



# Regional Forensic Science Laboratory, Nashik

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## **Biology & Serology: Biological fluid/material, species origin, grouping**





# *Cases Received*

- Murder: 300-309 Destroying Evidence:201
- Assaults: 350-358
- Kidnapping: 363-366
- Rape: 375, 376, 377
- Dacoity: 394-396
- Unlawful assembly: 141-149
- Abortion and concealment of Birth: 312-318
- Hurt: 323-326 CrPC: 174
- Wild life act cases
- Snake venom cases



# QUESTIONNAIRE



- Biological Fluid/ Material
- Species Origin
- Grouping (Blood groups: A, B, AB and O)



## *Instructions to Investigating Officers*

- Use hand gloves before touching any exhibit, if DNA analysis is required, change gloves for different sources.
- Make sure exhibits are completely dry, if essential dry under fan.
- Don't dry in sunlight.
- Don't use iron to dry.
- For packing use only clean paper or card board box.
- Don't use polythene for packing, as it retains moisture which decomposes the exhibits.
- Pack each exhibit separately and completely.
- Seal with proper authorized seal.



# Proper label

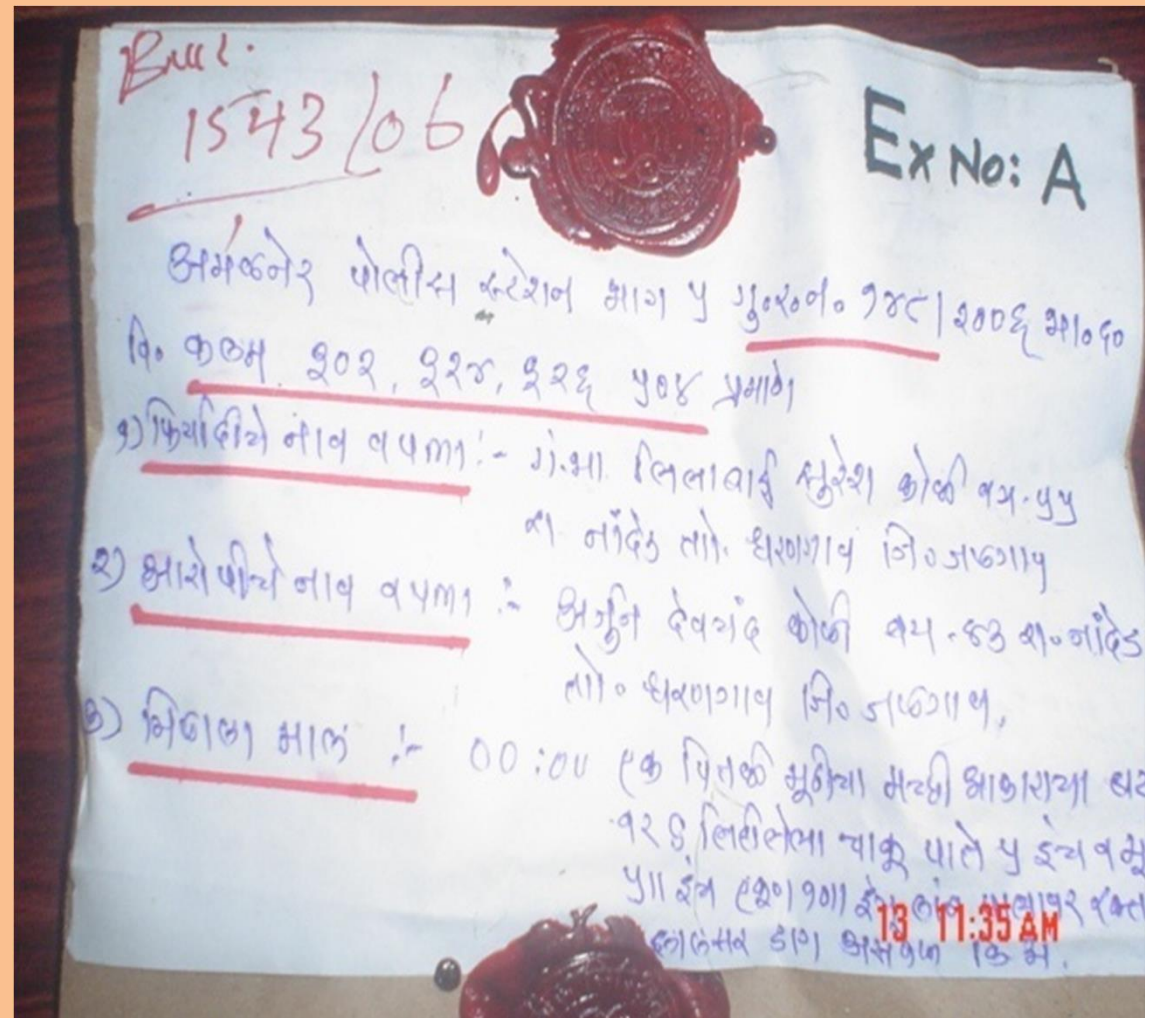
## **Exhibit Number 'A'**

|                                |                  |
|--------------------------------|------------------|
| <i>Name of Police Station:</i> | Panchawati       |
| <i>Commission of crime:</i>    | 26/08/21 at 07am |
| <i>Crime Number:</i>           | 21/15            |
| <i>IPC Section:</i>            | 302, 201         |
| <i>Name of Exhibit:</i>        | Black half shirt |
| <i>Exhibit seized from:</i>    | Accused XYZ      |
| <i>Time of seizer:</i>         | 26/08/21 at 10am |
| <i>Signature of Witness:</i>   | 1) abc<br>2) efg |

*Signature and Name of IO*

# Guidelines for sealing evidences

- Seal of the office used while sending the exhibits





- Forwarding letter

Round  
stamp

Outward number: 202/15  
Dated: 26/08/21

To,  
Deputy Director,  
RFSL, Nashik.

Subject: Chemical Analysis of Exhibits seized under crime no. 21/21; P.S. Panchawati u/s 302, 201 IPC.

I.O: xyz.

P.S. Panchawati,

Cr. No. 21/21.

U/s: 302, 201 IPC

Name of Deceased: abc, Age: 24 yrs, Panchawati, Nashik.

Name of complainant: efg, Age: 25 yrs, Panchawati, Nashik.

Name of Accused: ijk, Age: 26 yrs, Panchawati, Nashik.

Date of commission of crime: 26/08/21 at 7am.

Date and time of reporting: 26/08/21 at 7.30am.

Date and time of detaining accused: 26/08/21 at 10.00am.

Brief History of Crime: abcdefg.....

**cont...**



| Sr. No. | Label | Exhibit Description          | Exhibit seized from | Date of seizer     | Seal         |
|---------|-------|------------------------------|---------------------|--------------------|--------------|
| 1       | A     | White, Full Shirt, Cambridge | Accused             | 26/08/21At 10.00am | Copy of seal |
| 2       | B     |                              |                     |                    |              |
| 3       | C     |                              |                     |                    |              |
| 4       | D     |                              |                     |                    |              |
| 5       | E     |                              |                     |                    |              |

- Mention name and No. of PC, who is bringing exhibits.
- Nature of examination required, exhibit wise questionnaire.

Signature and Stamp of IO



## Instructions to Medical officers

- Collect 2 to 2.5ml blood in two phials.
- Add preservative in one phial. (5g sod. Citrate + 5drops formaline sol<sup>n</sup> in 100ml DW)
- Make blood stain of 2cm diameter on clean cotton cloth.
- Pack stain after air dry in paper packet.
- Fill the B form for blood and CM 24me for other biological exhibits.



# Guideline

*me sealed  
lab box by A.S.I.  
I. P. Singh (20-06-06)  
A.S.I.*

महाराष्ट्र सरकार  
राज्य सरकार

Form No. II

विशेष, विश्लेषण विभाग  
Form of Report to be used when forwarding substances other than Viscera  
to the Chemical Analyser

1483

m/c 584/b

अति-सावधानीपूर्वक निरीक्षण, पर्याप्त साक्ष्य, भुंज.

TO—THE CHEMICAL ANALYSER TO GOVERNMENT, MUMBAI.

दिनांक 23/9/06  
Dated

वा प्रकाशित संख्या

हि प्रतिमा कानूनद्वारे, यादी नमुने कोलेज बन्त अर्पित कायदा केन जावेत.

FORWARDING the articles mentioned below for examination for... analysis & cross match  
with samples of m/c 583... rape  
as connected with case of...

वस्तुचे वर्णन  
Description of Articles

(1) Blood.  
(2) Nail clippings  
(3) pubic hairs  
(4) Blood on cotton cloth.  
(5) semen

M/S 583

- Medical officers forwarding letter
- MLC /PM no.
- Name of person
- Seal
- Stamp
- Signature



# DNA DIVISION

- Paternity
- Maternity
- Murder
- Sexual offences
- Decoity
- Identification



# DNA DIVISION

## Samples received

- Blood
- Bones- mainly femur, humerus, sternum
- Hair with root
- Teeth
- Tissue
- Blood and semen stained articles

## Mode of parcel and proper preservatives for respective samples

| Sample                             | Mode of parcel                                                                                  | Preservative                                 | Remarks             |
|------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------|
| Tissue, muscles, scalp skin etc    | Put sample in clean, sterile, plastic or glass container add preservative , bring sample on ice | Normal saline or 4% EDTA , or keep below -20 | Bring sample in ice |
| Blood                              | Clean sterile glass vial for PM blood<br>For control blood use kit provided by FSL              | 4% EDTA                                      | Bring sample in ice |
| Teeth                              | Air dry all the teeth, put them in dry, sterile container                                       | No preservative                              |                     |
| Bone                               | Air dry and wrap in clean brown paper<br>Do not macerate or treat with any chemical             | No preservative                              |                     |
| Scalp hair                         | Air dry , put in dry sterile container                                                          | No preservative                              |                     |
| Blood stained cloth, scrapings etc | Dry cloths, pack separately in brown paper                                                      | No preservative                              |                     |
| Semen stained cloths               | Dry cloths, pack separately in brown paper                                                      | No preservative                              |                     |



## General Analytical and Instrumentation





| Cases                   | Exhibits collected                                   | Packing material                                     |
|-------------------------|------------------------------------------------------|------------------------------------------------------|
| Dowry Death, Fire Arson | Cloths, soil, inflammable substance, skin, swab, Ash | Paper; same container, jar with salt as preservative |
| PDK adulteration        | Samples of PDK                                       | Glass or Aluminum                                    |
| Explosive               | Superficial Traces left after explosion.             | paper                                                |
| Earth comparison        | Cloths, Earth, shoes etc.                            | paper                                                |
| Hanging cases           | Ligature material and slide<br><b>(not skin)</b>     | paper                                                |
| Electrocution           | Control and infected skin                            | jar with salt as preservative                        |
| Metal comparison        | Different metallic material to be compared           | paper                                                |



| Cases                                     | Exhibits collected                                     | Packing material             |
|-------------------------------------------|--------------------------------------------------------|------------------------------|
| Glass comparison                          | Different glass material to be compared                | paper                        |
| Button comparison                         | Cloth and button                                       | paper                        |
| Cloth comparison                          | Different cloth material to be compared                | paper                        |
| Chilli powder                             | Cloths, Earth, control if any etc.                     | paper                        |
| Dye and ink comparison                    | Cloths, hand wash, ink etc.                            | Paper, glass bottle          |
| Paint comparison                          | Paint from contact and control paint                   | paper                        |
| Narcotics (72hrs.)<br>Blood/Urine (24hrs) | Bhang, Ganja and Charas,<br>Heroin, cocaine, opium etc | Paper, Blood/Urine in Phials |



## **TOXICOLOGY DIVISION**

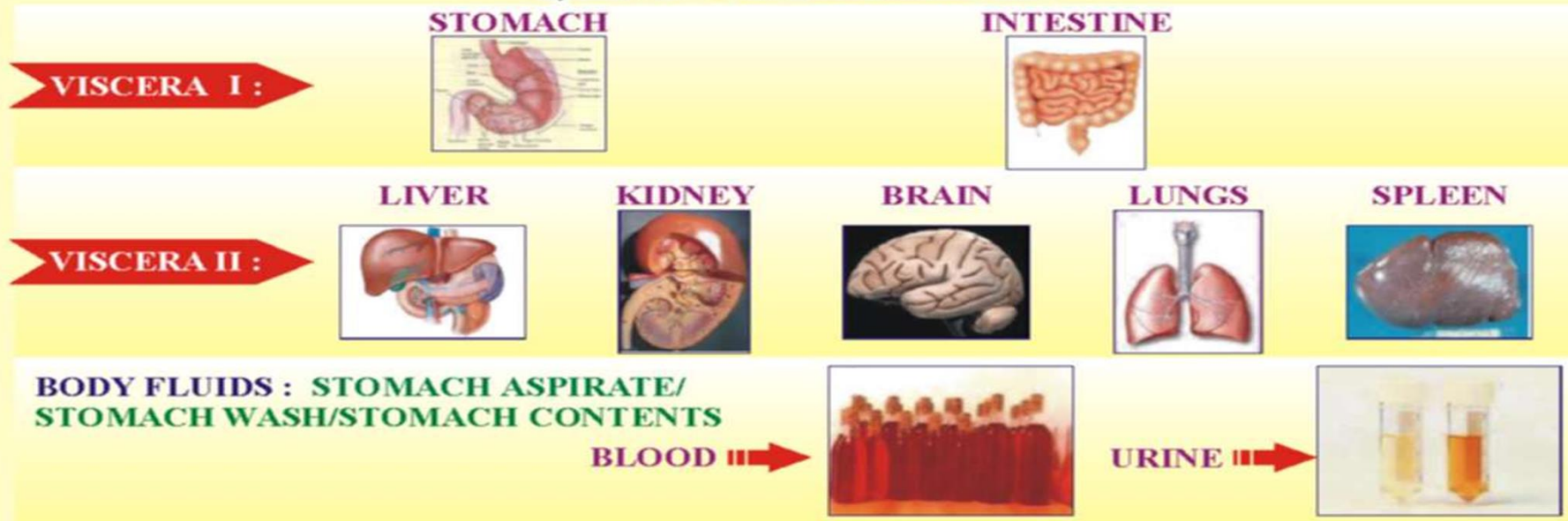
Exhibits such as viscera, stomach wash, vomit, blood & other related material submitted by the Medical and Police Officers in homicidal and suicidal poisoning cases for the detection of any poison should be forwarded. Materials in animal & bird criminal cases can also be deposited here for examination.

# **DIRECTORATE OF FORENSIC SCIENCE LABORATORIES**

## **TOXICOLOGY DIVISION, MUMBAI**

### **EXHIBITS RECEIVED FOR ANALYSIS IN TOXICOLOGY DIVISION**

#### **I) BIOLOGICAL EXHIBITS**



#### **II) NON-BIOLOGICAL EXHIBITS**





## TOXICOLOGY DIVISION

- If viscera is being submitted remember to attach Form no. **CM 23 m&e.**
- If vomit, blood, urine, stomach-wash or non-biological exhibits are being submitted attach Form no. **CM24 m&e.**
- The cases of scorpion bite or dog bite or rat bite should be submitted along-with sample of deceased brain, to the Haffkine Institute, Parel, Mumbai – 400 012.
- Blood and skin piece from the site of snake bite along with a control sample of the skin is being sent separately in snake-bite cases.



## TOXICOLOGY DIVISION

- Cases forwarded by private doctors are not accepted by FSL. Such cases are accepted by the Forensic Science Laboratories only after they are registered in Police Station and forwarded by the Police authority with proper seal and letter.
- Viscera is not needed in snake-bite cases.
- Exhibits in bacteriological Food poisoning cases are being submitted only if it is necessary after getting the examination report for the same from the Public Health Laboratory.



# TOXICOLOGY DIVISION

- Drugs are being submitted for Chemical examination if only it is desired to identify the components of the drug as mentioned on its label or if it contains any other poison. Otherwise the drugs should be submitted to the **Food and Drugs Administration, Maharashtra State, Bandra-Kurla Complex, Mumbai – 51 .**
- The drugs should be submitted in its original container only. Do not transfer it in other container or wrapper.
- It is necessary to submit the poisoning case to the Forensic Science Laboratory **within three months** after the crime has taken place. If a time span of more than three months has elapsed before the submission of the case then the case shall be accepted only if it is submitted along-with a letter from senior authority giving proper justification for the time-elapse.



## TOXICOLOGY DIVISION

- The bone samples should be first forwarded to the Professor of Anatomy for determination of sex, age, and for examination of whether it is human or not. If poison detection is necessary, a 10cm. long sample of the bone should be forwarded to the Forensic Science Laboratory for chemical examination. Do not send the whole skeleton.



# TOXICOLOGY DIVISION

- The Police should submit viscera in Standard viscera boxes or bottles that are provided by the Laboratory to the Medical officers. Do not submit the viscera in plastic bags or uncapped open bottles.



## ***PROHIBITION & EXCISE DIVISION***

**Detailed reporting on sample of illicit liquor  
wash in possession offences and blood alcohol  
in consumption offences under Bombay  
Prohibition Act. Alcohol assay of Excise samples  
are done.**

# **DIRECTORATE OF FORENSIC SCIENCE LABORATORIES**

## **PROHIBITION AND EXCISE DIVISION, MUMBAI**

Different types of samples containing Ethyl Alcohol and Methyl Alcohol are tested in this division



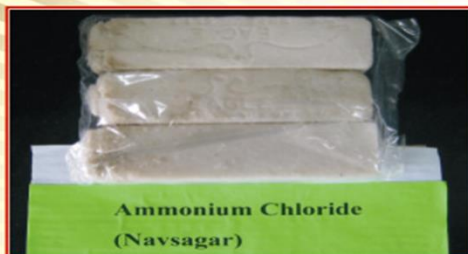
**illicit Liquor**



**Whisky, Rum, Gin, Vodka (IMFL)**



**Black - Gur**



**Ammonium Chloride (Navsagar)**



**Blood Samples**



**Toilet Preparations**



**Toddy**



**Wash (Rasayan)**



**Country Liquor**



**Wine**



**Beer**



**French Polish**



**Medicinal Preparation**



## GUIDELINES TO THE POLICE OFFICER

### **Precaution to be taken while collection and sending liquor wash samples to this laboratory :**

- Sample should be sent in dry and clean bottle.
- Minimum quantity to be sent: 180ml.
- Panchas signature on Neck and label.
- Accused Name.
- Official seal, police station label, C. R. No. Section No.
- Police Officers Signature.
- Name of sample.
- Forwarding letter in duplicate describing all above points with copy of seal.
- In Toddy and wash sample, preservative as copper sulphate should be added.
- Black Gur and Navsagar should be wrapped in polythene bag and then sealed in Brown paper.



# Ballistics: Firearms and bullets





# Ballistics

- The science of ‘ballistics’ has been developed to facilitate the examination of firearms, ammunition and other related matter. But the term ‘ballistics’ is generally used to refer to the *study of the trajectory of bullets* or missiles rather than of the missiles (bullets), and the missile launchers (Guns) themselves.



# Ballistics

- spent (used) bullets
- spent cartridge cases
- spent shot shells and/or shot
- shot shell wadding
- live ammunition
- Clothing (may contain GSR)
- Hand wash (*with control sample*)
- Skin containing shoot hole.

- Examples of firearm evidence:





## Packing of exhibits

- For packing use paper, cloth or envelope.
- Followed by proper label, seal (*do not use rubber seal*) and forwarding letter.
- *Do not use transparent polythene to pack weapons.*
- Always send PM notes in IPC 302 cases and injury report in IPC 307 cases.
- When bullets are not recovered from injured or deceased body do send X Ray plates.

# QUESTIONNAIRE



- Whether the weapon is in working condition?
- Whether it has been fired prior to submitting in lab?
- Whether the cartridge case/ bullet recovered from crime scene or body of victim belongs to the same weapon?
- Are the intact cartridges are live?
- Whether the cloths/Skin contains shot holes/ GSR?
- Whether the hand wash/swab contains GSR?





# Thank You

