CHEMISTRY & TOXICOLOGY DIVISION

The division undertakes examination of clue materials such as:

Poison

Petroleum product residue in arson & dowry deaths and in adulteration cases

Alcohol estimation from blood and urine for drunkenness

Phenolphthalein in trap cases

Liquor

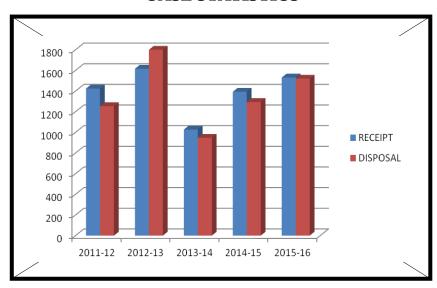
Methanol in hooch tragedy

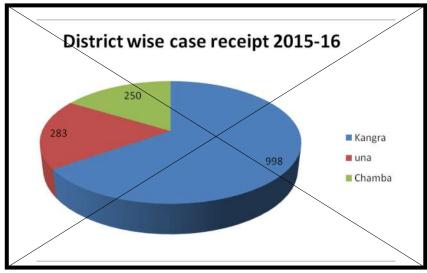
Acid & attacks

Grease, wax, oils & resins

Cosmetics & organic dyes

Chemical identification of unknown substances





DOCUMENT & PHOTOGRAPHY DIVISION

The Document and photography Division was established in July, 2008. The crime cases pertaining to Forensic Documents from Districts Kangra, Chamba, Una, Hamirpur, Kullu, Lahaul Spiti, SV&ACB of Northern Range, CID Unit Northern Range, besides cases from Judiciary are undertaken for examination. Forensic Document is the systematic and scientific study of holomastic and onomastic documents. This division provide solutions in:

Fraud & forgery

Handwriting, signature, typewriting, computer printout

Stamp & seal

Burnt & soiled document

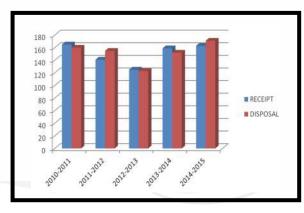
Counterfeit currency

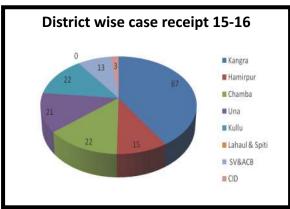
Genuineness of security documents viz. Passport, stamp paper, credit card, debit card and other financial document

Evaluation of erasure, obliteration, alteration, indentation etc.

Paper and ink analysis

Preservation of hard disk, memory card, pen drive, compact disc, digital video recorder, mobile phone. Scene of crime photography and laboratory photography





TEACHING & TRAINING

Name & Designation	No. lectures / demonstrations
Dr. Meenakshi Mahajan, Assistant Director	52
Dr. Surender Kumar Pal, Assistant Director	37
Sh. Chaman Lal Sharma, Scientific Officer	20
Sh. Ajay Sehgal, Scientific Officer	26
Sh. Mam Raj Sharma, Scientific Officer	30
Sh. Rajat Chaudhary, Scientific Assistant	08
Sh. Ajay Singh Rana, Scientific Assistant	06
Sh. Upender, Laboratory Assistant	18
Sh. Ram Singh, Laboratory Assistant	06

TRAINING ATTENDED

Name	Course	
2 14 14 14 14		
Dr. Meenakshi Mahajan	Training of Trainer programme SEVOTAM at HIPA	
	Shimla on 15- 19.6.15.	
	• Explosive & Explosion Investigation at LNJN, NICFS,	
	MHA /GOI, Delhi on 22-24.7.15.	
	Science Administration and Research Management at	
	Administrative Staff College of India (ASCI)	
	Hyderabad on 17-28.8.15.	
	• Cell Phone Forensics at CDAC Thiruventhpuram on 8-9.2.16.	
Sh. Ajay Kumar Sehgal	Course on Wild life Crime and Forensic Science at LNJN NICFS, New Delhi on 10-12.02.16.	

COURSE ORGANIZED

In pursuance to Himachal Pradesh Police Act, 2007, to enhance professionalism in crime investigation amongst Investigating Officers of the Northern Range, the Police Head quarters had allotted two training courses of two weeks duration. The trainees were delivered theory lectures and imparted practical trainings. On completion of training, the trainees appeared in written test and the result was communicated to the Police Headquarters.

Course	Number
• Disaster Victim Identification' for Medical Officers on 12.05.15	14
Two week training on 'Forensic Science' for Investigating Officers of Northern Range on 3-14.8.15.	19
Two week training on 'Forensic Science' for Investigating Officers of Northern Range on 29.2.16 to 11.3.2016	15
Total	48



A Group photograph: Faculty and Trainees officers

INTERNSHIP

Sr. No.	Institute/University	Date	No. of Students
1.	Law students from HPU Regional Centre, Dharamshala	17 -18.4.15	23
2.	Law students from HPU Regional Centre, Dharamshala	24.4.15	25
3.	M.Sc. (Forensic Students) from Sam Hagginbottom Institute of Agriculture and Technology, Allahabad	1- 25.6.15	18
4.	M.Sc. (Forensic Science) students from Amity University, Noida	1- 30.6.2015	2
5.	M.Sc. (Forensic Science) students from Dr. A.P.J. Abdul Kalam Institute of Forensic Science, Bundelkhand University, Jhanshi U.P.	12- 22.1.16	34
6.	Trainees from Rajeev Gandhi Govt. Ayurvedic College, Paprola.	2.9.15	20
7.	Students from Dhauladhar Public Sen. Sec. School, Dharamshala	24.9.15	50
8.	Students of B.Sc. Biotechnology from Govt. Degree College, Dharamshala.	28.12.15	35

CONFERENCE/SEMINAR/WORKSHOP/SYMPOSIUM ATTENDED

Name	Remarks		
Dr. Meenakshi Mahajan	One day sensitization workshop for nodal officers (RTI) on Suo-Moto Disclosure at HIPA Shimla on 7.8.15.		
All officers and officials of RFSL, NR, Dhramshala	 Seminar on Quality assurance & Network Security at RFSL, Dharamshala on 09.06.2015. Seminar on 'Narcotics Drugs & Psychotropic Substances' on 26.3.16 at DRDA Conference Hall, Vikas Bhawan Dharamshala. 		





SEMINAR/WORKSHOP/SYMPOSIUM ORGANIZED

Seminar on Narcotic Drugs and Psychotropic Substances was organized for Officers of Judiciary, Police, Prosecution and Forensics of Northern Range on 26.03.16. The dignitaries included Sh. S L Sharma, Distt. & Session Judge, Sh. Kaustubh Sharma, IPS, Zonal Director, NCB, Chandigarh, Sh. GD Bhargava, IPS, IGP, NR and Dr. Arun Sharma, Director Forensic Science, Himachal Pradesh.

Seminar on Quality assurance & Network Security for officers and officials of RFSL, Dharamshala was organized on 9.6.2015. Sh. Gulshan Rai, Director (Retd.), FSL, Haryana was the key speaker.



Dr. S.K. Shukla, Director (Retd.), CFSL, MHA/GOI lighting lamp at the inaugural ceremony of Seminar on Narcotic Drugs and Psychotropic Substances at Dharamshala

SESSION CHAIRED/RADIO TALK/TV TALK

Name & Designation	Activity	
Dr. Meenakshi Mahajan,	Delivered talk on the International day against drug abuse and	
	illicit trafficking at Distt. Open Air Jail, Dharamshala on	
	26.06.15	
	 Radio Talk on Do's and Don'ts of Cyber Crime. 	
	Talk on Forensic Science and Cyber Crime at Police Lines of	
	Una, Hamirpur, S.P. office Kangra and PTC Daroh.	

DIGNITARY

Visitor(s)	Date
Sh. Rajan Gupta, Presiding Officer, Consumer Forum, Dharamshala	12.05.15
Prof. Ashwani Kumar (Emeritus Fellow), IIT Roorkee	12.05.15
Sh. Gulshan Rai Director (Retd.) FSL, Haryana	09.06.15
Ms. Veena Bharti, IPS	28.07.15
Dr. Jaram Singh, H.O.D., Ayurvedic Medical College Paprola	02.09.15
Sh. Piyush Guleri, Prof (Retd.)	09.09.15
Dr Ankit Srivastava, Coordinator, Ms. Kirti Nigam, Asstt. Prof., Department of Forensic Science, Bundelkhand University Jhansi, UP	22.01.16
Dr. S.K. Shukla, Prof. & Director, Amity University, Noida, UP	26.03.16
Sh. Kaustubh Sharma, IPS, Zonal Director, NCB, Chandigarh	26.03.16



Sh. Gulshan Rai, Director (Retd.), FSL, Haryana at RFSL, NR, Dharamshala

RFSL, CR, MANDI

INTRODUCTION

Mandi formerly known as Mandav Nagar which remained capital of erstwhile princely state of Mandi is situated on the bank of river Beas. Mandi town is the head-quarter of Mandi district and Zonal Head Quarter of Central Zone. There are more than 300 old and new temples at Mandi also known as "Chotti Kashi".

In the first meeting of the Himachal Pradesh Forensic Science Development Board, the Government created Regional Forensic Science Laboratory, Central Range, Mandi to cover central range districts for quick and timely availability of the scientific reports in crime investigations. Initially in the year 2008 the RFSL, CR Mandi was temporarily housed in a rented accommodation at Gutkar at NH-21. The RFSL moved to its own new complex in March, 2013. The complex has an area of about 10,000 square feet and constructed as per passive solar principles. The RFSL Mandi is catering to the needs of five districts viz. Mandi, Kullu, Lahaul & Spiti, Bilaspur, Hamirpur. There are three specialties viz. Biological Sciences, Physical Sciences and Chemical Sciences.

WORKING

There are three scientific divisions:
Biological Sciences (Biology & Serology division)
Chemical Sciences (Chemistry & Toxicology Division)
Physical Science (Physics & Ballistics Division)

BIOLOGY & SEROLOGY DIVISION

This division is functioning since 2009 and undertakes examination of the following types of evidentiary clues in different crime cases for identification and comparison:

Blood, semen & saliva

Diatom

Vomit & faecal matter

Charred bone, tissue & skin

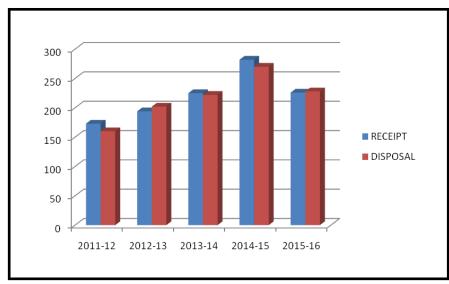
Bone (animal & human)

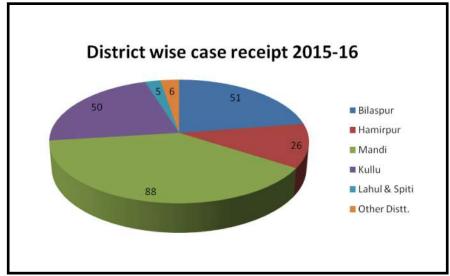
Hair (animal & human), fibre, feather

Wildlife cases (flora& fauna)

Wood & plant product

Maggot





CHEMISTRY & TOXICOLOGY DIVISION

The division undertakes examination of clue materials such as:

Poison

Petroleum product residues in arson and dowry deaths

Alcohol estimation from blood and urine for drunkenness

Phenolphthalein in trap cases

Liquor

Methanol in hooch tragedy

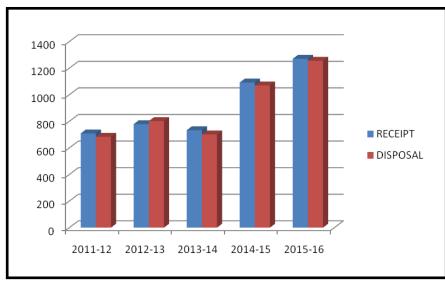
Acid & alkali attacks

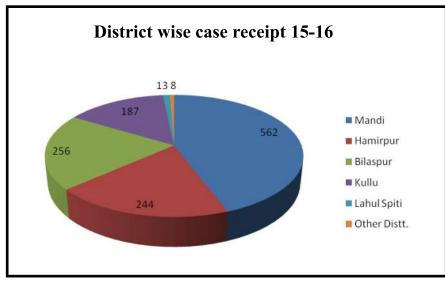
Grease, wax, oil & resin

Cosmetic & organic dyes

Adulteration in petroleum products

Chemical identification of unknown substances





PHYSICS & BALLISTICS DIVISION

The division undertakes examination of clue materials such as:

Tool mark & telephone cable

Footprint, shoe print & tyre mark

Paint & glass

Building material & bitumen

Paper & fiber

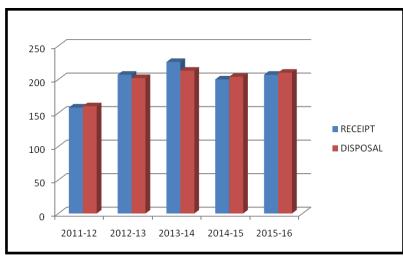
Metal adulteration in jewellary

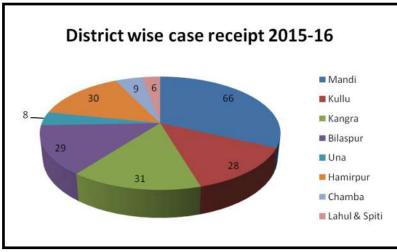
Soil, sand & grit

Shining globule formation in electric short circuiting

Resuscitation of number of stolen vehicle chassis & firearm

Firearm, ammunition & gunshot residue etc





TEACHING & TRAINING

Name	No. of lectures / demonstrations
Dr. Rajesh Kumar, Dy. Director	21
Sh. Rajesh Kumar, Asstt. Director	09
Sh. Tek Chand, Asstt. Director	11
Dr. Neeti Parkash Dubey, Asstt. Director	22
Dr. Naresh Kumar, Scientific Officer	07
Dr. Vijay Kumar, Scientific Officer	08
Sh. Sanjeev Singh, Scientific Officer	06
Sh. Dev Raj Kalia, Scientific Assistant	08
Sh. Chanderkant Sharma, Scientific Assistant	05
Sh. Vinay Kumar, Laboratory Assistant	04
Sh. Hitesh Singh, Laboratory Assistant	04
Sh Pardeep Kumar, Laboratory Assistant	02

TRAINING ATTENDED

Name	Course	
Dr. Rajesh Kumar,	• Course on Digital Forensics Using Open Source Tools at NICFS Delhi from 03-14.08.15.	
Dr. N. P. Dubey	• Training on Importance of ethics and value at HIPA, Shimla from 27-29.08.15	
Sh. Tek Chand	• Training on Importance of ethics and value at HIPA, Shimla from 26-28.11.15	
Dr. Naresh Kumar, Sh. Dev Raj	• Training on Individual identification techniques at LNJN, NICFS, Delhi on 05-09.01.15	
Dr. Vijay Kumar	• Adulteration of Petroleum Products at NICFS, MHA, GOI, Delhi from 27-31.03.16.	

CONFERENCE/SEMINAR/WORKSHOP/SYMPOSIUM ATTENDED

Name	Remarks	
Dr. Rajesh Kumar	Workshop for first appellate authorities/PIOs and other officers & officials dealing with RTI at HIPA on 09.10.15.	

Sh. Rajesh Kumar	 Workshop on Imaging & Video Technology" held at LNJP NICFS on.28- 30.12.15. Workshop on New Advances in Firearm Forensics for Conventional & Country Made Weapons" held in State FSL, Dehli on 6-7.01.16
Dr. N. P. Dubey	Workshop on Forensic Toxicology at NICFS, MHA, GOI, Delhi on 15.5.15
All officers and official of RFSL, CR, Mandi	Workshop on Audio Video and Image Forensic using Open Source Tool at RFSL, CR Mandi on 25.04.15

COURSES ORGANIZED

Course		Number
•	Two weeks training in Forensic Science for Investigating Officers of Central Range on 07-19.09.15	20
•	Two week training in Forensic Science for Investigating Officers of Central Range on 08-20.02.16	20
•	Crime Scene Investigation for the supervisory officers of the Central Range on 01.10.15.	15
	Total	55

WORKSHOP/ SEMINAR ORGANIZED

• Workshop on Audio Video and Image Analysis using Open Source Tool in Collaboration with Computer Science and Engineering Department of IIT, Mandi on 25.04.15.

INTERNSHIP

Title	Number
• A student of M.Sc Anthropology from Panjab University, Chandigarh on 01- 30.06.15.	01

SESSION CHAIRED/RADIO TALK/TV TALK/ INVITED TALK

Name & Designation	Activity	
Dr. Rajesh Kumar	Invited talk on 'Characterization of materials in Forensic Science' at AMRC symposium at IIT Mandi on 29.05.15.	
Dr. N. P. Dubey	Delivered talk to the basic course trainees (SI to DSP) of NEPA (MHA/GOI), Shillong, Meghalaya on 27-28.5.15	

RESEARCH PUBLICATION

A communiqué from the editor of journals (national/international) and organizers of conference/seminar conveying acceptance of the research work for publication are the fuels that keep us moving forward. An endeavor has been made by creating congenial environment, encouraging officers/officials to write articles, research papers.

Author(s) Name	Title	Reference		
Singh Rajinder, Sharma	=	J. of Forensic and Legal		
Sahil and Sharma Arun	interval using entomology: A review	Medicine 42, 37 (2016).		
Mahajan, Meenakshi	Forensic Analysis of Dispute	Submitted for consideration		
	Official Order-A Case Study	to All India Forensic Science		
		Conference.		
Agrawal Nitasha, Vipin	Micellar liquid chromatography- a	International Journal of		
Ashok*, Bose Devasish,	proposed analytical technique for	Analytical and Bio-		
Dubey Neeti Prakash.	forensic samples. Analytical Chemistry 201			
		5(3): 53-57		
Pal SK, Sharma A,	A study of sexual assaults in	International Journal of		
Sehgal A, Rana A.	northern range of Himachal	Medical Toxicology and		
	Pradesh	Forensic Medicine 2015; 5		
		(2): 64-72.		
Saroa, J.S. and Saini, K.	Characterization of Printing	Journal of Forensic		
	Characteristics of Color-	Identification		
	Photocopied and Laser Printed	66(2);2016:Pp.155-170.		
	Documents			
Kaushik N, Pal SK,	A retrospective study of sexual	International Journal of		
Sharma A, Thakur GC.	assaults in southern range of	Health Sciences & Research		
	Himachal Pradesh.	2016; 6 (2) 342-351.		

PROFESSIONAL EXCELLENCE

Dr. Arun Sharma:

Examined a variety of cases pertaining to Hydro project: An incidence of fire in a transformer, breaking of a pen stock valve, explosion in underground tunnel, breaking of a Pen Stock.

First time examination of three cases of cedar wood oil was undertaken. A case of train accident was reconstructed and the speed of the train was calculated from video recording.

Member expert of selection committee for award of UGC-BSR fellowship to research scholars at Punjabi University, Patiala.

Expert member of Departmental Research Committee (DRC) in the Department of Genetics, MDU, Rohtak and attended the meeting.

Chairman of the committee for "Scientific Aids to Investigation" competition in Annual Sports Police and duty meet held at PTC Daroh.

Invited as guest speaker in the "International conference on Emerging Trends in Basic and Applied Sciences" to deliver a lecture on the topic "Forensic Science in the Service of Mankind" in May, 2015 at MAU, Baddi.

Invited to deliver lecture to HAS officers in the Induction Course, HIPA, Shimla on the topic "Introduction to Forensic Science".

Invited to deliver lecture in the workshop on "Advance Scientific Investigation Technique" organized by North Eastern Police Academy, (MHA/GOI) Shillong, Meghalaya.

One student enrolled for PhD research work being a Co-Supervisor in an University.

The department has been brought under Plan Budget for purchase of major equipments.

Dr. Rajesh Kumar

Document management and case management system module were developed and tested to bring efficiency in the data storage.

Dr. Meenakshi Mahajan

Chairman in the practical exams for the events of Scientific Aids to Investigation in the 48th HP Police Duty Meet 2015. An old case of student death was examined for reconstruction.

Expert testimony through Video Conferencing was introduced.

Photo comparison examination work was undertaken in collaboration with CFSL (MHA/GOI).

A case registered under PNDT Act involving digital evidence was examined and solved.

Sh. Visheshwar Sharma

Member (technical expert) to evaluate the approved security features of adhesive labels including holograms of HP Excise Department

Sh. Rajesh Kumar

First officer rewarded with cash, DGP Disc and CC Class -1 for vital role at the scene of crime.

Dr. Vivek Sahajpal

Participated in the Asian AICEF DNA Proficiency test – 2015, conducted by Academia Iberoamericana de Criminalística y Estudios Forenses (AICEF), Spain.

Sh. Tek Chand

Applied R-Console free software for statistical analysis (aimed at statistical hair analysis) and SHERPA for identification and analytical comparison of diatom.

MAJOR INITIATIVES

New specialties like Voice Identification, Digital Forensics Divisions, extension of DNA facility at Range Labs was proposed

Proposal for purchase of machinery and equipment was submitted to the Govt. under Plan budget

The business of the Govt. shall be transacted in departments specified in the Business of Himachal Pradesh (Allocation) rule 1971. Accordingly, business of the department was enumerated and got notified in the H.P. Business (Allocation) Rules, 1971.

New nomenclature Directorate of Forensic Science 'DFS' in consonance with H.P. Police Act, 2007 was proposed

Proposal for budget under Chief Minister Forensic Science Modernization Scheme was submitted to the Govt

First time tableau of the department was displayed during the state level Republic Day celebrations

Proposal for Scene of Crime vehicles under Modernization Police Force Scheme, MHA/GOI along with equipments was submitted

Proposal for Chief Minister Forensic Science Excellence & Innovation Award was submitted

Proposal for infrastructure of Disaster Victim Identification cells at State FSL & RFSLs was submitted

Ist Annual Administrative Performance meeting of all officers of State FSL & RFSIs was organized with a vision: Plan for the year 2015-16, R&D, and novelty in the working so as to achieve excellence on the professional front

First time a new concept of Continuous Forensics Education (CFE) program for the officers of the department was introduced

Proposal for CCTNS facility to Range Labs was submitted

Proposal for revision of syllabus of Department Examination Rules, 1976 to include recent developments was submitted to the Govt.

Proposal for H.P. Forensic Document and fingerprints examiner Rule, 2015 was submitted to the Govt.

A Forensic Directory is in progress

Proposal for DMFU posts and infrastructure was submitted to the Govt.

Proposal for All India Forensic Science Conference was mooted

An agenda was proposed for the H.P. Police Board meeting

The matter for release of funds under Modernization of Police Forces Scheme for the year 2013-14, 2014-15 and 2015-16 was pursued with the PHQ and the MHA/GOI Govt. of India

Proposal to revise fleet strength of the department was submitted to the Govt.

The department activity was included in the Coffee Table Book prepared by the PHQ

Proposal for 15% special incentive to the staff was prepared and submitted to the Govt

First DVI workshop was organized for the Medical Officers of Distt. Kangra

Workshop on DNA profiling was organized for IOs and Police Officers of District Una

ACHIEVEMENTS

Foundation stone of Forensic Headquarters Complex-cum-Super Specialty block and Foundation stone of staff quarters (Approx. cost 3.3 crore) at RFSL, NR, Dharamshala was laid by the Hon'ble Chief Minister, Himachal Pradesh

Infrastructure for Video Conferencing facility was created at State FSL for expert testimony with courts and made operational

A Documentary on the 25 Years Journey of Himachal Forensics was prepared and got released

Do's and Don'ts booklet for investigating officers was prepared

The flag exhibiting motto and logo of the department was got released

ICT infrastructure (HIMSWAN internet, telephone lines, EPBAX) was created and made operational Grant received from Govt. of India under 12th Five Year Plan to establish District Mobile Forensic Unit was utilized

First time citations in the Honor of the then Hon'ble Chief Minister for the vision, the then Head of the Department for planning/proposal and the founder Director for transforming dream into reality was prepared and presented on eve of foundation stone laying ceremony of the Forensics Headquarters

Targets of 2nd year of Five Years Perspective Plan (2014-19) were achieved and exceeded the planned targets.

Three days workshop on NABL Accreditation to check documents (Manuals, Forms and Formats) and technical capability was organized. Workshop on Quality Management and Network Security was organized at RFSL, NR, Dharamshala.

A DVI exhibition for general public was organized at the Ridge, Shimla.

An awareness workshop on "Crime Scene Investigation" was organized for supervisory officers of Central Range, Mandi.

An exhibition showing achievements of departments on completion of 2.5 years of the Govt. was organized at Una.

Bio-Medical Waste Management though scientific methods was made operational.

The Library was enriched by purchasing Rs. 1.08 Lakh worth of books.

Syllabus to fill up post of SO (DNA) was prepared and submitted to HPPSC, Shimla.

Worked on the human DNA bills and comments submitted to the Govt.

Van Mahotsav was celebrated by planting saplings at RFSL, NR, complex.

First time posts of different categories (45) of the department in one go were converted from temporary to permanent posts.

One Post of Scientific Assistant was filled up by direct recruitment.

7cases of ACP of officers/officials were finalized.

17 cases of RTI were disposed.

Annual Administrative Report of 2014-15 was approved by the H.P. Govt.

RFD of the department for 2015, 16 was approved and uploaded on the website





Forensics Tableau with the theme 'Forensics in Service of Mankind' at the State Level Republic Day Function 2016

PUBLIC AWARENESS

Public is the first to get the information, whenever there is an occurrence, followed by the police. Then comes the turn and role of the forensic experts. Accordingly, education about role of public in preserving the crime scene treasured with clues is vital. With that in mind, first of its kind in the country, important fairs in different parts of state visited by all folks were planned to be covered to disseminate forensics knowledge. Following exhibitions were organized:

Sr. No	Event	Period
1.	Exhibition at Una exhibiting achievements on completion two and half years of State Govt.	25.06.15
2.	International Minjar Fair at Chamba	26.7- 02.08.15
3.	Exhibition on the Disaster Victim Identification at Shimla	13.10.2015
4.	International Dushehra Fair at Kullu	22-28.10.2015
5.	District Red Cross Mela, Kangra at Dharmshala	1.11.15
6.	International Lavi Fair at Rampur Bushahar	11- 14.11. 15
7.	International Shivratri Fair at Mandi	07-12.03.2016



HE Acharya Dev Vrat, Governor, Himachal Pradesh, at Forensics Exhibition, Dharamshala



Sh. Virbhadra Singh, Hon'ble Chief Minister Himachal Pradesh at Forensics Exhibition at Kullu

FORENSICS IN MEDIA

The good work done in the four walls of lab may remain buried in the records or may go unnoticed. Accordingly, media officers were nominated from each office to interact with press to convey how useful forensics is in crime investigation.

