



**SWAMINARAYAN  
UNIVERSITY**  
THE RESERVOIR OF ALL KNOWLEDGE

**Faculty of Ayurveda**

## A Report on Visit to Directorate of Forensic Science - Gandhinagar

<b>Organized By</b>	: Department of Agad Tantra
<b>Place of Visit</b>	: Directorate of Forensic Science Gandhinagar, sector 18
<b>Date of Visit</b>	: 27/09/2023
<b>No. of students</b>	: 44 Students (Batch 2020 – 21)
<b>Faculty In-charge</b>	: Dr Anita Ratnavat Dr. Sreejith K Dr Shanti R Nair

### **Details of Visit:**

As a part of 3rd BAMS curriculum of *Agadatantra Evum Vidhivaidyak*, a visit to forensic science laboratory is essential so as to provide a real insight of expertise in the field of criminal investigation with the application of advanced scientific techniques. On the day of visit students were divided in groups of two and sent to respective departments which are located in two different buildings.

**BLOOD ALCOHOL DEVISION:** Blood alcohol (ethanol) analysis BAC is routinely performed in forensic laboratories for driver impairment and other casework. The instruments which are typically used were shown to the students for instance: Gas chromatography with headspace sample (HS-GS)

**DNA DEVISION:** As criminal case evidence was being tested we could not enter the department but theoretical aspects of DNA fingerprinting were explained related to the crime scene.

**NARCO ANALYSIS DEVISION:** Students were given a brief description that this based on the principle, that at a point very close to unconsciousness, the subject will be mentally incapable of resistance to questioning, and incapable of inventing the falsehood that he has used to conceal his guilt. New interesting cases which were solved were explained along with demonstration.

### **POLYGRAPHY & PSYCHOLOGY DEVISION**

The students could see the lie detection machine, they were told the method and demonstrated how the offenders, suspects and complainant witnesses and informants are examined in paternity cases, insurance claims, pre-employment screening by bank and other institution.

**SDS & LVS DEVISION:** The suspect detection system was explained that how this system can be used for mass screening and pin point investigation at airport, interrogation facilities and crime scene.

In Layered voice Analysis students were made to understand that it enables better understanding of suspect's mental state and emotional makeup at a given moment by detecting emotional cues in his or her speech.

**BIOLOGY DEVISION:** Students were given knowledge of criminal cases and the dept dealt with.

- Identification of blood, semen, saliva, sweat, urine, vomit, fecal matter nasal discharge.
- Identification of animal and human tissues.

Identification of hair whether naturally or forcibly removed.

- ✓ Hair in nail and motor vehicle.
- ✓ Differentiation of animal and human hair.
- ✓ Determination of origin, sex, age height, and identity.

**PHYSICS DEVISION:** They were told the investigation regarding:

- Examination of paints, glass, metals.
- Reconstruction of crime scene.
- Comparison and recognition of recorded voice
- Altered numbers on automobiles machines.

Tyre marks :

It is possible to trace the vehicle and injury by tyre marks.

**BALLISTIC DEVISION:**

- ✓ The shape of wound corresponds the weapon.
- ✓ A bullet recovered from a dead body can be examined to determine the type of gun.
- ✓ Identification, comparison of bullet, cartridges.
- ✓ Estimation of range, direction angle of firing.
- ✓ Examination of air guns /country made

guns

**CHEMISTRY DIVISION;**

- ✓ Analysis of petroleum products and other inflammable substance in cases of death.
- ✓ Students were explained about qualitative and quantitative estimation and analysis of drugs, extraction, isolation and analysis of poisonous metals and other toxic compounds, explosives, simulated samples of viscera, petroleum fuels, hydrocarbons, arson samples, adulterated foods, etc. are analyzed with specialized instruments in the laboratory.

## FINGERPRINT DIVISION

- ✓ Comparison of finger prints on documents to establish identity.
- ✓ Comparison and identification of foot prints and footwear prints.
- ✓ Criminal may be identified by latent print left at the scene of crime.
- ✓ Fingerprints are also useful in identification of dead bodies.

## PHOTOGRAPHY AND SCIENTIFIC AID DIVISION

- ✓ Photography and videography of the crime scene involving UV and IR rays.
- ✓ Records a phenomenon observed.
- ✓ The whole day was fruitful – students asked doubts and got clarified by the faculty.

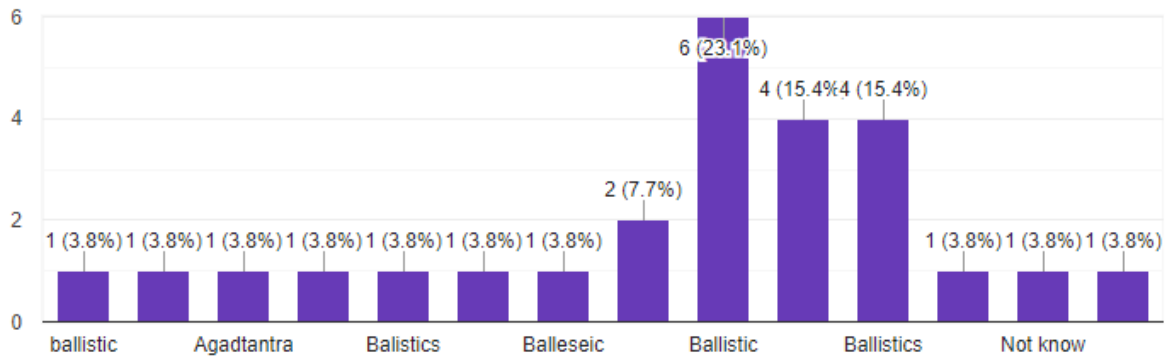


# Feed back form

Name the department related to firearms?

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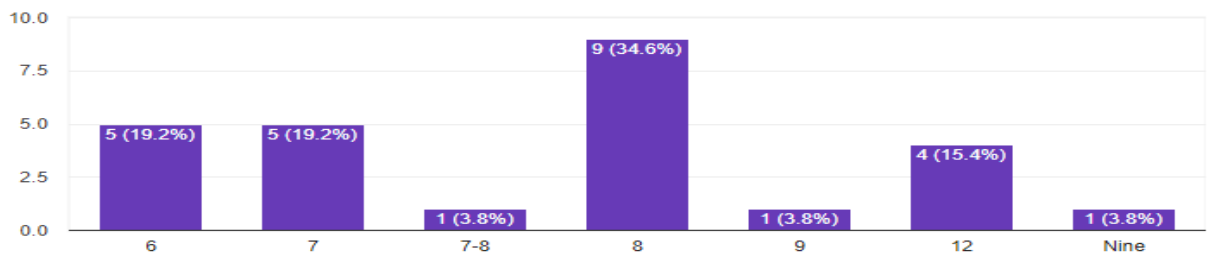
26 responses



How many department you visited?

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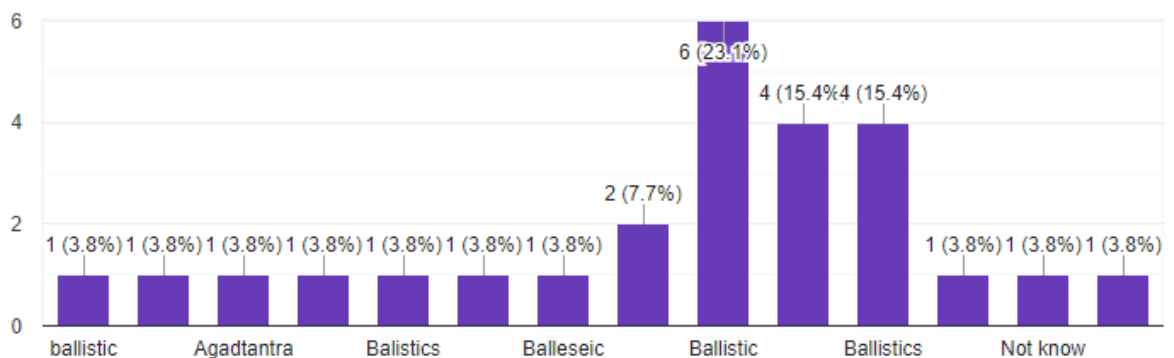
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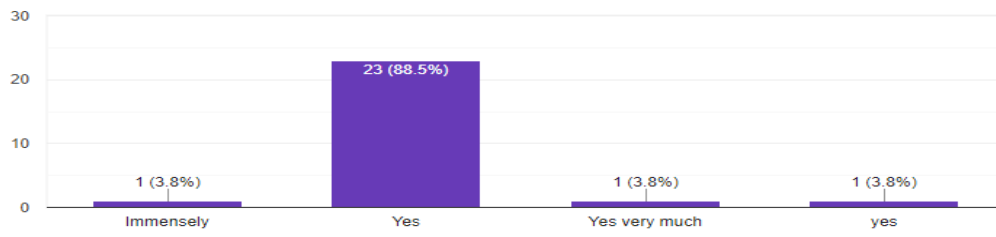
26 responses



### Was the visit informative ?

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26 responses



### Did all your queries answered by the DFSL members?

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26 responses

