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Investigator's Forensic Guide



**State Forensic Science Laboratory, Rajasthan**

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## **Index**

<b>Sr. No.</b>	<b>Division</b>	<b>Page No.</b>
1	Arson & Explosive	3
2	Ballistics	5
3	Biology	10
4	Chemistry	13
5	Cyber Forensic	15
6	DNA	22
7	Documents	27
8	Narcotics	30
10	Physics	33
11	Polygraph	39
12	Toxicology	41

## Arson & Explosives Division

Arson & Explosives division receives following type of cases–

1. **Petroleum product cases:-** Adulteration in Petrol/Diesel/ Kerosene, comparison of grade of lube/ Mobil oil cases, 3/7 EC Act cases etc.
2. **Murder, dowry death and burning cases:-** Cases registered U/S 302, 307,498 IPC etc.
3. **Cases seized under Explosive Act :-**
  - (a) Explosive substances:- chemicals used in explosive substances.
  - (b) Post Explosion Residue.

➤ **Sampling and other guidelines:-**

S. N.	Type of Cases	Exhibits	Sampling and Quantity	Packing/Storage	Query/Do's/Don'ts
1.	<b>Petroleum product cases:-</b> Adulteration in petroleum products and EC Act cases	Diesel, Kerosene, Petrol, PDS Kerosene, Solvents, Lube/Mobile oil, Crude oil, Black oil, Transformer oil, Grease etc.	Sample Quantity - 500ml/ 500gm Minimum	All petroleum products should be taken in airtight container/bottle* Make sure there is no leakage through container/bottle	Given sample is of Petroleum hydrocarbon or not (Petrol/Diesel/Kerosene etc.) <b>Do:-</b> For analysis of adulteration in petrol, diesel. Pl. send control sample of same lot. <b>Don't :-</b> In lube oil & grease cases only presence and comparative analysis with control is done, so don't query about real and fake.
2.	<b>Murder, dowry death and burning cases:-</b>	Burnt cloths, burnt hair and skin etc.	----	Pack burnt cloths in polythene bag then in cloth bag. Burnt skin, hair etc. should be packed in glass vial/bottle.	Presence of Inflammable petroleum hydrocarbon in the sample ? <b>Do:-</b> Only cloths should be sent not

					shoes, belt etc. Please mention FIR no., Police station and other information of case on the label of description of the sample collected by M.O.
3.	<b>Cases seized under Explosive Act:-</b> (a) Explosive substance  (b) Post Explosion Residue	Amm. Nitrate, Pot. Nitrate, Sulphur etc. Residue left after explosion (debris)	Sample Quantity 60-100 gm max.  ----	Should be sent in airtight glass jar  Pack explosive residue or cloths etc. in polythene bag then in cloth bag.	Presence of Amm. Nitrate/ Pot. Nitrate/ Sulphur in the sample ?  Presence of any explosive substance in the debris ? <b>Don't:-</b> 1. Pl. do not send live explosive material or fire crackers only send post explosion residue for analysis. 2. Pl. do not send swab, send explosive residue or cloths.

\*Please check there is no leakage in the sample.

**Note:-** All petroleum products should be taken minimum 500ml quantity in airtight container/bottle. Highly volatile petroleum products like petrol, crude oil, solvent should be taken in airtight metallic container.

## Ballistics Division

It is well known that shot guns, rifles, pistols, revolvers and illicitly manufactured firearms are frequently used in crime. In these crimes, several clues are present which lead to truth. These clues may be physical evidence, both visible and invisible, or some facts carrying evidential value. Proper evaluation of these clues helps in linking the criminal with crime. But majority of the Investigation officers are ignorant about these clues and their potential. They are likely to ignore or lose these clues. This document has been prepared with a view to increase awareness amongst the investigating officers about these clues. In addition to these clues, some information useful to the investigation officers has also been given.

Name of crime	Type of exhibits	Sampling/procedure/packing/sealing/preservation	Common query
Cases related to firing incidents like murder/ suicide /homicide, encounter, dacoit, threatening, terrorist activities and fake firing	Different type of firearms, live ammunition, fired cartridge cases, bullets, pellets, wads, gun shot residues, clothes of the victim having gunshot holes/bullet holes/spread of pellets on object on walls/glass etc. Burning, scorching, charring, singeing of hair around the gun shot hole, blackening around the gun shot holes and its distribution	<ul style="list-style-type: none"> <li>• The recovered physical evidence should be sealed and sent to forensic science laboratory. Care should be exercised to see that there is no contamination of physical evidence ensures its purity. Clean paper envelop and clean paper sheets should be used. Avoid using dirty containers. Exhibits should be handled to be minimum.</li> <li>• Stitching and sealing of the packets should be perfect. It should not be such that parcel could be opened without disturbing the seals. The number of seals should be noted. The specimen seal should be attested. Seals should not be put with coins /buttons etc. use standards only.</li> <li>• A chain of custody should be maintained. As soon as the clue materials like cartridge cases, bullets, pellets, wads etc are recovered these should be sent to laboratory. Details about the nature, condition and the size of the exhibit and the circumstances surrounding their recovery should be recorded.</li> <li>• All the precautions followed by investigation officer in handling of clue materials should be recorded which may prove helpful at the time of trial. In case of victim is dead, the photograph, sketches, notes of scene of crime are taken showing the position of firearm, fired cartridge</li> </ul>	<ul style="list-style-type: none"> <li>• Whether the fired cartridge cases, bullets, plastic wads, percussion caps are consistent with suspected firearm and if so whether these have been fired from suspected firearm?</li> <li>• Whether a misfired cartridge has been fired from a particular firearm?</li> <li>• Whether the firearm is regular or countrymade?</li> <li>• Whether the firearm is in proper functioning condition or not?</li> <li>• Whether the firearm is prone to accidental discharge?</li> <li>• What is the type of firearm used in crime? What is its caliber etc?</li> <li>• Whether the given firearm is a firearm as defined in Indian Arms Act?</li> <li>• Whether the given cartridges/cartridge cases/bullet/bullets/wads are ammunition or components of</li> </ul>

	<p>around the holes, tattooing etc.</p>	<p>cases, bullets, pellets, wad, marks of bullet, blood etc till the examination of the scene of crime is over, the investigation officer must see that it does not get disturbed if the victim is alive his position should be marked by chalk provided medical help to the victim and photograph, sketches showing the position of firearm, fired cartridge case, bullets Patterns etc should be taken.</p> <ul style="list-style-type: none"> <li>• The firearm should always be considered loaded and should be handled properly. Don't operate the chamber of firearm. There may be a live cartridge in the chamber. The operation of mechanism of the firearm may fire this cartridge which may prove dangerous. First of all, unload the firearm, remove the magazine first note down the type of firearm correctly i.e. whether it is a shotgun, rifle, revolver, pistol, carbine or country made pistol etc. In case, there is a revolving cylinder behind barrel then it should be retained as revolver. Never keep the barrel of firearm horizontal. Make the habit of pointing the barrel either upward or downward. At the time of recovery, note down whether the gun was cocked, if cocked, the hammer should be safely lowered. Note down whether the safety is on or off. Note down the caliber, make, model, serial no of the firearm correctly. The muzzle loading firearms should be carefully checked by ramrod and ensure that barrel of the firearm is empty. If any material from the firearm is recovered may be sent to laboratory.</li> <li>• Any foreign Materials such as blood, hair, tissue, paint, soil bone particle etc may be collected in a paper envelope without scratching the inside of barrel with knife etc it may help in linking the firearm with scene of crime/ victim etc., in no case the inside of barrel should be scratched by any means. Nothing</li> </ul>	<p>ammunition as defined in Indian Arms Act.</p> <ul style="list-style-type: none"> <li>• Whether the given ammunition is factory made /reloaded or improvised?</li> <li>• Whether the given cartridge is live or misfired?</li> <li>• Whether the given cartridge case/bullet/bullets/wad s/ percussion caps are fired or not?</li> <li>• What is the caliber /make of ammunition?</li> <li>• Whether the given exhibit is a black powder or smokeless powder?</li> <li>• Whether the tools recovered from a suspect can be used to manufacture firearm /cartridges?</li> <li>• Whether the suspected firearm has been fired or not?</li> <li>• If the accused has cleaned the firearm after the crime it may not be possible to say whether it has been fired or not?</li> <li>• What is the approximate time elapsed since last firing. It may be possible if the fired cartridge case is examined immediately after commission of crime (within 4 to 6 hours) What was the</li> </ul>
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		<p>should be inserted in to the barrel. The position of the firearm with respect to victim body should be carefully noted and marked on crime scene sketches. Don't blow the firearm may be got examined for fingerprints. The fired cartridge cases, fired percussion caps, bullets help in linking them to the firearm from which they might have been fired .These exhibits also help in proving that weapon is a firearm and also in determination of type of firearm used .In finding the no of firearm used in firing the no of rounds fired. The recovery of the wads at crime scene may proof helpful in range estimation. Every effort should be made to recover the bullet. The medical officer conducting the postmortem examination should be asked to take x-ray of body.</p> <ul style="list-style-type: none"> <li>• Locate the bullets if any and recover these bullets. There is a ruling of Supreme court that I.O. can be asked to medical officer to take the X-Ray of the body and recover the projectiles. Help of firearm expert may be taken to locate and recover the projectiles at the scene of crime, the projectile may be found lodge in trees, walls, furniture etc.</li> <li>• The recovery of the bullet should be such that firearm mark on them should not get damaged. Don't wash or clean the bullets, pellets, wads etc.</li> <li>• The exhibit should never be planted. such cases in which exhibits were planted were ultimately resulted in acquittal. The live ammunition recovered from the scene of crime or from the accused should be sent to the laboratory which may be helpful in conducting the test firing in the laboratory. Note down the bore caliber of the cartridges. The fired cartridges may be sealed in a box</li> </ul>	<p>range of firing?</p> <ul style="list-style-type: none"> <li>• What was the direction of firing?</li> <li>• How many firearms have been used in the crime?</li> <li>• Whether marks/dents/holes from walls/trees/furniture/glass etc. have been caused due to bullets/pellets?</li> <li>• Any other problems connected with firearm and ammunition may be referred to FSL JAIPUR/RFSL Bikaner</li> <li>• <b>Cloth:-</b> <ul style="list-style-type: none"> <li>○ Whether the holes/hit mark present on clothes/objects have been caused by firearm or not.</li> </ul> </li> <li>• <b>Vehicle:-</b> <ul style="list-style-type: none"> <li>• Whether the holes/ hit marks present on vehicle have been caused by firearm or not.</li> <li>• What is the direction and distance of fire on submitted vehicle?</li> <li>• Whether the firing on vehicle has been made from inside or outside.</li> </ul> </li> <li>• <b>GSR:-</b> <ul style="list-style-type: none"> <li>• Whether the gunshot residue or residues of gun powder charge present on handwash/swab/gauze piece/skin piece/tissues/clothes or not.</li> </ul> </li> <li>• <b>Note:-</b> <ul style="list-style-type: none"> <li>• For presence of gunshot residues</li> </ul> </li> </ul>
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		<p>.Fold each bullet in a piece of paper put it in a paper bag. Seal these bullets in an envelope or box under cloth cover. Padding of cotton may be given. All the pellets may be folded in a paper put in a paper envelope and sealed it in an paper envelope or box under cloth cover. The wads may be similarly sealed.</p> <ul style="list-style-type: none"> <li>• The live cartridge should be separately placed in a sealed box with sufficient padding. The identifying details may be put on the box.</li> <li>• <b>Vehicle :-</b> <ul style="list-style-type: none"> <li>○ Vehicle should be searched entirely for any firing evidence like bullets/bullets pieces/pellets/metallic pieces/cartridge case etc. These samples should be packed and sealed separately. Vehicle must be send after ensuring that no evidence like bullets bullets pieces etc. are lying inside or outside of the vehicle.</li> <li>○ Hit mark/hole present on glass/body of vehicle must be properly covered by putting cotton /cello tape/plastic cover.</li> <li>○ Broken glass of vehicle should be preserved and packed separately and carefully.</li> </ul> </li> <li>• <b>GSR:-</b> <ul style="list-style-type: none"> <li>• Skin pieces from entry/exit holes, hand wash of right/left hand must be packed and sealed separately.</li> <li>• Cotton swab/gauze taken from wound site should be properly dried and then packed and sealed in glass bottles along with control sample separately.</li> <li>• Preservative should be used least and control sample of preservative must also be sent with the sample .</li> <li>• Any foreign body needs not to be preserved in any preservative except skin pieces etc. Skin pieces must be preserved in formalin.</li> <li>• Sterilized gauze /cotton swab should be used for sampling.</li> </ul> </li> </ul>	<p>(GSR)/ residue of gun powder charge examination it's control samples essentially required.</p> <ul style="list-style-type: none"> <li>• Forwarding letter, M.J. letter/letters etc must be send without cutting and without using whitener. If exhibits were sealed by armourer after their examination then armourer report must be attached and exhibit should be packed and sealed properly with appropriate marking on the packets by using standard seals.</li> </ul>
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		<ul style="list-style-type: none"><li>• In case of gunshot injury X-ray of deceased body must be done and foreign body should be taken out from body. Carefully indicating the place from which it was recovered.</li><li>• In M.O. forwarding letter it should be clearly mention from which body part foreign body /gauze /swab etc. were taken out.</li><li>• IR/MLR/MLC/PMR/X-RAY/operation note must be send with forwarding letter.</li><li>• Hand wash of both hands must be taken in sterilized cotton in 1% HCl or 1% HNO<sub>3</sub> separately and detailed description date and time of the sample taken must be noted.</li></ul>	
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## Biology Division

In Biology division, physical evidences related with IPC 302, 307, 376, 377, 363, 366, 498A, 304B, and related with 174, 174 Cr PC , NDPS Act, Excise Act, WLP Act, Forest Act, Bovine Act have been received and examined. These cover Rape, Sexual assault, Murder, Suicide, Burning and Drowning, Time since death (Post mortem interval), Dacoity, Kidnapping cases, theft etc. Physical evidences like clothes with seminal stains, vaginal swab and smear, urethral swab and smear, hairs, saliva stained cigarette and biddies, teeth, cranium, nails, skin, vomit, menstrual blood, abortion blood, embryo, diatoms in viscera, narcotic plants like *bhang*, *ganja*, opium, counterfeit cigarette, biddies, tobacco, counterfeit tea, insects, vegetative material like leaves, fiber, wood, seeds, Pollen grains etc., organ of birds, meat, hairs, bones, hoof, horn, leathers of animals, ivory etc., are being examined in biology division.

Crime	Sample / Type of exhibit	Sampling method and quantity	Packing/ Storage	General Desired opinion
Rape/ Unnatural sexual assault	Used garments of victim / accused at the time of incidence	Send after shade dry	Never send wet exhibit. Put it in cloth bag and send it sealed.	For presence of semen.
	Vaginal /Anal swab and their smear.	Through M.O., Atleast 2-2 vaginal/ anal swab and smear slide.	After drying, wrape these either in paper or gauze, send these in sealed envelope. Adhesives tape should not be placed over slide smear.	If Victim is minor than presence of blood should be asked over all the exhibits.
	Pubic hair	Through M.O., obtained from victim/ suspect	Wraper these in clean paper and send it in sealed envelope.	Hair matching with suspect hair.
	Menstrual / Abortion blood	Vaginal swab with smear should essentially be send.		Presence of menstrual/ Abortion blood.
	Skin / Tissue in nails.	Nail clipping.	Wrapped it in clean paper and send it in sealed envelope.	Presence and matching opinion
	Hairs recovered from victim / deceased's body or fist	At least 20 hairs, Through M.O. from suspect.	Wrapped it in clean paper and send it in sealed envelope	Hair matching with suspect
	Biting marks	Photographs of biting marks and dental cast of suspect, obtained by M.O.	Photograph in envelope and dental cast should be send in card board in sealed condition	Matching of biting marks and dental cast of suspect.
	Clothes of victim/ Accused impregnated with vegetative evidence like weeds, seeds/ Pollen grain etc., of scene of crime.	Vegetative evidence and related cloth without shaking.	In cloth packet in sealed condition.	Matching of vegetative material adhered on victim/ Accused cloths.

<b>Drowning Death</b> 1. In stagnant water	Sternum on other non broken bones like Femur, vertebrae, clavicle etc., and water sample of crime scene.	Should be send shade dried on in salt solution	Bones should be send either in paper cloth warping or in conc. Salt solution in a sealed glass jar.  1-2 liter water of crime scene in glass bottle.	Presence of diatom and matching of it with diatoms of control water.
	2. In flowing water	Other than sternum and crime scene water sample, lungs should also be send in separate jar.		
<b>Murder</b> (A) General investigation	Skeleton / Bones	Shade dry	Should be placed separately in a card board and send them in a cloth bag in sealed condition.	For Human origin and if skull and complete pelvis is available than age, sex opinion should be asked.
(B) Superimposition of skull	Skull and latest photograph of missing person showing frontal and lateral view.	Complete skull and 2 type of fine photographs.	Skull must be placed in a wooden box around which cotton packing should be done. Photographs should be send in an envelope separately in sealed condition.	Skull, photograph matching, if there is no blood relative of missing person, this opinion should be asked else DNA test should be essentially carried out for identification.
<b>Bride burning or Dowry death case</b>	Skin over burnt clothes, hairs, pieces of charred bones, teeth and other remnants.	Related exhibits separately.	Should be sealed in cloth packets.	Human origin
	Match stick	Burnt stick and whole match box	Should be sealed separately in cloth packet	Matching of match stick.
<b>Smothering Hanging (Homicide/Suicide)</b>	Wearred clothes Bedsheet, used sari/Rope etc. for hanging for saliva, hair, urine, faecal metter	Related exhibit	Should be send separately in cloth bag	Presence/ Identification of saliva, hair urine, faeces.
<b>Blast cases</b>	Tissue, Flesh	Nearly 100-200 gm	Either shade dry or in DMSO solution or in conc. salt solution in glass jar	Human origin
	Teeth	Minimum one or according to availability	Wrapped in clean paper	Human origin
<b>NDPS Act, Excise act</b>	Bhang, Ganja, Opium plants	Shade dry	Should be send in cloth bag without folding	Identification of plants. Never use polythene bags for packing
<b>Forest act and plant conservation act</b>	Wood, wood products (Sandal wood) lathi, Danda etc.	Up to 1 feet or according to availability	In cloth bag in sealed condition	Wood matching / Identification of wood
<b>Wild life protection act and Rajasthan</b>	Hide, Hair, Feather, Bones, Hoof, Skull,	Shade dry	Should be placed in seperate card board and	Identification of animal

<b>Bovine conservation Act</b>	Horn, Ivory, Fabricated hide, Kastoori etc.		send in sealed condition. Hide, Hair, Feather should be send without folding	
	Tissue, flesh	Nearly 200 gm	Shade dry or in conc. salt solution in glass jar	Identification of animal
<b>Post mortem interval</b>	Insects / maggots present over decayed human or wild animal	30-50 insects/ maggots ,Adult fly if available .	Should be send in sealed glass vial/ plastic vial in 70% alcohol (preservative)	Post mortem interval
<b>Kidnapping Theft, Dacoity</b>	Saliva over Guthka, cigarette, bidi	Shade dry	Should be send in paper wrap in sealed condition.	Human origin
	Hair, fiber	According to availability	Should be send in paper wrap in sealed condition.	Matching opinion
<b>Counterfeiting</b>	Matching of counterfeit or inferior quality Cigarette, Bidi, Tobacco products, Tea, Seeds etc. with control samples	Nearly 10-10 Bundles / 50 gm	Should be send in cloth /paper envelope in sealed condition	Matching opinion
	Adulterated woolen cloth (Shawl/Sweater) etc.	Related cloth	Should be send in cloth / paper envelope in sealed condition	For identification of pure wool, Pashmina, shahtoosh, Angora etc.
<b>Poisonous chemical</b>	Vomit smeared soil or cloth	Shade dry	Should be send in cloth / paper envelope in sealed condition	Is that content vomit or not
<b>Poisonous plants</b>	Suspicious plants or there remnants	Shade dry	Should be send in cloth / paper envelope in sealed condition	Identification of plant

## Chemistry Division

More than 50% of the cases deposited in FSL for examination are received in Chemistry division. These vast variety cases can be divided in three major parts –

1. **Liquor Cases:** - Cases related to country made and foreign liquor U/S 16/54 & 19/54 Ex. Act., illicit liquor cases, liquor mafia etc.
2. **Trap cases:** - Bribe cases U/S 7, 13 (1) d (2) Prevention of Corruption Act.
3. **Miscellaneous cases:-**
  - (a) Acid throwing cases U/S 302, 307 IPC.
  - (b) Unknown chemicals: - Illegally stored chemicals, other harmful chemicals, Forgery cases, U/S 420 IPC, adulteration cases etc.

➤ **Sampling and other guidelines:-**

S. N.	Type of Cases	Exhibits	Sampling and Quantity	Packing/Storage	Query/Do's/Don'ts
1.	<b>Liquor Cases :-</b>	Liquor- country made liquor, foreign liquor, Lahan etc.	One sample bottle/ half/ quarter/ container of each lot.	Sample bottle/ container should be sealed at mouth.*	Given sample is of liquor or not and what is the percentage of alcohol?
2.	<b>Trap cases: -</b> ACB Cases	Washing of hands etc.	Quantity About 100ml	Sample should be taken in glass bottle which is then sealed at mouth.*	Presence of Phenolphthalein and sodium carbonate in the sample. Do:- Make sure that the label description is same as described in forwarding letter.

3	<b>Miscellaneous cases:-</b> (a) Acid throwing cases	1. Liquid sample  2. Burnt pieces of cloths etc.	Liquid sample maximum 100ml	1. Liquid sample should be taken in glass bottle which is then sealed at mouth.* Don't put metallic lid on the mouth of the bottle of acid sample, use plastic lid instead. 2. Exhibits (burnt cloths) should be packed in glass jar which in turn is sealed at mouth.	1. Given sample is of acid? 2. Presence of corrosive substance (Acid) in the exhibits (cloths etc.).  Do:- Try to send burnt pieces of cloths instead of swab of skin etc.
	(b) Unknown Chemicals	Illegally Stored chemicals	Quantity Liquid- 1ltr  Solid- 100gm	1. Liquid:- Sample should be taken in glass bottle which is then sealed at mouth.* 2. Solid :- Should be packed in polythene and then sealed in cloth bag.	Which chemical is it? Do:- Try to get information about the seized chemical as much as possible and also mention it in file or Forwarding letter.

\*Please check there is no leakage in the sample.

## Cyber Forensic Division

Various nature of Cyber crime/crime, types of exhibits, collection and seizing procedure, packing method and desired query and necessary examination related to Cyber Forensic Division are as under:-

Nature of Crime	Type of digital exhibit	Collection and Seizing Procedure	Packing / Storage	Desired General Query
Internet generated E-Commerce related economic offences / E-Banking fraud, Social media related Crime, General Crime related to sensitive matter and nation security like Smuggling/ spying / Infiltration / Terrorism /Cyber Crime, Indecent representation of women, blackmailing, Defamation, Data Hiding,	Computer, Laptop, Pendrive, Memory Card, Magnetic and optical storage media, Electronic ticket machine, A.T.M. Machine, Magnetic and electronic card swapping machine, Software etc.	<ul style="list-style-type: none"> <li>It is advice to mention the Hash Value of memory devices in seizure memo, calculated with help of validated forensic software to maintain the 'Chain of Custody' of memory devices.</li> </ul> <p><b>When Computer is in ON condition</b></p> <ul style="list-style-type: none"> <li>If computer is found in on condition during the recovery of computer etc , then should be take its "RAM Dump" if necessary and should be poweroff by directly removing its power plug C.P.U.. Hard disk should be seized by mentioning detailed information of hard disk like brand, model/product number,</li> </ul>	<ul style="list-style-type: none"> <li>In case of seizing only hard disk, it is advice to pack it first in electro-static bag, then in bubble plastic bag and then in a cloth bag.</li> <li>Computer, Laptop and other digital exhibits should be sent after properly sealing them. CPU/ hard disk /laptop with power adapter</li> </ul>	<ul style="list-style-type: none"> <li>Query regarding deleted/ encrypted/ present data/ slack data/picture file editing data/software, internet access data (Website access/ e-mail access, browser search data/ history), window registry data (installed/ uninstalled software, pendrive access), metadata of file (Creation, last modified date &amp; time)</li> <li>Only Case specific query should be asked to get any kind of data.</li> </ul> <p><b>Followings are required for specific query;</b></p> <p><b>In case of data related to document file-</b> selected key-words related with desired data/ photocopy related with desired data, scanned document related</p>

<p>Tempering / Deletion, Fake Document, Fraud, Gambling, Bookie(Speculation), batting, Hacking , Pornography, Money Laundry, Sniffing, Stegography, Intellectual property theft related cyber crime and other general crime related to computer, Laptop, Mobile phone , tablet, electronic devices alongwith memory storage / Programmable electronic devices.</p>		<p>firmware number &amp; capacity of hard disk in recovery memo.</p> <p><b>When Computer is in OFF condition</b></p> <ul style="list-style-type: none"> <li>• If computer is found in off condition, then detailed information of its hard disk like brand, model/product number, firmware number &amp; capacity should be mentioned in recovery memo. It is also advice making signature of accused &amp; investigation officer on hard disk before their sealing in the packets.</li> </ul> <p><b>When Computers are connected in network</b></p> <ul style="list-style-type: none"> <li>• Computers/ Laptops connected in network during recovery, information of network topology should be mentioned in recovery memo.</li> </ul> <p>Appropriate computers/ Laptops should be seized after advice with network expert, and case related specific query/opinion should be</p>	<p>should be seized for opinion/ query regarding data; there is no need of key-board, mouse, monitor.</p>	<p>with desired data/</p> <p><b>In case of data related to picture file-</b> File descriptions / file name, meta data of picture file / its hardcopy or softcopy</p> <p><b>In case of data related to video file-</b> File description/ meta-data of video file / its soft copy</p> <ul style="list-style-type: none"> <li>• In case of no information about case related specific query, it is advised to prepare clone of the Hard disk, then find the case related data after that again ask case related data.</li> </ul> <p><b>If mirror image / clone of the memory device (Hard disk) is desired,</b> then provide a blank/new hard disk of same kind, same make, model &amp; capacity or same L.B.A. value.</p> <ul style="list-style-type: none"> <li>• <b>In case of query related with internet access / internet artifacts-</b></li> </ul> <p>It is advised to complete the investigation within time-limit so that evidences recovered from computer etc would be</p>
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		<p>asked.</p> <ul style="list-style-type: none"> <li>No any kind of access of Computers/ Laptops is allowed after their seizing.</li> </ul>		<p>might be useful in investigation by using or verifying recovered evidences with preserved data from their server of e-mail server/ host website before auto destroying the data as evidences (IP address Log details, face book post details etc) after within time-limit.</p> <p>Note- If desired recovered data is in large capacity, then it is advised to provide two blank memory devices of required capacity for copying desired data.</p>
	<p>Mobile phone, tablet, SIM card.</p>	<ul style="list-style-type: none"> <li>It is advised to set smart mobile phone on Flight/Airplane mode just after their seizing. If facility of flight mode option is not available in the mobile phone, then remove the SIM card from mobile device before packing.</li> <li>The description of all components of mobile device like; mobile phone body, SIM,</li> </ul>	<ul style="list-style-type: none"> <li>It is advised to switch-off the mobile phone, tablet etc before their seated packing.</li> </ul>	<ul style="list-style-type: none"> <li>Information regarding deleted/ encrypted/ present data /picture file editing data/ software/Application, internet access data (Website access/ e-mail access, browser search data/ history), WhatsApp chat / SMS message may be provided.</li> <li>Only Case specific query should be asked to get</li> </ul>

		<p>memory card etc. (Model of mobile phone, IMEI/MIED, service provider of SIM, ICCID, capacity of memory card, brand etc) should be mentioned in recovery memo during the seizing of mobile phone,</p> <p>It is advised to mention the type and details of system lock of the mobile phone (password, passcode , pattern lock etc.)/ PIN of SIM/PUK in recovery memo after verification so that desired data may be retrieved.</p>		<p>any kind of data.</p> <p><b>Followings are required for specific query;</b></p> <p><b>In case of data related to document file-</b> selected key-words related with desired data/ photocopy related with desired data, scanned document related with desired data/</p> <p><b>In case of data related to picture file-</b> File descriptions / file name, meta data of picture file / its hardcopy or softcopy</p> <p><b>In case of data related to video file-</b> File description/ meta-data of video file / its soft copy</p> <ul style="list-style-type: none"> <li>• Case specific mobile number/ contact name should be provide for query regarding whatsApp/ SMS message in mobile phone,.</li> </ul>
		<ul style="list-style-type: none"> <li>• If query/opinion is about date &amp; time of data stored in mobile phone/computer/DVR, then original time and display time/time Zone of device should be noted at the time of</li> </ul>		<ul style="list-style-type: none"> <li>• To get desired data related to social media, cloud or mail etc., relevant user name and password information should be provide.</li> <li>• If capacity of</li> </ul>

		<p>seizure of these digital exhibits, in case, device is in working order.</p> <ul style="list-style-type: none"> <li>• Mobile etc. should not be accessed after their seizure.</li> </ul>		<p>desired/recovered data from exhibits is large ,then it is necessary to provide two blank memory devices of proper capacity.</p> <p>It is advised to complete the investigation within time-limit</p> <p>In case of query related with internet access , it is advised to complete the investigation within time-limit (3 months/6 months) and in case of query related CDR, it is advised to complete the investigation within time-limit (1 year) so that evidences recovered from computer etc would be useful in investigation by using or verifying recovered evidences with preserved data from their server of Mobile service provider / e-mail server/ host website before auto destroying the data as evidences (CDR Log, IP address Log details, face book post details etc) after within time-limit.</p>
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<p>Video authentication/enhancement, matching of picture file related to file or photograph in case of Sting operation, blackmailing, Indecent representation of women etc.</p>	<p>Computer/ Mobile phone, DVR etc. devices</p>	<ul style="list-style-type: none"> <li>• Computer/ Mobile phone, DVR etc. devices should be seized in above manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer/ Mobile phone, DVR etc. should be packed as mentioned-above.</li> </ul>	<ul style="list-style-type: none"> <li>• In case of query regarding identification of face in computer/mobile, DVR etc. devices, photograph/video of face of relevant person with different angles should be provided.</li> <li>• Original storage of video and recording devices should be provided in case of Video authentication/ Tempering,</li> </ul>
<p>CCTV footage of Burglary, robbery, kidnapping, murder, vehicle stealing crime</p>	<p>CCTV footage in DVR, hard disk, CD, DVD</p>	<ul style="list-style-type: none"> <li>• During the seizing of DVR, detailed information of DVR and its hard disk like brand, model/product number, serial number, firmware number &amp; capacity should be mentioned in recovery memo. It is advised to seal the hard disk after making signature of accused, witness &amp; investigation officer on it.</li> <li>• In addition to, it is advised to send a blank hard disk of same make, model &amp; capacity or same L.B.A. value.</li> </ul>	<ul style="list-style-type: none"> <li>• In case of query regarding CCTV footage of DVR, it is advised to seal the DVR along with its hard disk and power adaptor.</li> </ul>	<ul style="list-style-type: none"> <li>• To get data of DVR, case related specific query should be asked. For specific query, date and time of related video of incident should be provided.</li> <li>• If query/opinion is about video tempering in CCTV footage, then only date &amp; specific time period of incident should be point.</li> <li>• If capacity of data recovered from electronic exhibits is large, then it is advised to provide two blank memory devices of appropriate capacity.</li> <li>• If query is related data,</li> </ul>

		<ul style="list-style-type: none"> <li>• System lock or password of DVR should be provided in recovery memo after verification.</li> <li>• If query/opinion is about date &amp; time of data of DVR, then original time and display time/time Zone of device should be note-down at the time of seizure of these digital exhibits in case, device is in working order.</li> <li>• Electronic exhibits DVR etc. should not be accessed after their seizing.</li> </ul>		<p>then no requirement of key board, mouse, and monitor.</p>
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## **DNA Division**

<b>Nature of crime</b>	<b>Type of sample</b>	<b>Process of sampling and quantity of sample</b>	<b>Packing/storage</b>	<b>Desired question</b>
Murder, attempt to murder, Identification of missing person in Blast cases	1.Skeleton /Bones 2.Putrified dead body	Long bone(Femur) or 2-3 molar teeth	<ul style="list-style-type: none"> <li>• Samples should be air dried</li> <li>• Bone should be wrapped in paper and then sealed in cloth packet</li> <li>• Teeth should be packed in plastic or glass vial</li> </ul>	<p>DNA matching of blood stains detected on cloths of Deceased/ injured , accused and crime scene</p> <p>DNA matching of samples(teeth,bones, hairs,tissues)of unidentified body with control blood samples of Probable parents</p> <ul style="list-style-type: none"> <li>• DNA profile should be prepared with the sample of unidentified body. Matching of profile will carried out on availability of any clament.</li> </ul>
	Liquid blood sample from dead body	2-3 ml blood should be taken during postmortem	Blood sample should be preserved in EDTA and cold chain should be maintained	
	Dried biological stains(Blood, semen, saliva etc) recovered from crime scene	Sample should be soaked in sterilised gauge piece	Sample soaked gauge piece should be air dried	
	Blood stained cloth of deceased and accused	Should be air dried	All the cloth should be packed in separate cloth packet	
	Weapon used in crime	stains on weapon should be air dried	Weapon should be wrapped in paper and then packed in cloth packet	
	Control blood sample	<ul style="list-style-type: none"> <li>• FTA card should be used and this card is readily available in mobile units and main</li> </ul>	<ul style="list-style-type: none"> <li>• Blood sample on FTA card should be taken in supervision if our district mobile forensic unit</li> <li>• Name of donar should be mention</li> </ul>	

		laboratory Jaipur <ul style="list-style-type: none"> <li>• Put a small drop of blood on FTA card</li> </ul>	on FTA card <ul style="list-style-type: none"> <li>• FTA card should be packed and sealed in paper envelop</li> </ul>	
		<ul style="list-style-type: none"> <li>• If FTA cards are not available then 2-3 ml of blood sample should be taken</li> </ul>	<ul style="list-style-type: none"> <li>• Blood sample should be in EDTA vial</li> <li>• Always use disposable syringes</li> <li>• Liquid blood sample should be packed vial in thermocol box containing ice</li> <li>• Blood sample vial should be air tight and all details of donor should be mentioned</li> </ul>	
	Tissue/organ/fetus etc	<ul style="list-style-type: none"> <li>• Sample should be in normal saline which is readily available on all medical shops</li> </ul>	<ul style="list-style-type: none"> <li>• If possible all sample jar should be in thermocol box containing ice</li> </ul>	
	Hairs recovered from deceased's hand or from	<ul style="list-style-type: none"> <li>• Hair should be lifted with the help of</li> </ul>	Paper envelop should be sealed in plastic vial	

	crime scene	forceps and packed in paper envelops		
Rape /Gang rape /unnatural rape	Garments of victim and accused during the crime	<ul style="list-style-type: none"> <li>All cloths should be air dried</li> </ul>	All garments should be packed in separate cloth bag	DNA matching of samples of victim(vaginal swab smear/anal swab smear) and accused(uretharal swab and smear) with control samples
Control blood sample of victim and accused	Samples of victim(vaginal swab smear/anal swab smear) and accused(uretharal swab and smear)	<ul style="list-style-type: none"> <li>All sample should be air dried</li> <li>On FTA card/Liquid sample mentioned as above</li> </ul>	Should be seled in paper envelop or in vial  On FTA card/Liquid sample mentioned as above	
Disputed paternity/ Baby swapping cases	Control blood samples	<ul style="list-style-type: none"> <li>On FTA card/Liquid sample mentioned as above</li> </ul>	On FTA card/Liquid sample mentioned as above	DNA matching with disputed father and mother

<b>Do's and Don'ts for DNA test</b>	
<b>Do's</b>	<b>Don'ts</b>
<ul style="list-style-type: none"> <li>• In the disputed paternity cases, control blood samples of probable parents and baby, should be taken</li> </ul>	<ul style="list-style-type: none"> <li>• Biological sample should not be handled bare handed</li> </ul>
<ul style="list-style-type: none"> <li>• Control Blood samples of probable Parents are required in the Identification unknown body, Mutilated body, remains skeleton, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• DNA samples should be sent in the Laboratory without any delay</li> </ul>
<ul style="list-style-type: none"> <li>• Control blood sample should be taken on FTA cards (for FTA cards contact to District Mobile Forensic Unit / DNA laboratory)</li> </ul>	<ul style="list-style-type: none"> <li>• Biological samples should not be packed in Poly bag or airtight container</li> </ul>
<ul style="list-style-type: none"> <li>• Control blood donor's Identification form should be filled by Medical officer (Form Enclosed)</li> </ul>	<ul style="list-style-type: none"> <li>• Completely burn or ash are not much more useful in DNA test</li> </ul>
<ul style="list-style-type: none"> <li>• Control blood samples of son/ daughter/brother / sister / cousins can be taken in the absence of parents but regarding this clearly mentioned in forwarding letter that parents of unknown are not alive. (for this points it is advised to consult with Incharge DNA laboratory before sample taken)</li> </ul>	<ul style="list-style-type: none"> <li>• DNA samples should not be Preserved in Formalin</li> </ul>
<ul style="list-style-type: none"> <li>• Control Saliva also taken on sterile buccal swab but for special precaution contact to District Mobile Forensic Unit</li> </ul>	<ul style="list-style-type: none"> <li>• Control semen samples not required in DNA test</li> </ul>
<ul style="list-style-type: none"> <li>• In sexual offence cases, clothing's of victim and suspect/ suspects during offence and just after offence, samples taken during medical examinations and control blood samples on FTA cards should be sent in the laboratory without any delay</li> </ul>	<ul style="list-style-type: none"> <li>• Control hair should not be sent for DNA test</li> </ul>
<ul style="list-style-type: none"> <li>• If any difficulties to obtain complete bone from dead ,decomposed and putrified body the two or three complete molar teeth should be taken</li> </ul>	<ul style="list-style-type: none"> <li>• Opinion regarding DNA test should be clear</li> </ul>
<ul style="list-style-type: none"> <li>• During postmortem , Cardiac blood should be taken in EDTA vial or FTA card</li> </ul>	

(Form to be used by the donor of control sample for DNA examination)

**STATE FORENSIC SCIENCE LABORATORY RAJASTHAN**

**NEHRU NAGR, JAIPUR 302016**

**Phone & Fax : 0141-2301584**

**Identification Form**

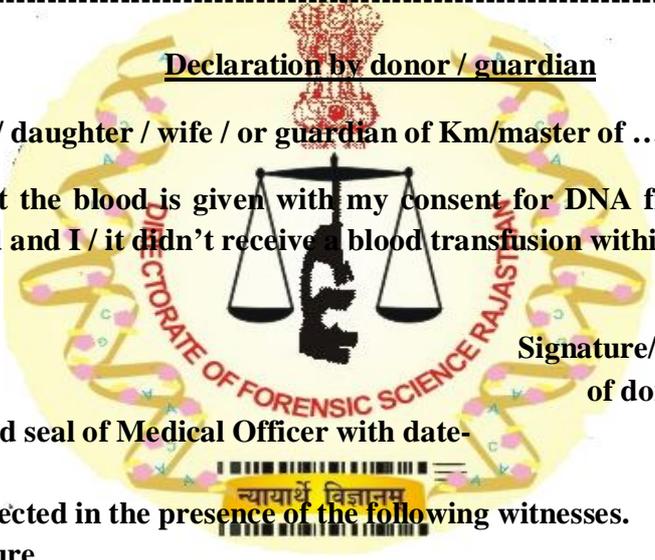


Name .....  
Father/guardians/husbands name .....  
Age .....  
Gender Male / Female.....  
Caste .....  
Address .....  
Visible genetic abnormalities .....  
(if any) Description of sample .....  
Date of sample collection .....  
FIR No./Date/U.S./P.S./Distt. ....

**Declaration by donor / guardian**

I..... son / daughter / wife / or guardian of Km/master of .....

Hereby declare that the blood is given with my consent for DNA fingerprinting. The blood is mine / is of my child and I / it didn't receive blood transfusion within last three months.



Signature/thumb impression  
of donor/guardian

Name, Signature and seal of Medical Officer with date-

Blood sample is collected in the presence of the following witnesses.

- 1. Name and signature
- 2. Name and signature

Signature of Investigation Officer with seal

## Document Division

Document Division deals with the Forensic document examination pertaining to cases of White collar crime, Economic offence, Forgery in documents, Land Mafia, Scams , Bank Frauds, Extortion, Suicide note , Murder, Copy right Act, Type script examination, Addition, Alteration & Obliteration decipherment, Difference of Ink, Paper comparison, Security documents ( Currency, Voter I cards, Driving License, Passport, Court Stamp paper etc.) examination. Beside this any other examination in which Forensic Document examination technique can be used to furnish an opinion in the interest of case.

### General Instructions : Do's and Dont's

1. On Disputed documents the disputed contents which are to be examined, should be enclosed and marked with 'Q' number marking, such as Q1, Q2 etc.
2. Specimen from concerned person may be taken in three speeds i.e., slow, medium, fast speed and **at least** three sheets in each speed( Total 9 pages). As far as possible, specimen should be taken by dictation mode i.e. without showing the disputed. Instead of restricted to 9 sheets, It should be tried to take maximum specimen.
3. Specimen and Admitted documents of one person should be given one type of marking. Such as:-  
Person A- A1 to A10  
Person B- B1 to B10  
Person C- C1 to C10
4. All the documents, Disputed, Admitted, Specimen should be send in original. In case of Photocopy documents, a clear note regarding the reason of sending photocopy documents should be mentioned in forwarding letter.
5. Specimen from concerned person may be taken in three speeds i.e., slow, medium, fast speed and **at least** three sheets in each speed. As far as possible, specimen should be taken by dictation mode i.e. without showing the disputed.

6. Admitted should be of contemporary period as of disputed i.e. nearby year of disputed document date.
7. For examination of disputed rubber seal, impressions of disputed rubber seal taken as specimen on paper should be forwarded to FSL.
8. Care should be given for proper safety of documents to be forwarded to FSL, so that concerned documents for examination should get deposited in FSL without further deterioration.
9. If any previous marking of FSL exists on case documents, it should not be erased or deleted.
10. If two or more persons of similar name exists in a case, Father's name of the person should also be mentioned in forwarding letter and on specimen sheets,
11. If case documents are to be forwarded in seal envelope, proper sealing and standard seal should be used along with full detail of the case FIR, U/S, Police station etc. Specimen seal impression should be enclosed.
12. Any previous reference, letter number, receipt number etc. should also be mentioned in forwarding letter.
13. While forwarding the case for further examination, all previous specimen and admitted should also be sent.
14. Query to be asked and details of documents to be compared, should be enclosed in tabular form. For example if disputed signature read as Mahesh, present on SBI cheque, No. 3289735 dated 23.03.1999 and comparison of disputed has to be made with specimen and admitted of suspected person named Sh. Ramlal then following query table should be enclosed :-

## FSL Query Table

Case FIR No....., Date....., Police Station....., U/s ....., Distt.....

Sl. No	Name of person	Disputed		Specimen		Admitted		Query
		Description of document	Marking	Description of document	Marking	Description of document	Marking	
1.	Sh.Mahesh	SBI Cheque No.3289735, dated 23.3.99	Q1	Specimen signature/writing.	S1 to S9	SBI Account opening form, dated 14.2.1998  Casual leave application, dated 12.2.99	A1 to A3  A4 to A10	Whether disputed Q1 and Specimen S1 to S9, admitted A1 to A10 show similarities with each other.
2	Sh. Ramlal			Specimen signature/writing	T1 to T9	Cash book, year 2000, Page 1 to 10  Cash book year 1999 Page 2 to 12  Casual leave application dated 22.4.1998	B1 to B10  B11 to B20  B21 to B23	Whether disputed Q1 and Specimen T1 to T9, admitted B1 to B23 show similarities with each other.

Note : Any note regarding condition of document, availability of admitted , explanation of photocopy documents, any other special requirement regarding examination.

Signature & seal of I.O.

## Narcotics Division

Narcotics division receives three types of cases which are seized under NDPS Act, Excise Act, IPC etc.

1. **Narcotic substance** –

- (i) Opium plant products- Doda post, Opium and it's derivatives like Heroin or Brown Sugar or Smack, Chandu etc.
- (ii) Cannabis plant products- Bhang, Ganja, Charas, Hashish oil etc.
- (iii) Coca plant product- Cocaine.
- (iv) Opium/Cannabis plant.

2. **Psychotropic substances** – Mandrex, Methaqualone, Barbiturates, Benzodiazepines, Ketamine, L.S.D., Amphetamines etc.

3. **Prohibited chemicals/precursors** – The chemicals used in preparation of NDPS drugs at any stage and are prohibited under rules. These are Acetic anhydride, Anthranilic acid, Chloroacetic acid etc.

➤ **Sampling and other guidelines:-**

S. N.	Type of Cases	Exhibits	Sampling and Quantity	Packing/Storage (Before putting in cloth bag)	Query/Do's/Don'ts
1.	<b>Narcotics Substances</b> (i) Opium plant products	1. Doda post/ Doda powder	250-500gm	Should be packed in polythene pouch.	Given sample is of Opium doda or not? Don't: – Don't ask percentage of morphine.
		2. Opium	30-50gm <b>Do:-</b> If seized quantity is lesser, the whole sample should be forwarded.	Should be packed in polythene pouch/bag and then in metallic container.*	Given sample is of Opium or not? What is the percentage of morphine?

		3. Smack powder	5-10gm <b>Do :-</b> If seized quantity is lesser, the whole sample should be forwarded.	Should be packed in polythene pouch/bag and then in metallic container	Presence of Smack/heroin? Don't: – Pl. do not ask percentage of morphine or Diacetylmorphine.
		4. Smack related appliance-s Foil, pipe, coin etc. used for inhaling smack	Don't :- Pl. don't send pieces of burnt bidies, matchsticks etc.	Should be wrapped in paper and then packed in polythene pouch/bag	Presence of smack in appliances?
	(ii)Cannabis Plant Products	Bhang and its preparations, Ganja/ Charas and Its appliances (chilam etc).	50-100gm (dried) Chilam (pipe)/ Cigarette etc. Don't:- Pl don't send matchsticks etc.	Should be wrapped in paper and then packed in polythene pouch/bag	Given sample is of Bhang /Ganja/ Charas or not? Presence of Cannabis in appliances? Don't – Morphine is not found in all these so pl. do not ask presence of morphine.
	(iii)Coca plant product	Cocaine powder	5-10gm	Should be packed in polythene pouch/bag and then in metallic container	Given sample is of Cocaine or not? Don't – Morphine is not found in this, so pl. do not ask presence of morphine.
	(iv)Plants	Plants of Opium/ Bhang/ Ganja	250-500gm (dried plant)	Should be wrapped in paper/ packed in paper bag.	Given sample (plant) is of Opium /Bhang/Ganja or not? Don't: – If poppy capsules are not attached to the

					plant than don't ask about the presence of morphine in the plant.
2	<b>Psycho-tropic substance</b>	Psycho-tropic substance and prohibited medicines	15–20gm of solid substance or one strip/bottle of same batch no.	Should be packed in polythene pouch/bag	Presence of any Psychotropic substance? Don't –pl. query only about the constituents of medicines which comes under NDPS.
3	<b>Prohibited chemicals/ Precursors</b>	Acetic acid, Anthranilic acid, Chloro-acetic acid etc.	Liquid – 180ml min. solid – 50gm	Liquid should be packed in airtight glass bottle.* Solid should be packed in polythene pouch/bag.	Which chemical is it?

\*Please check there is no leakage in the sample.

**Note:-** Packets sealed by I.O.'S personal seal at the spot should be resealed by standard seal of police station and both attested original seal impressions letter should be forwarded with file.

## Physics Division

Essential guideline for the investigation officer for the cases pertaining to physics division for the nature, types of exhibits, sampling methods, packing and the required queries are as following-

Nature of crime	Sample/ type of exhibits	Sampling method and exhibits	Packing/ storage	general required opinion
Burglary, robbery, plunder, kidnapping, murder	Foot wear sole impression, tyre tread impression, soil	<ul style="list-style-type: none"> <li>• Plaster of Paris moulds of clear impressions of footwear/ tyre tread should be lifted after proper selection.</li> <li>• Iron mesh should be used during mould preparation.</li> <li>• Clear and obvious description should be written on backside of mould regarding the case and left or right foot.</li> <li>• Control foot wear/ tyre should be sent along with the moulds.</li> <li>• 3-4 moulds should be lifted in succession of tyre tread impression so that maximum tread area of tyre can be covered.</li> <li>• On hard surfaces where mould casting is not possible than</li> </ul>	<ul style="list-style-type: none"> <li>• Moulds should be sent securely in proper packing after complete drying.</li> <li>• Moulds should be packed separately and securely.</li> </ul>	<ul style="list-style-type: none"> <li>• Foot wear impressions lifted from the spot wheather match with control footwear /tyre or not?</li> </ul>

		foot wear impression should be photographed vertically along with a scale mandatorily .		
	Tool marks	<ul style="list-style-type: none"> <li>• Questioned part or edge and control part or edge should be marked clearly.</li> <li>• Tools caused the marks should be sent along with the trace material in proper secure packing.</li> </ul>	<ul style="list-style-type: none"> <li>• Trace material should be sent after proper preservation.</li> </ul>	<ul style="list-style-type: none"> <li>• Tool marks on the objects matches with the seized tools or not?</li> </ul>
	Cut marks	<ul style="list-style-type: none"> <li>• Cut marks should be clearly marked, preserved and properly packed for required cut marks queries.</li> </ul>	<ul style="list-style-type: none"> <li>• Trace material should be sent after proper preservation.</li> </ul>	<ul style="list-style-type: none"> <li>• Cut marks present on the cloths are made with seized tools/ weapon or not?</li> </ul>
	Glass	<ul style="list-style-type: none"> <li>• Inner and outer sides of glass pieces should be clearly marked to examine the direction of force and should be sent securely in proper packing.</li> </ul>	<ul style="list-style-type: none"> <li>• glass pieces should be sent securely in proper packing .</li> </ul>	<ul style="list-style-type: none"> <li>• from which direction the glass pane is broken?</li> </ul>

Plunder, rape, murder, fraud etc.	Physical matching: bangle pieces, buttons, thread, vehicular / machine parts , tool parts, cloth pieces, idol pieces, precious stones and various kinds of dies.	<ul style="list-style-type: none"> <li>Physical exhibits should be sent after proper preservation.</li> </ul>	<ul style="list-style-type: none"> <li>Physical exhibits found at various places should be packed separately.</li> </ul>	<ul style="list-style-type: none"> <li>Exhibits match physically or not?</li> </ul>
vehicular theft and other cases	Chassis and engine number restoration cases.	<ul style="list-style-type: none"> <li>Apparent Registration number, engine number and chassis number should be mention accurately in documents and sent the vehicles for restoration.</li> <li>All the documents pertaining to the seized vehicle should be sent alongwith the vehicle e.g. RC etc</li> </ul>	<ul style="list-style-type: none"> <li>separate files should be prepared for each vehicle if number of vehicle is more than one in a case.</li> </ul>	<ul style="list-style-type: none"> <li>What is the original chassis or engine number of the seized vehicle?</li> </ul>
Vehicular accident and hit & run cases	Glass/vehicle/paint/soil	<ul style="list-style-type: none"> <li>Seized glass pieces should be sent after preserving properly.</li> <li>trace material should be sent with proper preservation along with the complete description of dent/scratch/ trace material in vehicular accident cases. Foreign paint</li> </ul>	<ul style="list-style-type: none"> <li>glass pieces should be sent securely in proper packing .</li> <li>Foreign paint particle adhered on any part of the vehicle body should be sent after properly preserving on butter paper.</li> <li>trace material should be sent with proper</li> </ul>	<ul style="list-style-type: none"> <li>Does Vehicular glass and glass seized from spot matcher not?</li> <li>was there any collision between these two vehicles?</li> <li>does the paint transferred</li> </ul>

		<p>particle adhered on any part of the vehicle body should be sent after properly preserving on butter paper.</p> <ul style="list-style-type: none"> <li>• The affected part should be separated and transferred</li> <li>foreign paint traces should be properly preserved before sending to laboratory for large vehicles.</li> <li>• Apparent registration number, chassis number and engine number of accidental vehicle should be mentioned accurately in documents being sent for examination in laboratory.</li> </ul>	<p>preservation along with the complete description of dent/scratch/trace material in vehicular accident cases.</p>	<p>on one vehicle matches with the paint of other vehicle?</p>
Arson and short circuit	Electric cables, switch boards, MCBs and electric cables of installed equipments .	<ul style="list-style-type: none"> <li>• description about the status of switches, wires , MCBs should be clearly mentioned in the documents while sending for examination to laboratory.</li> </ul>	<ul style="list-style-type: none"> <li>• Physical exhibits found at various places should be packed separately.</li> </ul>	Evidence of short circuit is present or not in the exhibits?
Corruption,	voice examination	Questioned	• Exact copy	• Whether

black mailing cases etc.		voice along with control voice should be sent on CD recorded as per questioned transcript in fast, slow and medium paces three times.	of questioned and control transcript should be sent.	questioned voice and control voice match or not?
Fraud, alliteration cases etc.	metal	Metal should be sent with complete weight description.	<ul style="list-style-type: none"> <li>For metallographic examination exhibits should be sent after removing lac, ranga etc, if possible.</li> </ul>	<ul style="list-style-type: none"> <li>Which metal are present in the exhibits?</li> </ul>
Fraud, copy right act, cases pertaining to 420 IPC etc.	Genuine and fake parts/machinery/textile fabric etc.	<ul style="list-style-type: none"> <li>Random sampling should be done to concise the sample size in cases of copy right act where large amount of similar exhibits are seized.</li> <li>Make and model of control and questioned articles should be same in copy right cases so that they can be compared.</li> </ul>	<ul style="list-style-type: none"> <li>Various samples should be packed separately.</li> </ul>	Seized questioned article match with genuine articles provided by the company or not?
Collapsing of buildings, industrial buildings, road, bridge, dams and	Building materials: Cement concrete, brick and other road materials.	<ul style="list-style-type: none"> <li>Sample should be lifted from different places for building materials.</li> <li>G-schedule</li> </ul>	<ul style="list-style-type: none"> <li>Building materials should be sent in plastic or water proof packing.</li> </ul>	What is the ratio of cement, sand and grit in the seized sample? What is the

<p>alliteration of building materials.</p>		<p>should be sent mandatorily in building material cases.</p> <ul style="list-style-type: none"> <li>• Control samples also should be sent for examination.</li> <li>• Sample quantity should be as following –  Cement- 2.5 kg to 3.0 kg  Sand- 5 kg to 7 kg  Mortar- 5 kg to 10 kg  Grit- minimum 10 kg</li> </ul>		<p>compressive strength of seized cement sample?  What is the compressive strength of cement concrete block ?</p>
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## **Polygraph division**

### **Guidelines to the investigation officers for forwarding the cases for polygraph examination:**

New polygraph division is established in SFSL Jaipur with total computerized imported equipments. Lie detection test facility is provided by this polygraph division in cases of kidnapping, rape, murder, fraud, terrorist activities, smuggling, theft, robbery etc. to test the statements of the culprits, victims etc. where information are intentionally canceled or to reveal the factual situation where fake reports are lodged to misguide the investigation.

Preliminary Investigation by the investigating officer is pre-requisite for forwarding the case for Lie-Detection examination.

Request for appointment along with the name of the subject (s), justification for subjecting the individual (s) to polygraph examination may be sent to the Director, State Forensic Science Laboratory, Jaipur, Rajasthan.

The individual should be fit physically and mentally at the time of test and following documents have to be provided in accordance with the guideline of national human rights commission published on the website [www.nhrc.nic.in](http://www.nhrc.nic.in) as “Guideline on polygraph test”

**Preparation of the case I.O.:** After appointment has been fixed by the laboratory, the investigating officer should present the case to the polygraph expert prior to the beginning of the polygraph examination. The investigating officer who initially attended the crime scene and most familiar with the details of the case/investigation should be preferably present during discussion of the case.

It is mandatory for the current investigating officer to be present for the discussion, before the polygraph test of the subject (s) in his case is initiated.

The following materials be made available to the laboratory well in advance of the date of the examination in all the cases:

- (i) A copy of the FIR
- (ii) Copy of FIR, Brief facts of the case, Statements of subjects concerned, PRM/MLC in case of violent crime, Crime scene sketch and photographs (if available), Consent recorded before Judicial Magistrate for subjecting the individual to polygraph

examination, Issues to be probed, Any other relevant material/document to facilitate the understanding the case

- (iii) Investigating reports including facts, names, places, times, dates, crime scene diagrams (if applicable and available), photographs etc.
- (iv) Statements/Interrogation reports of suspect (s), complainant(s)/witness (s) including alibi witness (s).
- (v) In cases of serious injury, violent or suspicious deaths, sex offence, a copy of the attending physician's or medico-legal report and postmortem report has to be furnished.
- (vi) In cases of alleged sex offences such as intercourse with a female child, forcible rape, indecent liberties or perversion, it is important that the victim, as well as the accused, be made available for interview and polygraph examination. It is essential that the polygraph examiner gets a first hand detailed statement from the victim, and the interview of the victim precedes that of the suspect (s) or witness (s).

It is desirable that in order to have proper understanding of the scene of crime, formulation of the issues for polygraph examination and helping the investigation in meaningful manner, the polygraph examiner also visits the scene of crime.

## TOXICOLOGY DIVISION

In Toxicology Division examination of common poisons is carried out in samples related to Homicidal, Suicidal and Accidental deaths cases. It includes cases of divertive Snake bite nature. Urth relation to, Cases registered under 302, 328, 4984A, 304B of IPC, 174 & 176 of CrPC, wild life protection act 1972 and Rajasthan Bovine Protection Act and cases related of to In this division physical evidences like-Viscera, Gastric lavage or Stomach wash, Vomit, Blood, Urine snake bite Ash/ bones, Skin in snake bite in articles respected to contesting are this division the presence of common poisons viz. metallic poisons, cyanide, ethyl and methyl alcohol, alkaloids barbiturates, tranquillizers and insecticide is examined. It is very much designed to have any other related information and sending of controls drugs, pesticides or poisons analysis the cases so and to overrule any objection at the time of received the cases.

To get appropriate results or opinion from FSL in poisoning Cases following guidelines are laid down-

S. no.	Crime	Samples / Types of exhibits	Method of sample of quantity	Packing /storage	General opinion in short
1.	Murder, Suicide, Accident, Dowry deaths, Wild life and Bovine, Crime, Dacoity/loot, poisoning, 174 CrPC, 176 CrPC, 302, 328, 498A & 304B IPC and other IPC cases.	1. Viscera sample 2. Gastric lavage/Stomach wash. 3. Blood sample 4. Urine sample 5. Samples of ash and Bones. 6. Evidences present at crime scene like suspected samples of poison, food, beverages and edibles.	1. Viscera must be preserved in saturated saline water. 2. In case of Blood NaF, NaN <sub>3</sub> . 3. Urine as such collected. 4. Gastric lavage as such collected. 5. Ash/bone as such collected.	Samples should be packed & sealed at mouth in glass jars and jars should not be closed completely with clothes. The lid of jar should be covered with clothes and sealed at mouth in such a way so that material contents of jar can be easily seen /observable clearly by anyone. For secure	Common poison

				and safe transportation of these viscera jars hard card board box/ plastic box may be used but resealing of these boxes is not necessary.	
2.	Poisonous gases	1. Blood sample preserved in liquid paraffin 2. lungs tied 3. pieces of brain	These viscera must be sent in separate glass jars	As above described	Presence of poisons gases like – H <sub>2</sub> S, Co-etc.
3.	Drug related cases.	1. Doctor/ is expected to send generic names and control samples of prescribed medicine used during the treatment and for which Opinion is required.	Preserved in saline water.	As above Described	Presence of drug of any particular
4.	Cases related to acid intake	1- Viscera sample 2 -Blood sample 3-The evidence present & collected from the crime scene	To be preserved in rectified spirit.	As above described.	Presence of acidic ions.
5.	Alcohol poisoning	1-Plain Blood 2-Preserved Blood 3-Urine sample 4-The alcohol examination medical reports /case sheet prepared by M.J. is compulsory to enclose in such cases.	1-Min quantity 10ml 2-Blood samples should be preserved in NaF [sodium fluoride] or sodium azide/liquid paraffin at top of Blood.	All these sample need to be sent in ice box having temperature between 4& 10 <sup>0</sup> C.	Quantitative examination of alcohol.
6.	Bite cases.	Site of snake bite with subcutaneous tissues	Preserved in saline water.	Presence of snake	

		preserved in saline solution to be sent.	1% sodium chloride solution	Venom.	
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- Do's-
1. Medico legal Certificate/Postmortem report needs to be sent along with MO's forwarding letter. The opinion for presence of common poison should be clearly mentioned in the forwarding letter of concerning SP's &MO's.
  2. There is a major need to send details about chronic disease of deceased person and his/her prolonged treatment for the same. The detail about last findings of intake of food, medicine, poison etc. must be sent along with the case.
  3. The name of deceased and his/his fathers/husband should be identical in the FIR/postmortem report/forwarding letter and others documents and on the labels of all exhibits.
  4. If the samples were left in malkhana after the preparation of the forwarding letter, it is must to mention the reason of its delay by the medical jurist.
  5. Forwarding letter by concerning SP's/DCP's must not be older than one month.

- Don'ts:-
1. There is no need to send the viscera for histopathology examination to FSL Toxicology: -
  2. Examinations related to quality of edible items/medicine are not done in FSL, hence it is not needed to sent such samples.
  2. The samples related to regional labs need not to be sent to main lab and vice-versa.