingerprint unit. (d) Mixed Units: - CBI, IB & R and A Wing.

Unit III: Police Station

- (a) Meaning & establishment of a Police Station – Rural; Urban and Metropolitan (As per Police Manual).
- (b) Types & functions of different kinds of police stations.
 - i. Civil Police Station. ii. Traffic Police Station.
 - iii. Women Police Station.
- (c) Crime control records maintained in the Police Stations. (d) Police Help Line

Unit IV: crime prevention.

- (a) Police methods: E-Beat, Patrolling, Surveillance and Criminal Intelligence.
- (b) Voluntary agencies in crime prevention.
- (c) Police Relationship with Media & other related departments.
- (d) Auxiliary Units: - Civil Defense, V D P's and Special police Officers Wing.

Books for Reference

- | | |
|----------------------------|--|
| 1.Shankar Sen. | : Indian police Today |
| 2.P. D. Sharma | : Police and Political Order in India. |
| 3.T. Ramanujam | : Prevention and Detection of Crime. |
| 4.Bailey | : Police and Politics in India. |
| 5.Venugopala Rao | : Police Administration. |
| 6.Mahajan | : Indian Police. |
| 7.Gupta | : Police in India. |
| 8.Mehertaj Begum | : District Police Administration. |
| 9.Giriraj Shah | : Indian Police – A Retrospect. |
| 10.James Vadakumchary | : Human Rights and Police in India. |
| 11. Human Rights Bulletin. | : By Human Rights Commission. |

III SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

SOFT CORE PAPER3:1:0=4 Credits

VICTIMOLOGY

QP Code:17223

Learning Objectives: After studying this paper the students will know –

- a. The importance of Victimology.
- b. The causes and types of victimization.
- c. The significance of criminal justice system in compensation and victim mitigation.

EXISTING	CHANGES PROPOSED
Unit-I Historical development, nature and objectives and contemporary status. United Nations declarations on crime victims.	Unit-I Historical development, nature and objectives and contemporary status. United Nations declarations on crime victims. Theories of Victimology
Unit-II Classification and typology of victims by Benjamin Mendelssohn, Von Henting, Stephen Schafer and Abdul Fateh. Victim offender relationship.	Unit-II Classification and typology of victims by Benjamin Mendelssohn, Von Henting, Stephen Schafer and Abdul Fateh. Victimizing precipitating factors and Victim offender relationship.
Unit-III Role of victims in the Criminal Justice System, victim impact statement. Problems of victims: With the police; Personal and psychological; legal and social.	Unit-III Role of victims in the Criminal Justice System: victim impact statement, Participation in trial. Problems of victims: With the police; Personal and psychological; legal and social.
Unit-IV Restitution, compensation and Restorative Justice Process for the victim of crime: Global Scenario and Indian Context. Victim welfare programmes and Victimological research.	No Changes
References: 1. The criminal and his victim – Von Henting, Hans 2. Victimology a New focus – Dropkin and Viono 3. Surveying Victims - Sparks, James Dod 4. Readings in Victimology – Dr. K. Chokkalingam. 5. Victimology in India – V.N. Rajan.	No Changes

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

HARD CORE (COMPULSORY PAPER)3:0:1=4 Credits

FORENSIC SCIENCE-I (PHYSICAL SCIENCES)

QP Code:17226

Learning Objectives: After studying this paper the students will know –

a. The various divisions involved in processing of physical and trace evidence.

b. The tools and techniques for comparison of different types of crime scene evidence.

Unit-1

Meaning and application of Physical Science in Forensic Work. Establishment and functioning of the Physical and Fire Arm Sections of the Forensic Science Laboratory. Physical matching and comparison of tool marks, cut ends and torn ends.

Unit-2

Physical Matching and comparison of Footwear marks and Tyre marks, severed objects for mechanical fit, restoration and identification of tampered identification marks. Examination of fibers, fabrics and ligature fibers.

Unit-3

Physical matching and comparison of glass by the use of physical matching, mechanical fit and refractivity. Examination and comparison of soil, dust, debris, ash. Classification and determination of the origin of paints.

Unit-4

Classification of Fire arms and ammunition. Examination of the fire arm for its functionality and safety. Identification of the fire arm from the fired Cartridge Cases and Bullets. Range and angle of fire estimation, Terminal Ballistics and identification of the shooter.

References:

1. Criminal Investigation- J. Horson.
2. Criminalistics-An Introduction to Forensic Science- Safferstein, Richard M, (1990) Prentice Hall, NJ.
3. Crime investigation- Paul L Kirk –Edited by John I Thronton (1974) Wiley and Sons, NY.
4. Criminal investigation- Soderman and O’Connell.
5. Forensic Sciences- Eckert, William.
6. Criminalistics: Cunliffe and Piazza.
7. Forensic Science in Investigation and Trails- Sharma B.R
8. Introduction to forensic Science by B.S.Naber.
9. Physical Manual of the Directorate of forensic Science, Govt of India.
10. Ballistic Manual of the Directorate of forensic Science, Govt of India.

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

PRACTICALS

1. Examination and comparison of soil samples.

2. Mechanical fit of broken objects.
3. Comparison and identification of tool marks.
4. Examination and comparison of fibers and fabrics.
5. Examination of bullets and cartridge cases for class characteristics.
6. Examination and comparison of Footwear marks and Tyre impressions.

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

HARD CORE (COMPULSORY PAPER)3:1:0=4 Credits

FORENSIC SCIENCE INSTRUMENTATION

QP Code:17247

Learning Objectives: After studying this paper the students will know –

- The importance of chromatographic and spectroscopic techniques in processing crime scene evidence.*
- The utility of colorimetry, electrophoresis and neutron activation analysis in identifying chemical and biological materials.*
- The significance of X-ray Diffraction and other methods in the detection of crime.*

EXISTING	PROPOSED CHANGES
Unit-I Instrumentation: Stereoscopic binocular, Polarizing, hot stage and comparison Microscopes, Electron Microscopes. Spectroscope, Density Gradient tube and their utility.	Unit-I Microscopy: Stereoscopic binocular, Polarizing, hot stage and comparison Microscopes. Resolving powers of different microscopes, Visualization of cells and subcellular components by light microscopy, Microscopy and detection of molecules in living cells, Phasecontrast, Immunofluorescence and Confocal microscopy, Electron Microscopes-Scanning and Transmission (SEM and TEM), Freeze-etch and freeze-fracture methods for Electron Microscope, Cytophotometry, Density Gradient tube and their utility
Unit II UV, IR and; X-ray diffraction	Spectroscopy, electromagnetic spectrum, sources of radiation, their utility and limitations. Conventional sources for UV, visible and infrared rays, sources for shorter wavelength radiations (X-ray tubes), radioactivity, Laser (He, Ne Argon, ion, dye lasers, semi- conductor lasers) a source of radiation, interaction of radiation with matter:- reflection, absorption, transmission, fluorescence, phosphorescence and their forensic applications, radiation filters. Fluorescence and phosphorescence spectrometry: Types of sources, structural factors, instrumentation, comparison of luminescence and UVvisible absorption methods. Atomic absorption spectrometry:

	Instrumentation and techniques, interference in AAS, background correction methods, quantitative analysis. Atomic emission spectrometry: Instrumentation and techniques, arc/spark emission, ICP-AES, comparison ICP v/s AAS methods, quantitative analysis, applications. Elements of X-ray spectrometry, fluorescence, energy dispersive X-ray analysis (EDX), wavelength dispersive X-ray analysis (WDX), X-ray diffraction, augur effect. IR spectroscopy- correlation of infrared spectra with molecular structure, Fourier transform infrared (FTIR) and Raman spectroscopy, fluorescence and phosphorescence spectrophotometry,
Unit III Analytical Instrumentation: Gas Chromatography (GC), High-Performance Liquid Chromatography (HPLC), Thin Layer Chromatography (TLC) and Pyrolysed Gas Chromatography;	Unit III Basics and Forensic Applications : Gas Chromatography (GC), High-Performance Liquid Chromatography (HPLC), Thin Layer Chromatography (TLC) and Pyrolysed Gas Chromatography; Mass Spectrometry, GCMS, LCMS, Secondary Mass Spectrometry, Laser Mass spectrometry, Fast Atom bombardment and liquid secondary Ion Mass spectrometry, Electrospray Ionization mass spectrometry.
Unit- IV Neutron Activation Analysis; Spectrophotometry, their basic principles and applications. Visit to RFSL and submission of report.	Neutron Activation Analysis, Thermal analysis methods: Basic principles and theory, differential scanning colorimetry and differential analysis, thermogravimetry. Nuclear Magnetic Resonance spectroscopy.
References: 1. Criminal investigation- J. Horson. 2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard	1. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990). 2. Criminalistics: Cunlife and Piazza. 3. Willard, H.H. Lynne L. Merrett, J. Dean, A. Frank, A. Settle. J; Instrumental

<p>M, (1990).</p> <p>3. Criminalistics: Cunlife and Piazza.</p> <p>4. Crime investigation- Paul L Kirk – Edited by John I Thronton (1974) .</p> <p>5. Criminal investigation- Soderman and O'Connell.</p> <p>6. Forensic Science in Investigation and Trails- Sharma B.R</p> <p>7. Forensic Sciences- Eckert, William.</p>	<p>Methods of Analysis, 7th Edn. CBS pub. & Distributors, New Delhi, 1986.</p> <p>4. Robinson, J.W; Atomic Spectroscopy, 2nd Ed. Revised & Expanded, Marcel Dekkar, Inc, New York, 1996.</p> <p>5. Workman, J; Art Springsteen; Applied Spectroscopy- A compact reference for Practitioners, Academic Press, London, 1997.</p> <p>6. Khandpur, R.S; Handbook of Analytical Instruments, Tata McGraw Hill Pub. Co. New Delhi 2004.</p> <p>7. Thomson, K.C. &Renolds, R.J; Atomic Absorption Fluorescence & Flame Emission Spectroscopy, A Practical Approach, 2nd Edn. Charles Griffith & Company, New South Wales, 1978.</p> <p>8. Dudley, H. Williams & Fleming, I; Spectroscopic Methods in Organic Chemistry, 4th Edn, Tata McGraw- Hill Publishing Company, New Delhi, 1994.</p>
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III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

HARD CORE (COMPULSORY PAPER)3:0:1=4 Credits

FORENSIC SCIENCE-III (BIOLOGICAL SCIENCES)

QP Code:17228

Learning Objectives: *After studying this paper the students will know –*

- The significance of serological evidence.*
- The importance of biological fluids – blood, urine, semen, saliva, sweat and milk – in crime investigations.*
- The usefulness of skeletal remains, Paper and poisonous plants in forensic investigations.*
- The forensic importance of DNA profiling.*

Unit-1

Meaning and application of Biological Science in Forensic Work. Establishment and functioning of the Biological, Serological and DNA Section of the Forensic Science Laboratory. Examination of Blood Stains. Grouping and Typing of blood.

Unit-2

Examination of Semen and Seminal Stains. Examination of Saliva and Saliva Stains, Urine Stains, Fecal Matter and Fecal Stain, Hair and Fiber Examination.

Unit-3

Human Skeleton Examination, Analyses of Paper, and poisonous plants.

Unit-4

DNA Isolation from Biospecimen and Quantification of DNA. Preparation of DNA Profile.

References:

1. Criminal Investigation- J. Horson.
2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990).
3. Crime investigation- Paul L Kirk –Edited by John I Thronton (1974).
4. Criminal investigation- Soderman and O’Connell.
5. Forensic Sciences- Eckert, William.
6. Criminalistics: Cunliffe and Piazza.
7. Forensic Science in Investigation and Trails- Sharma B.R
8. Introduction to forensic Science by B.S.Naber.
9. Biological Manual of the Directorate of forensic Science, Govt of India.
10. Serological Manual of the Directorate of forensic Science, Govt of India.
11. DNA Manual of the Directorate of forensic Science, Govt of India.

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

PRACTICALS

1. Examination and grouping of blood.
2. Examination of hair
3. Examination of natural fibers.
4. Examination of Human skeleton for gender identification and age estimation.
5. Examination and identification of poisonous plants.

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

SOFT CORE PAPER [to choose any one] 3:1:0=4 Credits

FORENSIC EXAMINATION OF EXPLOSIVES

QP Code:17229

Learning Objectives: After studying this paper the students will know –

- a. The classification of explosives, including the synthesis and characterization of representative analogs.*
- b. The significance of bomb scene management.*
- c. The techniques of detection of explosives.*

Unit-1

General aspects of explosives. Classification (based on performance and structure). Characteristics of high and low explosives.

Unit-2

General Information about explosive devices including Improvised Explosive Devices (IEDs) Explosives composition

Unit-3

Analysis of Explosives. Separation of explosives in a mixture. Detection and identification of explosives

Unit-4

Analysis of Organic explosives (Acetone extract). Quantitative Analysis of Explosives

References:

1. Criminal Investigation- J. Horson.
2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990).
3. Crime investigation- Paul L Kirk –Edited by John I Thronton (1974).
4. Criminal investigation- Soderman and O’Connell.
5. Criminalistics: Cunlife and Piazza.
6. Forensic Science in Investigation and Trails- Sharma B.R
- 7.Introduction to Forensic Science by B.S.Naber.
- 8.Explosives Manual of the Directorate of Forensic Science, Govt of India.

III SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

SOFT CORE PAPER [to choose any one] 3:1:0=4 Credits

FORENSIC EXAMINATION OF DOCUMENTS

QP Code:17230

Learning Objectives: After studying this paper the students will know –

- a. The importance of examining questioned documents in crime cases.*
- b. The tools required for examination of questioned documents.*
- c. The significance of comparing hand writing samples.*
- d. The importance of detecting electronic documents and Forensic Speaker identification.*

Unit: 1

Meaning, nature and scope of Forensic Document examination.

Role of Forensic Document Examiner in crime detection and expert testimony in Courts.

Unit:2

Instrumentation for Questioned Documents Examination-utilization of Stereoscopic Microscope, Electrostatic detection device and Video Spectral Comparator.

Types of Questioned documents such as Hand Written, Type Written and printed Collection of standards for comparison and their examination.

Unit: 3

Examination of Forgery, types and their detection. Examination of Counterfeited Currency notes, stamps, government paper, seals etc.

Examination of inks, papers and identification by chemical methods.

Unit:4

Examination of electronic documents and detection of morphing and Steganography,

Voice print examination, audio sources and detection of similarities.

References:

1. Questioned documents: Osborne.
2. Examination of documents :Hardless.
3. Introduction to Forensic Sciences- Eckert.
4. Introduction to Criminalistics- Safferstein.
5. Criminalistics: Cunlife and Piazza.
6. Forensic science in criminal investigation and trials: B.R.Sharma.

III SEMESTER

OPEN ELECTIVE PAPER

3:1:0=4 Credits

CYBER CRIME AND CYBER LAW

QP Code:17224

Unit-1

Cyber Space; meaning, definition and scope. Concept of cybercrimes; Criminological perspective as a type of economic crime; role of “*mens rea*” and criminal liability in cybercrime. Criminological theories of Cyber Crime.

Unit-2

Cyber crimes; meaning, definitions, nature and characteristics; Types of cyber crimes and classifications (General, pioneers and INTERPOL) Types of Malware:- a) Viruses, b) Worms, c) Trojan Horses, d) Blended Attacks, e) Tracking Cookies f) Attacker tools, g) Keystroke Loggers, h) Rootkits;

Unit-3

Laws relating to Cyber crime; Salient features of IT Amendment Act-2008, with emphasis on aspects relating to offences, punishments, investigative powers and regulations.

Unit-4

Fundamentals of Investigation of Cyber Crimes and Cyber Forensics; Cyber Security, Global, National, Industrial and individual levels; Credit Card Frauds, their types, investigation and detection.

Reference:-

1. Laws on Cyber Crimes : Dr. Pramod Kr. Singh.
2. Cyber laws and cyber crimes :Barkha and U. Ram Mohan.
3. E-crimes and remedies : Vasu Deva.
4. Combating Cyber Crimes : Paul T Augustine.
5. Taxmann’s Law of Information Technology :D.P.Mittal
6. Taxmann’s Law on Intellectual Property and Copyrights Act.

III SEMESTER

OPEN ELECTIVE PAPER

3:1:0=4 Credits
POLICE ORGANISATION

QP Code:17225

Unit-1

Historical development of (a) Ancient, (b) Medieval and (c) Modern Indian Police.

General organization of the State Police-Administrative hierarchy and the Ranges; Special units: Organization and functions of various branches

Unit-2

Central Police Organizations- Organizational set up and functions of Line Units: - Assam Rifles; CRPF; RPF; ITBP; CISF; BSF; NSG & SPG.

Staff Units: - BPR&D – NCRB, SVNPA, LNJNICFS, CDTS, DFSc, FPB, GEQD, DNA unit.

Mixed Units: - CBI, IB

Unit-3

Police Station-Meaning & establishment of a Police Station. Types & functions of different kinds of police stations. Crime control records maintained in the Police Stations.

Unit-4

Crime prevention. Police methods: E-Beat, Patrolling, Surveillance and Criminal Intelligence.

Police Relationship with Media & other related departments. Auxiliary Units: - Civil Defense, V D P's and Special police Officers Wing.

Reference

- | | |
|-------------------|--|
| 1. Shankar Sen. | : Indian police Today |
| 2. P. D. Sharma | : Police and Political Order in India. |
| 3. T. Ramanujam | : Prevention and Detection of Crime. |
| 4. Bailey | : Police and Politics in India. |
| 5. Venugopala Rao | : Police Administration. |
| 6. Mahajan | : Indian Police. |
| 7. Gupta | : Police in India. |
| 8. Mehertaj Begum | : District Police Administration. |

IV SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

HARD CORE (COMPULSORY PAPER) 3:1:0=4 Credits

SECURITY AND VIGILANCE

QP Code:17241

Learning Objectives: After studying this paper the students will know –

- a. The importance of private security and vigilance.*
- b. The tools required for security.*
- c. The significance of Disaster Management.*

Unit-1

Introduction: concepts, terminology, importance and purpose of security, role of agencies and personnel.

Types of security organizations: Transport – Government/ Private. (Bus Termini, Railway Stations, Airports and Sea Ports.) Banks & Non Banking Financial Institutions.

Industries – Government/Private. Security in multi-storied buildings and supermarkets.

Unit-2

Preventive Measures by security: Compilation and Circulation of directives of the security guidelines.

Problems of security and vigilance in investigation, Problems of Co-operations and Co-ordination between security agencies, Police and Public; Science and Technology in Security work for the prevention & detection of crime.

Unit-3

Vigilance: Concept, Meaning, types, significance and scope, Role of Vigilance Commissions (Lokayuktha) in the Prevention of corruption; Vigilance in public and private Sectors – Banks, Industries & Financial Institutions; Frauds Analysis; Meaning, Nature Types and extent in Banks, Insurance and Financial Institutions; Role of CBI, DRI, CVC, SVC, SEBI in Detection of Frauds.

Unit-4

Vigilance measures: Building security measures in accounting procedures. Internal audit systematization, Records maintenance and Periodical Job rotation and transfer of functionaries.

Disaster management – Role of security officers in after natural and in prevention of man made disasters. Emergency response, need for coordination and systematic approaches during crisis.

Reference:

1. John -Fundamentals of training for security officers
2. Coffey-Law enforcement in changing society
3. Hood. R -Crime, Criminology & Public Policy
4. Anderson -Bank Security
5. David & Bagger -Industrial Security
6. Paul Fugue -Security Investigator Handbook
7. R.M. Tobes -Locks, Safes and Security
8. Crime in Banks-Indian Society of Criminology Publication- Chennai
9. Frauds in Banks - Indian Society of Criminology Publication- Chennai
10. Crime prevention through physical security – Strob
11. Story of private security – Peel
12. Fundamentals of Security – Peel
13. Organized Crime concepts and Central – D.F. Pace & J.C. Styles 14.Industrial Security: Deepak Haldar

**IV SEMESTER
SPECIALIZATION “A” CRIMINOLOGY**

HARD CORE (COMPULSORY PAPER)0:2:8=10 Credits

DISSERTATION WORK

STUDY METHODOLOGY:

The students are given an option to select one of the relevant topics related to Criminology and Forensic Science. The Candidates shall select a topic in consultation with the concerned Supervisor and submit dissertation in three Copies within the stipulated time. During the allocated session, the topic will have to be studied and a specific methodology is to be followed;

1. Selection of the topic
 2. Study the topic to evolve the statement of the problem
 3. Literature survey
 4. Methodology
 5. Collection of data or information on the institution or case (depending upon the topic and method)
 6. Analysis and interpretation of the data.
 7. Findings and conclusions.
-
- Each of the students will be assigned a study supervisor and each of the supervisors will have a fixed number of students for the term. In case of Guest Faculty being assigned supervision, not more than 3 per faculty shall be assigned during the term.
 - The pedagogy to be followed is to mentor the student, review progress and suggest corrections.
 - The student will have to attend the designated classes and the teacher assigned will conduct the contact session in relation to the research methods to his/her assigned students.
 - The designated classes for the field work will be mentioned in the college and department time table.
 - **The contact sessions will be a part of the practical workload of the designated teacher.**
 - Finalization and submission of the report will have to take place at least one week before the scheduled university practical examination.
 - The report shall contain letters of permission from the institutions and endorsement thereof as to having visited the institution for collection of information.
 - The copies of the filled in questionnaires will have to be submitted in a separate file in case if the student has used the survey method.
 - The reports shall be evaluated at the term end examination, conducted by the University of Mysore.
 - The evaluation will also be based upon the *viva-voce*, in relation to the report.
 - Viva-Voce shall be conducted by the Internal and External Examiner for 20 Marks.

- The Dissertation shall be evaluated for 50 marks separately by both Internal and External Examiners separately.
- If the Dissertation of the candidate is found to be unsatisfactory by the examiners, such candidate shall resubmit the revised dissertation as remarked by the external examiner, within one month from the day of Viva-voce.

IV SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

SOFT CORE PAPER [to choose any one] 3:1:0=4 Credits

QUESTIONED DOCUMENT

QP Code:17242

Learning Objectives: After studying this paper the students will know –

- a. The importance of examining questioned documents in crime cases.*
- b. The tools required for examination of questioned documents.*
- c. The significance of comparing hand writing samples.*
- d. The importance of detecting electronic documents and Forensic Speaker identification.*

Unit:1

Meaning, nature and scope of Forensic Document examination.

Role of Forensic Document Examiner in crime detection and expert testimony in Courts.

Unit:2

Instrumentation for Questioned Documents Examination-utilization of Stereoscopic Microscope, Electrostatic detection device and Video Spectral Comparator.

Types of Questioned documents such as Hand Written, Type Written and printed Collection of standards for comparison and their examination.

Unit: 3

Examination of Forgery- types and their detection. Examination of Counterfeit Currency notes, stamps, government paper, seals etc. Examination of inks, papers and identification by chemical methods.

Unit:4

Examination of Electronic Documents and detection of morphing and Steganography,

Voice print examination, audio sources and detection of similarities.

References:

1. Questioned documents: Osborne.
2. Examination of documents: Hardless.
3. Introduction to Forensic Sciences- Eckert.
4. Introduction to Criminalistics- Safferstein.
5. Criminalistics: Cunlife and Piazza.
6. Forensic science in criminal investigation and trials: B.R.Sharma.

IV SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

SOFT CORE PAPER [to choose any one] 3:1:0=4 Credits

CORPORATE CRIME

QP Code:17243

Learning Objectives: After studying this paper the students will know –

- a. Basic Corporate and financial terminology.*
- b. Corporate crimes in India are linked to several other crimes.*
- c. Corporate crimes often have a bearing on national security.*
- d. Types of common corporate offences and their consequences.*

Unit-1

Introduction - Definition, Importance, Types & their behavior. Forms & Consequences of corporate crime and recent corporate scandals in India and rest of the world. Policies to control corporate crimes.

Unit-2

White collar crime and corporate crime – Concept and Definitions. Types of White-collar Crimes and method & Techniques of Investigation of White-collar Crime. Causes and Social impact of white-collar crime, method of prevention of white-collar crime and case study.

Unit-3

Organized Crime – Concept, Sources and political relevance (Including the Italian – American Mafia and Europe). Interaction between corporate crime, white-collar crime and organized crime in the Developing and developed countries. Finance-oriented strategies of control in the case of corporate, white-collar and organized crime and case study.

Unit-4

Environmental crime, crimes in Banking, Insurance, Pension Funds and Medical Crimes. Crimes by the Government (Water-Gate Case) - corruption among officials and corporate Social Responsibility. The legal System – SOX Act and corporate Governance Regulations in India and rest of the World, Debate on select Topics

References:

- 1, Blum Richard H, 1979, Deceivers and Deceived, Charles, C. Thomas Publishers.
- 2, Bologna, Jack, 1984, Corporate Fraud, Butter Worth Publishers.
- 3, Chandra Mahesh, 1979, Socio Economic Crime, N.M. Tripathi Pvt. Ltd.
- 4, Ghosh Murrain, 1979, Black money – The case for India, Subarna Rekha, Calcutta.
- 5, Anabui, Farhad and Kakabadse, Andrew, 2004, Corporate sabotage, Jaico publishing House.
- 6, Lal Bhure, 2003, Money Laundering: An insight into the dark world of financial frauds, Siddharth publications.
- 7, Frauds and white collar crimes, Eleck Bock Ltd, Oughton, Frederick, 1971.

IV SEMESTER

SPECIALIZATION “A” CRIMINOLOGY

SOFT CORE PAPER [to choose any one] 3:1:0=4 Credits

FORENSIC PSYCHOLOGY

QP Code:17244

Learning Objectives: After studying this paper the students will know –

- a. The overview of forensic psychology and its applications.*
- b. The legal aspects of forensic psychology.*
- c. The significance of criminal profiling.*
- d. The importance of psychological assessment in gauging criminal behavior.*
- e The tools and techniques required for detection of deception.*
- e. The critical assessment of advanced forensic techniques like polygraphy, narcoanalysis and brain electrical oscillation signatures.*

EXISTING	CHANGES RECOMENDED
Unit-1 Introduction to Forensic Psychology. Evolution, Scope and its importance. Relationship with Psychology, Criminology and Medical Psychiatry.	Unit-1 Unit 1: Basics of Forensic Psychology Definitions and fundamental concepts. Psychology and law; Ethical issues in forensic psychology. Assessment of mental competency; Types of mental disorders. Psychology of evidence – eyewitness testimony, confession evidence. Criminal profiling. Psychology in the courtroom, with special reference to Section 84 IPC.

<p>Unit-2</p> <p>Concept of Normal and Abnormality. Mental Mechanism / Defense Mechanism Types. Its Relevance to crime. Sociopath, Sociopath Checklist.</p>	<p>Unit 2: Psychology and Criminal Behavior Psychopathology and personality disorder.</p> <p>Psychological assessment and its importance.</p> <p>Serial murderers. Psychology of terrorism. Biological factors and crime – social learning theories, psycho-social factors, abuse. Juvenile delinquency – theories of offending</p> <p>(social cognition, moral reasoning), Child abuse (physical, sexual, emotional), juvenile sex offenders, legal controversies.</p>
<p>Unit-3</p> <p>Juvenile offenders: Anti-social Behaviour. Criminogenic factors and development of criminal careers. Violent offenders: Influences for violence;</p>	<p>Unit 3: Detection of Deception</p> <p>Tools for detection of deception – interviews, non-verbal detection, statement analysis, voice stress analyzer, hypnosis.</p> <p>Offender Profiling and violence prediction.</p>
<p>Psychological profile analysis of criminals- Serial killers, rapists, habitual criminals and</p>	<p>Unit-4</p>
<p>professional criminals. Police Psychology: Lie Detection, Narco-analysis, Brain Fingerprinting.</p>	<p>Polygraphy – operational and question formulation techniques, ethical and legal aspects, the guilty knowledge test.</p> <p>Narco analysis and brain electrical oscillation signatures – principle and theory, ethical and legal issues.</p>
<p>References:</p> <ol style="list-style-type: none"> 1. Forensic Psychology-Dennis Howitt 2. Forensic Psychology, New Trends and Innovations-Rajpal Kaur 3. Psychology and the dilemma of crime-Halleck 4. Psychological disorders and crimeNeustatter. 5. Profile of a criminal mind- Brian Innes. 6. General Psychology-P. Nataraj. 7. Criminal Psychology-R.Mishra. 	<p>References:</p> <ol style="list-style-type: none"> 1. A.A. Moenssens, J. Starrs, C.E. Hendersonand F.E. Inbau. <i>Scientific Evidence in Civil and Criminal Cases</i>, 4th Edition, The Foundation Press, Inc., New York (1995). 2. Richard M Saferstein; <i>Criminalistics</i>, 8th Edition, Prentice Hall, New Jersey (2004). 3. J.C. DeLadurantey and D.R. Sullivan; <i>Criminal Investigation Standards</i>, Harper & Row, New York (1980). 4. E. Elaad in <i>Encyclopedia of Forensic Science, Volume 2</i>, J.A. Siegel, P.J. Saukko and G.C. Knupfer (Eds.), Academic Press,

	London (2000).
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IV SEMESTER

SPECIALIZATION “B” FORENSIC SCIENCE

HARD CORE (COMPULSORY PAPER)

3:1:0=4 Credits

FORENSIC SCIENCE-II (CHEMICAL SCIENCES)

QP Code:17227

Learning Objectives: *After studying this paper the students will know –*

- a. *The services offered by the chemistry section of the Forensic Science Laboratory.*
- b. *The method of searching, collecting, preserving and analyzing arson evidence.*
- c. *The detection of Gold, Alcohols etc.*
- d. *The methods of analyzing contaminants in petroleum products.*
- e. *The classification and characteristics of the narcotics, drugs and psychotropic substances.*

Unit-1

Meaning and application of Chemical Science in Forensic Work. Establishment and functioning of the Chemical Section of the Forensic Science Laboratory. Fundamentals of chemical analysis. Detection and identification of inflammable materials or their residues in the exhibits of fire/arson cases.

Unit-2

Qualitative and quantitative estimation of ethyl alcohol in various alcoholic preparations. Examination of chemicals used in Trap Cases. Examination of corrosive chemicals like hydrochloric acid, sulphuric acid, and nitric and alkalis in crime exhibits of acid/alkali throwing cases.

Unit-3

Examination of Gold and other metals for qualitative and quantitative estimation. Sampling to profile various narcotic drugs of natural or synthetic origin under NDPS Act.

Unit-4

Analysis of Petroleum Products such as petrol, Filter Paper Test for detecting Adulteration of Petrol with Kerosene/Diesel, Tests for presence of Gum Content, Detection of adulterants in Kerosene and Diesel.

References:

1. Criminal Investigation- J. Horson.
2. Criminalistics-an Introduction to Forensic Science- Safferstein, Richard M, (1990).
3. Crime investigation- Paul L Kirk –Edited by John I Thronton (1974).
4. Criminal investigation- Soderman and O'Connell.
5. Forensic Sciences- Eckert, William.
6. Criminalistics: Cunliffe and Piazza.
7. Forensic Science in Investigation and Trails- Sharma B.R
8. Introduction to forensic Science by B.S.Naber.
9. Chemistry Manual of the Directorate of forensic Science, Govt of India.
10. Petroleum Manual of the Directorate of forensic Science, Govt of India.
11. Narcotics Manual of the Directorate of forensic Science, Govt of India.

**IV SEMESTER
SPECIALIZATION “B” FORENSIC SCIENCE**

HARD CORE (COMPULSORY PAPER)0:2:8=10 Credits

DISSERTATION WORK

STUDY METHODOLOGY:

The students are given an option to select one of the relevant topics related to Criminology and Forensic Science. The Candidates shall select a topic in consultation with the concerned Supervisor and submit dissertation in three Copies within the stipulated time. During the allocated session, the topic will have to be studied and a specific methodology is to be followed;

1. Selection of the topic
 2. Study the topic to evolve the statement of the problem
 3. Literature survey
 4. Methodology
 5. Collection of data or information on the institution or case (depending upon the topic and method)
 6. Analysis and interpretation of the data.
 7. Findings and conclusions.
-
- Each of the students will be assigned a study supervisor and each of the supervisors will have a fixed number of students for the term. In case of Guest Faculty being assigned supervision, not more than 3 per faculty shall be assigned during the term.
 - The pedagogy to be followed is to mentor the student, review progress and suggest corrections.
 - The student will have to attend the designated classes and the teacher assigned will conduct the contact session in relation to the research methods to his/her assigned students.
 - The designated classes for the field work will be mentioned in the college and department time table.
 - **The contact sessions will be a part of the practical workload of the designated teacher.**
 - Finalization and submission of the report will have to take place at least one week before the scheduled university practical examination.
 - The report shall contain letters of permission from the institutions and endorsement thereof as to having visited the institution for collection of information.
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 - The evaluation will also be based upon the *viva-voce*, in relation to the report.
 - Viva-Voce shall be conducted by the Internal and External Examiner for 20 Marks.
 - The Dissertation shall be evaluated for 50 marks separately by both Internal and External Examiners separately.
 - If the Dissertation of the candidate is found to be unsatisfactory by the examiners, such candidate shall resubmit the revised dissertation as remarked by the external examiner, within one month from the day of Viva-voce.

**IV SEMESTER
SPECIALIZATION “B” FORENSIC SCIENCE**

SOFT CORE PAPER[to choose any one]

3:1:0=4 Credits

FORENSIC TOXICOLOGY

QP Code:17248

Learning Objectives: After studying this paper the students will know –

- a. The significance of toxicological studies in forensic science.*
- b. The classification of poisons and their modes of actions.*
- c. The absorption of poisons in body fluids.*

EXISTING	CHANGES PROPOSED
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Unit-1 Forensic Toxicology – Poisons- Meaning. General considerations; Clinical (Symptomatic) and Toxicological (Laboratory/origin based) classifications of poisons.	No Changes
Unit-2 General idea about Suicidal, Homicidal and Non-fatal poisons; Routes of administration and elimination Factors effecting the action of poisons	General idea about Suicidal, Homicidal and Non-fatal poisons; Routes of administration and elimination Factors effecting the action of poisons; Antidotes for poisons.
Unit-3 Study of specific poisons: Datura, Opium, Arsenic, Cyanide, Barbiturates, Alcohol and Insecticides.	Unit-3 Study of specific poisons: Datura, Opium, Arsenic, Cyanide, Carbon monoxide, Cocaine, Cannabis, Barbiturates, Alcohol and Insecticides.
Unit-4 Collection of Samples: From the crime Scene and Viscera of the Deceased; Packing and preservation of samples; laboratory examination for detection of poisons.	No Changes
References: 1. Medical jurisprudence and Toxicology – Dr. N.J. Modi 2. Synopsis of Forensic Medicine – Dr. Narayana Reddy 3. Parikh’s Medical Jurisprudence and Toxicology. 4. Forensic Toxicology- Dr.V.V.Pillai. 5. Forensic Toxicology –Dr.Nagesh Kumar V.Rao.	References 1. Synopsis of Forensic Medicine – Dr. Narayana Reddy 2. Parikh’s Medical Jurisprudence and Toxicology. 3.Text book of Forensic Medicine and Toxicology: Dr. Krishan Vij 4. Forensic Toxicology- Dr.V.V.Pillai.

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**IV SEMESTER
SPECIALIZATION “B” FORENSIC SCIENCE**

SOFT CORE PAPER[to choose any one]

3:1:0=4 Credits

FORENSIC PSYCHOLOGY

QP Code:17244

Learning Objectives: After studying this paper the students will know –

- a. The overview of forensic psychology and its applications.*
- b. The legal aspects of forensic psychology.*
- c. The significance of criminal profiling.*
- d. The importance of psychological assessment in gauging criminal behavior.*
- e The tools and techniques required for detection of deception.*
- f. The critical assessment of advanced forensic techniques like polygraphy, narcoanalysis and brain electrical oscillation signatures.*

EXISTING	CHANGES RECOMENDED
Unit-1 Introduction to Forensic Psychology. Evolution, Scope and its importance. Relationship with Psychology, Criminology and Medical Psychiatry.	Unit-1 Unit 1: Basics of Forensic Psychology Definitions and fundamental concepts. Psychology and law; Ethical issues in forensic psychology. Assessment of mental competency; Types of mental disorders. Psychology of evidence – eyewitness testimony, confession evidence. Criminal profiling. Psychology in the courtroom, with special reference to Section 84 IPC.

<p>Unit-2</p> <p>Concept of Normal and Abnormality. Mental Mechanism / Defense Mechanism Types. Its Relevance to crime. Sociopath, Sociopath Checklist.</p>	<p>Unit 2: Psychology and Criminal Behavior Psychopathology and personality disorder.</p> <p>Psychological assessment and its importance.</p> <p>Serial murderers. Psychology of terrorism. Biological factors and crime – social learning theories, psycho-social factors, abuse. Juvenile delinquency – theories of offending</p> <p>(social cognition, moral reasoning), Child abuse (physical, sexual, emotional), juvenile sex offenders, legal controversies.</p>
<p>Unit-3</p> <p>Juvenile offenders: Anti-social Behaviour. Criminogenic factors and development of criminal careers. Violent offenders: Influences for violence;</p>	<p>Unit 3: Detection of Deception</p> <p>Tools for detection of deception – interviews, non-verbal detection, statement analysis, voice stress analyzer, hypnosis.</p> <p>Offender Profiling and violence prediction.</p>
<p>Psychological profile analysis of criminals- Serial killers, rapists, habitual criminals and professional criminals. Police Psychology: Lie Detection, Narco-analysis, Brain Fingerprinting.</p>	<p>Unit-4</p> <p>Polygraphy – operational and question formulation techniques, ethical and legal aspects, the guilty knowledge test.</p> <p>Narco analysis and brain electrical oscillation signatures – principle and theory, ethical and legal issues.</p>
<p>References:</p> <p>1. Forensic Psychology-Dennis Howitt 2. Forensic Psychology, New Trends and</p>	<p>References:</p> <p>5.A.A. Moenssens, J. Starrs, C.E. Henderson and F.E. Inbau. <i>Scientific Evidence in</i></p>
<p>Innovations-Rajpal Kaur</p> <p>3. Psychology and the dilemma of crime- Halleck</p> <p>4. Psychological disorders and crime-Neustatter.</p> <p>5. Profile of a criminal mind- Brian Innes.</p> <p>6. General Psychology-P. Nataraj.</p> <p>7. Criminal Psychology-R.Mishra.</p>	<p><i>Civil and Criminal Cases</i>, 4th Edition, The Foundation Press, Inc., New York (1995).</p> <p>6. Richard M Saferstein; <i>Criminalistics</i>, 8th Edition, Prentice Hall, New Jersey (2004).</p> <p>7. J.C. DeLadurantey and D.R. Sullivan; <i>Criminal Investigation Standards</i>, Harper & Row, New York (1980).</p> <p>8. E. Elaad in <i>Encyclopedia of Forensic Science, Volume 2</i>, J.A. Siegel, P.J. Saukko and G.C. Knupfer (Eds.), Academic Press, London (2000).</p>

IV SEMESTER

OPEN ELECTIVES PAPER

3:1:0=4 Credits

LAW OF PRINTS AND IMPRESSIONS

QP Code:17245

Unit- 1

Biological aspects, Skin Structure and ridge formation its role in formulation of the Principles of Finger Prints; Historical data of Fingerprints; Role of pioneers

Unit-2

Recording techniques, Classification Henry's ten digit classification system.
Use of A F I S and I A F I S and contemporary innovations in storage and retrieval of fingerprints.

Unit-3

Development of Finger Prints from various Surfaces by powders, Gases and Liquids; Photography, Lifting and Marking-up as evidence; Ridge characteristics, comparison of fingerprints.

Unit-4

Footprints; meaning and Types. Modes of recording of surface footprints and sunken footprints.

Gait Pattern and its use in investigation.

References :

1. Criminalistics and Scientific investigation : Fredric Cunliffe & Piazza
2. Modern Criminal investigation : Soderman&O'Connell.
3. Synopsis of forensic Medicine : Narayan Reddy.
4. Modi's Medical Jurisprudence and Toxicology : Dr.N.J.Modi 5.Laws of Prints and Impressions : Venkiah.
6. Criminalistics- Introduction to forensic Science : Richard M Safferstin.
7. Criminal Investigation, Practical fingerprinting, thumb impression : Bridges B.C, August Vollmer and M.Monair

IV SEMESTER

OPEN ELECTIVES PAPER

3:1:0=4 Credits

VICTIMOLOGY

QP Code:17246

Unit-I

Historical development, nature and objectives and contemporary status. United Nations declarations on crime victims.

Unit-II

Classification and typology of victims by Benjamin Mendelssohn, Von Henting, Stephen Schafer and Abdul Fateh. Victim offender relationship.

Unit-III

Role of victims in the Criminal Justice System, victim impact statement. Problems of victims: With the police; Personal and psychological; legal and social.

Unit-IV

Restitution, compensation and Restorative Justice Process for the victim of crime: Global Scenario and Indian Context. Victim welfare programmes and Victimological research.

References:

1. The criminal and his victim – Von Henting, Hans
2. Victimology a New focus – Dropkin and Viono
3. Surveying Victims - Sparks, James Dod
4. Readings in Victimology – Dr. K. Chokkalingam.
5. Victimology in India – V.N. Rajan.