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<b>Academic Year : 2023-24</b>		
<b>Sr. No.</b>	<b>Programme Code</b>	<b>Name of the Programme</b>
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<b>Sl. No.</b>	<b>Name of student</b>	<b>Page No.</b>
1	Miss Anjitha CG	2-3
2	Giriraj singh Shaktawat	4-6
3	Miss Rupali Upadhyay	7-9
4	Tinganiwar Akhilesh Kumar	10-12
5	Ashish Kumar Dehuri	13-15
6	Suraj Kumar Muduli	16-18
7	Asha Tripathi	19-21
8	Manish Rajwade	22-24
9	Shivani Devangan	25-27
10	Kapil Raikwar	28-30
11	Ms. Dhanya R	31-33
12	Divya Bhagat	34-37
13	Ms. Anjali G Babu	38-40
14	Haseena	41-43
15	Dheeraj Kumar Tiwari	44-46
16	Mankina Bavana Satya Anveshita	47-48
17	Miss Pooja S	49-51
18	Valurowtu Deexitha	52-54
19	Chandana Veldurthi	55-57
20	Puja Ekka	58-60
21	Aduri Manohar	61-63
22	Parag S. Rane	64-66
23	Aishwarya Santosh Yewale	67-69
24	Roshan Verma	70-72
25	Saraj Randhari	73-75
26	Babida MS	76-78
27	Munaganti Nanda Kumar	79-81
28	Rakshita Gautam	82-84
29	Gyanendra Kumar Prajapati	85-87
30	Aditi Nayak	88-90
31	Aanchal Verma	91-93
32	Reetika Shukla	94-96
33	MS Ramsiya PS	97-99
34	Leesha Ranade	100-102

Signature and Seal of the Head

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**GENDER DIFERENCE IN HANDWRITING**  
**CHARACTERISTICS OF TYPE 2 DIABETIC**  
**PATIENTS**

Dissertation Submitted in partial fulfilment of the requirement for the  
award of the degree of

Master of Science in forensic science

To

**GURU GHASIDAS VISHWAVIDYALAYA**

(A Central university established by the act of parliament, 2009)



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To

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### ABSTRACT

The aim of this study is to determine the gender difference in handwriting characteristics of type 2 diabetes mellitus patients. Diabetic peripheral neuropathy (DPN) is a neurodegenerative disease affecting the hand median nerve in diabetic patients. This causes variations in handwriting both in males and females. To study whether the effect of this diabetic neuropathy is more in male or female, handwriting samples of 100 males and 100 females with type 2 diabetes mellitus are collected and compared. After comparing 13 handwriting features, it is found that males are having more variations in handwriting characteristics like line quality, tremor, connecting strokes, starting & ending strokes, diacritics placement, alignment, slant, loop & bulb formations of letters etc. These 200 samples were also compared with control samples of 100 non-diabetic male and 100 non-diabetic female handwriting samples. After comparing with controls, it is found that diabetic patients are showing more variations in handwriting characteristics than normal people. As the duration of diabetes increases, impairment in handwriting also increases. They show more hesitations, tremor, and ink depositions in upward movements while writing. So, males handwriting is more affected by the condition of diabetic neuropathy in type 2 diabetic patients.

**Key words:** Diabetic peripheral neuropathy (DPN), gender difference, handwriting characteristics, type 2 diabetes mellitus

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## **Comparative Study of Intelligent Quotient and Dermatoglyphics Angles (ATD) on specific group**

M.Sc. Dissertation submitted at Guru Ghasidas Vishwavidyalaya, Bilaspur in partial  
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**In**

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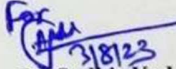
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### Content Table

S.No	Chapter	Page No.
1.	INTRODUCION	1
2.	REVIEW OF LITERATURE	6
3.	OBJECTIVES	11
4.	METHODOLOGY	13
5.	OBSERVATION	18
6.	RESULT & DISCUSSION	21
7.	CONCLUSION	23
8.	REFERENCE	26

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**Standardization of DNA extraction method of milk  
samples and development of PCR- based method of  
adulteration detection in milk**

A Dissertation Submitted in Partial Fulfilment For  
The Degree in M.Sc. Forensic Science  
2021-2023

**Submitted By**  
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**Under The Supervision of**  
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**ASSISTANT PROFESSOR**



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I wish her all the success.

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For  
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#### Abstract

Milk and dairy products are largely nutritional foods, largely consumed by the general population, which play an important part in the diet of particular groups of consumers, mainly children and pregnant women. Due to its high demand and value, frauds in the dairy assiduity have come a wide problem. DNA- grounded method for species identification are particularly applicable for the analysis of marketable dairy products because DNA deduced from physical beast cells is present in all dairy products, DNA is stable and retrievable for polymerase chain response (PCR) analysis indeed after thermal treatment and other types of processing. the most common way to identify differences in dairy products is grounded on PCR, given its low limits of discovery, strong particularity, and high perceptivity. In this work DNA extraction was done from cow, goat, buffalo, and sheep by using pcr amplification with two primer UMP and cytochrome B successfully.

**Keyword :** mtDNA, Cytochrome B, Milk adulteration, DNA extraction, Polymerase chain reaction.

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**A Comparative Study on Cybercrime Awareness among Students**

M.Sc. Dissertation submitted at Guru Ghasidas Vishwavidyalaya, Bilaspur in partial fulfillment of the requirement for the degree of

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In

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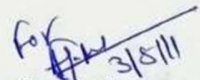
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S. No.	Chapter	Page No.
1.	INTRODUCTION	1-6
2.	REVIEW OF LITERATURE	7-9
3.	METHODOLOGY	10-12
4.	RESULTS & DISCUSSION	13-20
5.	CONCLUSION	21-22
6.	REFERENCES	24-27

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## Detection of semen stains on different non-porous surfaces effects after washing.

M.Sc. Dissertation submitted at Guru Ghashidas Vishwavidyalaya, Bilaspur in partial  
fulfillment of the requirement for the degree of

Master of Science

In

Forensic Science

By

Ashish Kumar Dehuri

(Enrollment No.: GGV/21/10405; Roll No.: 20146109)

Under the Guidance of

**Mrs. Shweta Rai**  
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This is to certify that the thesis entitled “Detection of semen stain on different non-porous surfaces effects after washing”, has been submitted by **Ashish Kumar Dehuri** (M.Sc. – IVth Semester) Department of Forensic Science, Guru Ghashidas Vishwavidyalaya, Bilaspur (C.G.) under the guidance of **Mrs. Shweta Rai** (Supervisor), towards partial fulfillment of the requirements for the award of Master’s Degree in Forensic Science.

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## CONTENT TABLE

S. No.	Chapter	Page No.
1.	INTRODUCTION	1-4
2.	REVIEW OF LITERATURE	5-10
3.	OBJECTIVES	11-12
4.	METHODOLOGY	13-16
5.	OBSERVATION & RESULTS	17-24
6.	CONCLUSION	25-26
7.	REFERENCES	27-30

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A RESEARCH ON

**"Study of Genetic Polymorphism (GSTM1) associated with Arsenic metal toxicity in affected population of Rajnandgaon district, Chhattisgarh"**

SUBMITTED FOR  
PARTIAL FULFILMENT OF THE DEGREE OF  
M.Sc. IN FORENSIC SCIENCE

BY  
**Suraj Kumar Muduli**  
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AND  
Co-SUPERVISION OF  
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**CERTIFICATE**

This Is to Certify That Mr.SURAJ KUMAR MUDULI Student Of M.Sc.(Forensic Science)4<sup>th</sup>Semester Carried Out The Project On The Topic“Study of Genetic Polymorphism (GSTM1) associated with Arsenic metal toxicity in affected population of Rajnandgaon district, Chhattisgarh”

Under The Supervision of Miss. Blessi N. Uikey for The Partial Fulfillment of The Degree Of Master Of Science In Forensic Science.

  
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## **ABSTRACT**

Groundwater Arsenic contamination has become a global concerning toxicological problem which affected many countries and a past study found that Asia is the highest proportion of globally affected areas of arsenic contamination and around 65% of areas of Asia was affected. Genetic variation plays an important role in metabolism of these heavy metals and various scientific studies had been done on impact polymorphic gene in Arsenic toxicity. In this present study analysed the polymorphic gene Glutathione S-transferase (GSTM1) associated with arsenic toxicity. The blood sample was collected from Rajnandgaon district Chhattisgarh and the past study stated that this area had high concentration of Arsenic in groundwater. The study found that the frequency of GSTM1 null genotype of study population is 45% and these individuals are more susceptible to arsenic poisoning and diseases caused by arsenic poisoning.

## **INTRODUCTION**

Heavy Metals are those elements which are located in d and p block of periodic table. Heavy Metals consists of high densities and are toxic and poisonous in nature even if present in low concentrations [1]. Heavy metals are the groups of both metals and metalloids which possess high density greater than  $4 \text{ g/cm}^3$  [2,3]. Heavy metals include Arsenic (As), Mercury (Hg), Lead (Pb), Cadmium (Cd), Zinc (Zn), Iron (Fe), Copper (Cu), Silver (Ag) and others [4]. The majorities of Heavy metals are found in soil, water and rocks [5]. Heavy metals exist in the form of ores in rocks and which are been recovered as minerals [4]. Its ores includes sulphides, such as arsenic, lead, iron, cobalt, gold-silver, lead-zinc and oxides which includes gold, antimony, manganese. Some others exist in both the forms of ores i.e. sulphides and oxides for example cobalt, iron, and copper [4]. These Heavy metals can cause degradation and are toxic to environment causing environmental pollution. By two process heavy metals are emitted to environment i.e. by natural and anthropogenic causes. Mining process and Industrial operations are the major causes of heavy metal emission by anthropogenic sources [2,3,6]. Heavy metal poisoning or toxicity refers to the effects which are harmful when consumed above bio-recommendation limits [4]. In humans, these Heavy metals can cause toxicity to various organs such as neurotoxicity, hepatotoxicity, cardiovascular toxicity, nephrotoxicity and skin toxicity [5]. Toxicity or Poisoning of individual metals can exhibit a specific signs by which it can be identified. Toxicity effects nature can be acute, chronic, sub-chronic, carcinogenic, mutagenic, neurotoxic and teratogenic i.e. abnormalities of physiological development [4]. These Heavy metal toxicity can be life threatening to humans therefore, cannot be neglected [4], even at low concentrations but for long term or chronic exposure can cause health risks [7]. Heavy metals those which contaminate or polluted environment most frequently are arsenic, mercury, lead, cadmium, cobalt, nickel, copper.

## **Arsenic and its state**

In a periodic table Arsenic belongs to group V element Nitrogen and phosphorus. Arsenic is a type of metallo atomic mass is  $74.922 \text{ gm/mol}$ . In organic and inorganic chemical behaviour in the natural environment. And its bonding configuration, change color, behavior, reactivity, and toxicity [1].

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**Sex determination from ridge density of Palm  
print Among the population of Brahmin in  
Madhya Pradesh & Chhattisgarh Region**

A

Project Dissertation in Partial Fulfillment for Degree of

Master of Science

In

**Forensic Science**

Submitted

By

**Asha Tripathi**

(Enrollment no: GGV/21/10404)

Under the Supervision of

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This is to certify that the project report entitled "Sex determination from ridge density of palm print among the population of brahmin in madhya pradesh & chhattisgarh Region" submitted by Miss Asha Tripathi is his individual work and has been done at the Department of Forensic Science, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.). It is recommended that this project be presented to the examiner for evaluations in partial fulfilment of the Master's Degree in Forensic Science.

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## TABLE OF CONTENT

CHAPTER	TITLE	PAGE NO
Chapter I	Introduction	1-4
Chapter II	Aim & objectives	5
Chapter III	Review of Literature	6-13
Chapter IV	Materials and Methodology	14-20
Chapter V	Results and Discussion	21-28
	Conclusion	29
	References	

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**“Detection of Adulterants present in the cow’s milk of  
Bilaspur Region”**

M.Sc. Dissertation submitted to Guru Ghasidas Vishwavidyalaya, Bilaspur  
in partial fulfilment of the requirements for the degree of

**Master of Science**

**In**

**Forensic Science**

**By**

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**Under the Guidance of**

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This is to certify that **Mr. Manish Rajwade** of M.Sc. IV Semester, Department of Forensic Science has completed his dissertation entitled, "**Detection of Adulterants present in the cow's milk of Bilaspur Region**", under the supervision of **Miss Blessi N. Uikey**. I wish him all the success.

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### Content List

Serial Number	Title	Page Number
1	Introduction	1-9
2	Review of Literature	10-13
3	Methodology	14-19
4	Observation And Results	20-22
5	Discussion	23
6	Conclusion	24
7	References	25-26

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**Identification and Visualization of Benzodiazepine drugs  
using color test and thin layer chromatography**

**A Dissertation submitted in partial fulfilment for the award  
of the Degree of Master of Science**

**In**

**Forensic Science**

**(2021-2023)**



**Submitted By**

**Shivani Dewangan**

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### Content list

S. No.	Table of Contents	Page No.
1.	Introduction	1-6
2.	Review of Literature	8-12
3.	Material and Methods	13-16
4.	Observations and Results	17-20
5.	Discussion	21
6.	Conclusion	22
7.	References	23-24

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## Role of CYP2E1 (Dra I) Polymorphism in the alcoholic population

A

Dissertation Project submitted

in partial fulfilment of the requirements for the Award of The Degree of

Master of Science

In

Forensic Science

2021-2023

Submitted By

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**Enrolment no: GGV/21/10412**

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## Table of Contents

S. No.	Contents List	Page No.
1.	Introduction	1-11
2.	Objectives	12
3.	Review of literature	13-17
4.	Methodology	18-22
5.	Observation	23-24
6.	Results	25
7.	Discussion	26-27
8.	Conclusion	28
9.	References	29-33

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**“A PILOT STUDY TO EVALUATE THE IMPACT OF FABRICS ON  
ADHERENCE CAPABILITY OF DIATOMS”**

A

**M.Sc. Dissertation**

Submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur

In partial fulfillment of the requirement for the

Degree of

Master of Science

In

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By

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Under the Guidance of

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### ABSTRACT

This pilot study investigates the impact of different fabric types on the adherence capability of diatoms from a water body in Bilaspur district, Chhattisgarh, India. Diatoms are microscopic algae with unique silica cell walls, which can be sensitive to different environmental and material conditions. The study aimed to assess how fabrics such as cotton, silk, and chiffon affect diatom retention and identify the diatom genera present on these materials. Water samples were collected from six locations within a pond, divided into peripheral and central sites. Three fabric types—cotton, silk, and chiffon—were cleaned with distilled water and immersed at these sampling sites. After immersion, fabrics were processed to extract diatoms, and water samples were similarly treated using concentrated nitric acid for acid digestion followed by centrifugation. Diatoms from both fabric and water samples were analyzed under a microscope. The control water sample contained twelve diatom genera, including *Aldafia*, *Cymbella*, and *Nitzschia*. Cotton fabrics yielded seven genera, including *Navicula* and *Aldafia*. Silk samples showed three genera, notably *Fragilaria* and *Achanthes*. Chiffon fabrics yielded four genera, such as *Aldafia* and *Pseudonitzschia*. Cotton was found to retain the highest diversity and quantity of diatoms, likely due to its porous and absorbent nature. In contrast, silk and chiffon, with their smoother and less absorbent surfaces, retained fewer diatoms. The study highlights that fabric type significantly influences diatom adherence, with cotton being the most effective at retaining diatoms due to its natural fiber structure. Silk and chiffon, being less absorbent, showed lower diatom yields. This has implications for ecological studies and environmental monitoring where diatom sampling using different materials might be employed. Future research could explore further material types and environmental conditions to refine diatom collection and analysis techniques.

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**Death Trends in Bilaspur Districts and Its Nearby Areas: A  
Retrospective Study**

**A Project Dissertation in Partial Fulfilment for Degree of**

**Master of Science**

In

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Under the supervision of

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This is to certify that the project report entitled "Death Trends in Bilaspur Districts and Its Nearby Areas: A Retrospective Study" submitted by Miss. Divya Bhagat is his individual work and has been done at the Department of Forensic Science, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.). It is recommended that this project be presented to the examiner for evaluation in partial fulfilment of the Master's Degree in Forensic Science.

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**TABLE AND GRAPHS**

Sl.No.	List of tables	Page no.
1	Ratio of cases and the number of unnatural death.	18
2	Representing graph of male and female cases in last 1 year of 2022.	19
3	Showing age group according to cases.	20
4	Showing number of people are married and unmarried who died in 2022.	21
5	Showing number of cases month wise of year 2022.	22

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**"HEREDITARY INFLUENCE IN FINGERPRINTS AND  
TOEPRINTS AMONG THREE DISTRICTS OF KERALA"**

A

M.Sc. Dissertation

submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur

in partial fulfillment of the requirement for the

degree of

**Master of Science**

**In**

**Forensic Science**

**By**

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### ABSTRACT

**Objectives:** To explore the hereditary influence on fingerprint and toeprint patterns, to analyse whether they are maternally or paternally influenced.

**Method:** A total of 56 families were selected and the fingerprints of all ten fingers and the two toeprints were collected using a fingerprint card from three generations of each family. The data was categorized into two i.e. male generation and female generation then subcategorized into three categories, by which similarity between the first and third generations, first and second generations, second and third generations and then the similarity between them were noted.

**Results:** Similarity between the fingerprint pattern, the first and second generation shows that female generation shows 59% and the male generation has 41%, the incase of toeprints the female generation shows 52 % similarity where male generation shows 48%. Similarity between the fingerprint pattern, the second and third generation shows that female generation (61%) is more dominant than male generation (39%), the incase of toeprints the female generation shows 52% similarity where male generation shows 48%. Similarity between the fingerprint pattern, the first and third generation shows that female generation (59%) is more dominant than male generation (41%), the incase of toeprints the female generation shows 65% similarity where male generation shows 35%. **Conclusion:** the fingerprint and toeprint patterns shows significant hereditary influence and the result shows that the maternal influence is higher than the paternal influence.

**Key Words:** fingerprint, toeprint, hereditary, maternal, paternal

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**STUDY THE ROLE OF GLUTATHIONINES TRANSFERASE GENE IN  
NUETRILIZING THE EFFECT OF HEAVY METAL AND SMOKING  
EXPOSURE IN HUMAN**

THESIS DISSERTATION

SUBMITTED TO GURU GHASIDAS VISHWAVIDIHYALAYA, BILASPUR FOR THE  
PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF

MASTER OF SCIENCE

IN

FORENSIC SCIENCE

(SESSION 2021-2023)

Submitted by

**HASEENA**

Enrollment Number: GGV/21/10411

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Under the supervision of

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This is to certify that the Dissertation project on "*Study the role of glutathione S transferase gene in neutralizing the effect of heavy metal exposure in human*" is an authentic record Thesis writing work done by HASEENA a student of M.Sc. Forensic Science IV semester, Department of Forensic Science of this university.

Place: Bilaspur (Chhattisgarh)

Date: 03. Aug 2023

For  
3/8/23

Head of the Department

**Dr. SUDHIR YADAV**

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#### ABSTRACT:

Toxic effects and oxidative stress are consequences of different heavy metal exposures. As opposed to glutathione-S-transferases, which are known as oxidative stress-related genes and involved in metal bio-transformation. Smoking exposure can interact with gene polymorphisms (variations in the DNA sequence) to influence an individual's susceptibility to certain health effects related to smoking. Gene polymorphisms can affect how the body metabolizes and responds to the chemicals present in tobacco smoke, leading to varying levels of risk for smoking-related diseases. The metabolism of several xenobiotics, including an environmental carcinogens and pollutants is regulated by the glutathione S-transferases (GSTs). These genes' genetic polymorphisms may cause inter individual variation in a person's susceptibility to various diseases. The purpose of the present study is to investigate GSTM1 and GSTT1 null phenotype in population exposed to industrial pollution. 50 samples were collected from area of Korba Super Thermal Power Plant in Jamnipali, Korba district, Chhattisgarh. Null phenotype was identify using polymerase chain reaction. We had observed 48% GSTM1 null phenotype and 40% GSTT1 null phenotype and 12% GSTM1 and GSTT1 both. These results help in future genetic and clinical investigations into metal toxicity, GST substrate susceptibility, and response variation.

**Keyword:** GSTM1- GSTT1- null phenotype.

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**"Comparative Analysis of Diatom Communities in Rivers and Ponds of  
the Bilaspur Region, Chhattisgarh"**

A Dissertation submitted in partial fulfillment for the award of the  
degree of  
Master of Science  
In  
Forensic Science  
(2021-2023)



Submitted By  
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Under the Supervision of  
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Assistant Professor

  
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This is to certify that **Mr. Dheeraj Kumar Tiwari** of M.Sc. IV Semester, department of forensic science has completed her dissertation entitled, "**Comparative Analysis of Diatom Communities in Rivers and Ponds of the Bilaspur Region, Chhattisgarh**" DISTRICT BILASPUR (C.G.)" under the supervision of **Dr. Chanchal Kumar**. I wish his all the success.

For  


**Dr. Sudhir Yadav**  
Assistant Professor and Head  
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# Content list

Serial Number	Title
1	Preface
2	Acknowledgement
3	List of content
5	Introductions
6	Review of literature's
7	Materials and Methodology
8	Results and Discussion
9	Summary /Conclusion
10	References

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**“A PILOT STUDY TO EVALUATE THE IMPACT OF FABRICS ON  
ADHERENCE CAPABILITY OF DIATOMS”**

**A**

**M.Sc. Dissertation**

**Submitted to**

**Guru Ghasidas Vishwavidyalaya, Bilaspur**

**In partial fulfillment of the requirement for the**

**Degree of**

**Master of Science**

**In**

**Forensic Science**

**By**

**Ms. DHANYA R**

**(En. No.: GGV/21/10410; Roll No: 22046111)**


**Under the Guidance of**

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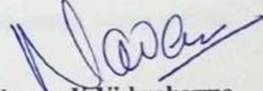


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This is to certify that the thesis entitled, "A Pilot Study to Evaluate the Impact of Fabrics on Adherence Capability of Diatoms" has been submitted by Ms. DHANYA R (MSc IV Semester) Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G) under the Supervision of Dr. Ajay Amit towards partial fulfillment of requirements for the award of Master's degree in Forensic Science.

  
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INDEX

Sl. No	CHAPTER NO	TITLE	PAGE NO.
1		Abstract	1
2	Chapter 1	Introduction	2
3	Chapter 2	Review of Literature	9
4	Chapter 3	Materials and Methodology	14
5	Chapter 4	Observation and Results	18
6	Chapter 5	Discussion	27
7	Chapter 6	Conclusion	29
8	Chapter 7	References	30

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**"Occupational-related changes in Fingerprints: Alterations in Ridges and Furrows"**

A Dissertation submitted in partial fulfillment for the award of the degree of  
**Master of Science in Forensic Science**  
(2021-2023)



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for  
  
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3



## Content list

Serial Number	Title	Page Number
1	Preface	1-4
2	Acknowledgement	5
3	List of content	6
5	Introductions	7-11
6	Review of literature	12-14
7	Materials and Methodology	15-16
8	Results and Discussion	17-28
9	Summary /Conclusion	29-30
10	References	31-32

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**"HANDWRITING DIFFICULTIES IN CHILDREN WITH  
AUTISM SPECTRUM DISORDER"**

Dissertation Submitted in partial fulfilment of the requirement for the award  
of the degree of

Master of Science in forensic science

To

**GURU GHASIDAS VISHWAVIDYALAYA**

(A Central university established by the act of parliament, 2009)



Submitted By-

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M.Sc. IV Semester

(Enrollment no: GGV/21/10418, Roll No- 21046124)

To

Under the guidance of


**MISS. BLESSI N UIKEY**

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**Dr. Sudhir Yadav**


Head, Department of Forensic Science,  
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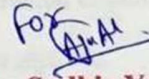
**FORWARDING CERTIFICATE**

This is to certify that Miss Pooja S, Student of M. Sc. 4 th semester, Department of Forensic Science has completed her dissertation entitled " **HANDWRITING DIFFICULTIES IN CHILDREN WITH AUTISM SPECTRUM DISORDER**" Under the guidance of Ms. Blessi. N. Uikey (Assistant Professor). I wish her all the success.

Place: Bilaspur

Date: 3/8/23

  
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**Dr. Sudhir Yadav**

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**ABSTRACT:**

Handwriting skills are very crucial for academic, and one of the ways of communication also, and build self-esteem, have been observed to be poor in individuals with ASD. Little information and little studies exist on the handwriting of children with ASD. This study aimed to map out the existing handwriting difficulties in children with ASD. The current studies implies that fine motor control and visual motor control affects handwriting difficulties. Moreover, the handwriting characteristics such as line quality, tremor, pen pressure, speed, alignment, strokes formation, movement, spacing, shading, slant, starting and ending strokes, diacritics, everything should be specifically examined to identify their impairments in the handwriting of children with ASD compared with control group. Children with ASD showing the poor legibility, and showing worse performance in all the 13 parameters. The study specifically observes the 13 parameters to each sample. All showing the poor quality, alignment etc.

**KEYWORDS:** Handwriting. ASD (autism spectrum disorder). Fine motor control. Legibility. Non autism.

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**MATERNAL HEMOGLOBIN LEVELS CORRELATED WITH LOW BIRTH  
WEIGHT OUTCOMES**

M.Sc. Dissertation submitted at Guru Ghasidas Vishwavidyalaya, Bilaspur in partial  
fulfillment of the requirement for the degree of

Master of Science

In

Forensic Science

By

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CONTENT TABLE

S. No.	Chapter	Page No.
1.	INTRODUCTION	1-7
2.	REVIEW OF LITERATURE	8-11
4.	METHODOLOGY	12-14
5.	RESULTS & DISCUSSION	15-20
6.	CONCLUSION	21-22
7.	REFERENCES	23-29

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**“Interscript analysis of Telugu handwriting for personal identification ”**

A Dissertation submitted in partial fulfillment for the award of the degree of  
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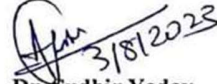


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## Content list

Serial Number	Title	Page Number
1	Preface	1-4
2	Acknowledgement	5
3	List of content	6
5	Introduction	7-15
6	Review of literature	16-18
7	Materials and Methodology	19
8	Results and Discussion	20-31
9	Summary /Conclusion	32
10	References	33-34

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A PRELIMINARY STUDY OF DIATOM FLORA (GENERA) FROM DIFFERENT  
WATER BODIES OF DISTRICT SURAJPUR OF CHATTISGARH AND ITS  
FORENSIC PERSPECTIVE.

A

M.Sc. Dissertation

submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur

in partial fulfillment of the requirement for the

degree of

Master of Science

In

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This is to certify that the thesis entitled "A Preliminary Study of Diatom Flora (Genera) From Different Water Bodies of District Surajpur of Chhattisgarh and its Forensic Perspective" has been submitted by MISS PUJA EKKA (MSc IV Semester) Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) under the Supervision of Dr. Ajay Amit towards partial fulfilment of requirements for the award of Master's degree in Forensic Science.

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### ABSTRACT

Diatoms are special microalgae that are present in practically all bodies of water. They are common in aquatic bodies and the only single-celled organisms with a siliceous cell wall or frustules. They are useful in forensic investigations because of their presence and diversity, particularly in drowning instances. By connecting suspects to the crime site, diatoms can be used as trace evidence. Diatom species diversity varies geographically and is driven by seasonal changes and environmental conditions. Diatoms have been the subject of extensive research in several Indian states, however the diversity of diatoms in the major rivers of the Chhattisgarh region has not been examined. With the forensic significance of diatoms in the field of forensic science the diatoms considered to be the one of the important physical as well as biological pieces of evidence that provided valuable insight for providing the conclusive result in the cases of anti-mortem drowning. The objective of the presented study is to provide a preliminary study for the identification of water bodies to analysed the diversities and genera identification on the basis of the distinct water bodies with minimum distance between 5-30km. It would be also helpful for the future aspects for the creation of limnological data of district Surajpur of Chhattisgarh where as the presented study concludes the findings of total 29 genera among 18 different water bodies of Surajpur district of Chhattisgarh that would be helpful in the aid of criminal justice system.

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**"A STUDY ON EXAMINATION OF INVISIBLE INK BY USING  
DIFFERENT TYPES OF METHODS AND INK SENSITIVITY  
OVER A PERIOD OF TIME IN SECRET HANDWRITING"**

A Dissertation submitted in partial fulfillment for the award of the  
degree of Master of Science

In  
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(2021-2023)



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## TABLE OF CONTENT

Serial Number	Title	Page Number
1	Preface	I-IV
2	Acknowledgement	5
3	List of content	6
5	Introductions	7-12
6	Review of literature's	13-17
7	Materials and Methodology	18-31
8	Results and Discussion	32-38
9	Observation/Conclusion	39-44
10	References	45-47

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**Species Identification from Birds Feather of Bhilai District of  
Chhattisgarh Region through Microscopic Examination as  
Wildlife Forensic Tool**  
M.Sc. Dissertation Submitted to Guru Ghasidas Vishwavidyalaya, Bilaspur  
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of  
Master of Science  
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**Dissertation Submitted in partial fulfillment of requirements for  
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**CERTIFICATE BY HEAD**

This is to Certify that the Dissertation entitled "Species Identification from Birds Feather of Bhilai District of Chhattisgarh Region through Microscopic Examination as a Wildlife Forensic Tool" submitted by Parag Rane is his own work and has been done under the guidance of Dr. Sudhir Yadav Department of Forensic Science, GGV, Bilaspur (C.G.) It is recommended that this Project should be placed before the examiner for evaluation in the partial fulfillment of the master's degree in Forensic Science. I wish him all the Success.

Date : 24/7/22

Place : Bilaspur

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A RESEARCH ON

"ASSOCIATION OF RENAL FUNCTION TEST WITH BIRTH OUTCOMES IN  
PREGNANT WOMEN"

SUBMITTED FOR

PARTIAL FULFILMENT OF THE DEGREE OF  
M.Sc. HONS IN FORENSIC SCIENCE

BY

**Aishwariya Santosh Yewale**

M.SC. HON'S FORENSIC SCIENCE

ENROLL.NO.GGV/18/3341 ROLL NO.21046103

DEPARTMENT OF FORESIC SCIENCE

GURU GHASIDAS VISHWAVIDYALAYA BILASPUR C.G.

UNDER THE SUPERVISION OF

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ASSISTANT PROFESSOR

*And Ph.D schlor Miss Maitri Naik*

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**CERTIFICATE**

This Is To Certify That Miss.Aishwariya Yewale Student Of M.Sc.  
Hon's(Forensic Science)4<sup>th</sup> Semester Carried Out The Project On The  
Topic **"ASSOCIATION OF RENAL FUNCTION TEST WITH BIRTH OUTCOMES  
IN PREGNANT WOMEN"** Under The Supervision Of Dr. Sudhir Yadav For The  
Partial Fulfillment Of The Hon's Degree Of Master Of Science In Forensic  
Science.

It Represents Entirely An Independent Work From The Part Of The  
Candidates.

**Supervisor**

**Dr.SudhirYadav**

**Assistant Professor (Head)**

**Department of Forensic Science**

**Science**

**And Ph.D scholar Miss Maitri Naik**

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**Department of Forensic**

**Guru Ghasidas Vishwavidyalaya**



## INDEX

TOPIC	PAGE NUMBER
INTRODUCTION	7 to 10
REVIEW OF LITERATURE	10 to 15
METHODOLOGY	15 to 20
FINDINGS	20 to 29
RESULT AND DISCUSSION	29 to 39
CONCLUSION	39 to 41
REFERENCES	41 to 54

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A RESEARCH ON

**"CORRELATION BETWEEN FINGERPRINT PATTERN OF INDEX  
FINGER AND INTELLIGENCE QUOTIENT IN ADOLESCENT"**

M.Sc. dissertation submitted to Guru Ghasidas Vishwavidyalaya,  
Bilaspur in partial fulfilment of the requirements for the degree of

Master of science  
In  
Forensic Science

By  
Roshan Verma  
(E.No. GGV/18/3232, Roll No. 21046130)

Under the guidance of

Miss. Priya Bhaisare  
Sub-Coordinator  
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**FORWARDING CERTIFICATE**

This is to certify that Mr. ROSHAN VERMA of M.Sc. IV semester, Department of Forensic Science has completed his dissertation entitled "Correlation between fingerprint pattern of index finger and intelligence quotient in adolescent" under the guidance of Miss.Priya Bhaisare. I wish him all the success.

Place: Bilaspur

Dr. Sudhir Yadav

Date:

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INDEX		
S.NO	TOPIC	PAGE NO.
1	Introduction	7-11
2	Litreture Review	12-14
3	Methodology	15-16
4	Findings	17-21
5	Result	22-22
6	Conclusion	23-23
7	Reference	24-26

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**Evaluation of relation between luminol sensitivity with blood dilution in different  
condition on different industrial material surfaces**

M. Sc. Dissertation submitted to Guru Ghasidas Vishwavidyalaya, Bilaspur in partial fulfilment of the  
requirements for the degree of

**Master of Science**

**In**

**Forensic Science**

**By**

**Saraj Randhari**

Roll no. 21046132 ; En. No. GGV/21/10424

Under the Guidance of

**Dr. Ajay Amit**

Assistant professor

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Date: .....

### FORWARDING CERTIFICATE

This is to certify that **Mr. Saraj Randhari** of M.Sc. IV Semester, Department of Forensic Science completed his dissertation entitled, “**Evaluation of relation between luminol sensitivity with blood dilution in different condition on different industrial material surfaces**” under the supervision of **Dr. Ajay Amit**. I wish him all the success.

Place: Bilaspur

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**Dr. Sudhir Yadav**

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#### ABSTRACT

In this study, we investigated the relationship between luminol sensitivity and blood dilution on various industrial surfaces. Luminol solutions of varying concentrations (10%, 20%, 30%, 40%, 50%, and 100%) were prepared, along with different blood dilutions (1:15, 1:50, 1:100, 1:500, 1:1000). These solutions were applied to diverse industrial surfaces, including fly ash brick, clay brick, normal painted wall, putty painted wall, and concrete. Luminol was sprayed onto the surfaces at different time intervals (5 minutes, 6 hours, 16 hours, 2 days, and 5 days). The results highlight the effects of surface type, luminol concentration, blood dilution, and time on luminol sensitivity, providing valuable insights for understanding the interactions between blood residues and industrial materials. Luminol is a chemical that reacts with the iron in haemoglobin, the component responsible for carrying oxygen in red blood cells. When blood is exposed to air, it starts to undergo decomposition, breaking down the haemoglobin and reducing the iron content over time. After 5 days, the concentration of iron in the blood may have significantly decreased, making it less detectable with luminol on surfaces without water dip.

On the other hand, when blood comes into contact with water, it can slow down the decomposition process and preserve the iron content to some extent. As a result, the presence of water on the surfaces can facilitate the luminol reaction and enhance the detection of blood even after 5 days.

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**MICROSCOPIC STUDY OF SURFACE MORPHOLOGY &  
FILTRATION EFFICIENCY OF COMMONLY AVAILABLE FACE  
MASK USED BY POPULATION OF BILASPUR, CHHATTISGARH,  
INDIA**



**A Dissertation submitted in partial fulfillment for the award of  
the degree of Master of Science**

**In**

**Forensic Science (2021-2023)**

**Submitted By:**

**Babida M S**

**Enrollment No.: GGV/18/3058**

**Under the Supervision of**

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**Head of Department**

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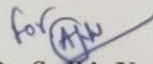
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## Certificate

This is to certify that the dissertation entitled "Microscopic study of surface morphology and filtering efficiency of commonly available face masks used by the population of Bilaspur, Chhattisgarh, India" submitted by Miss BABIDA M S Department of Forensic Science Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) for the award of M.Sc. degree in Forensic Science. This is certifying that it is original research work done by her under my able guidance. I further certify that the work is original, and the dissertation or part thereof has not formed the basis for the award of any other degree.

  
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## Table of Content

S.NO.	TITLE	Pg. NO.
1	ABSTRACT	1-2
2	INTRODUCTION	3-10
3	ORIGIN OF PROBLEM	11-12
4	LITERATURE REVIEW	13-15
5	METHODOLOGY	16-19
6	OBSERVATION	20-74
7	RESULT & DISCUSSION	75-77
8	CONCLUSION	78-79
9	REFERENCR	80-81

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**Analyzing the Effectiveness of Various Software Tools for Detecting  
the Tampering of Document Images: A Comparative Study**

M.Sc. Dissertation submitted at Guru Ghashidas Vishwavidyalaya, Bilaspur in partial  
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**In**

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**By**

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**Under the supervision of**

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**Assistant Professor**

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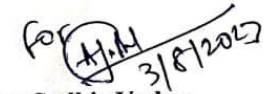
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This is to certify that the thesis entitled “ANALYZING THE EFFECTIVENESS OF VARIOUS SOFTWARE TOOLS FOR DETECTING THE TAMPERING OF DOCUMENT IMAGES: A COMPARATIVE STUDY”, has been submitted by **MUNAGANTI NANDA KUMAR** (M.Sc. – IVth Semester) Department of Forensic Science, Guru Ghashidas Vishwavidyalaya, Bilaspur (C.G.) under the guidance of **Ms. Garima Bais** (Supervisor), towards partial fulfillment of the requirements for the award of Master's Degree in Forensic Science.

  
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## TABLE OF CONTENTS

S. No.	Chapter	Page No.
1.	INTRODUCTION	1-8
2.	REVIEW OF LITERATURE	9-12
3.	METHODOLOGY	13-18
4.	RESULTS & DISCUSSION	19-25
5.	CONCLUSION	26-27
6.	REFERENCES	28-33

  
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**"DETECTION OF DECEPTION BY USING DIFFERENT  
PARAMETERS OF POLYGRAPH IN MALES AND FEMALES"**

M.Sc. dissertation submitted to Guru Ghasidas Vishwavidyalaya, Bilaspur in

Fulfillment of the requirement for the degree.

Master of Science

In

Forensic Science

(2021-2023)



Submitted By

RAKSHITA GAUTAM

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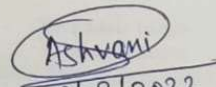
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### CERTIFICATE

This is to certify that the dissertation entitled "Detection of deception by using different parameters of Polygraph in males and females" submitted by Miss. Rakshita Gautam, Department of Forensic Science Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) for the award of M.Sc. degree in Forensic Science. This is to certifying that it is original research work done by me under guidance of Mr. Ashvani Kumar Prajapati, Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.).

Place: Bilaspur  
Date: 03/08/2023

  
03/08/2023.

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**Detection of Organophosphorus (chlorpyrifos) pesticide residue  
in vegetables by using thin layer chromatography"**

**M.Sc. dissertation submitted to Guru Ghasidas Vishwavidyalaya,  
Bilaspur in partial fulfilment of the requirements for the degree of**

**Master of Science  
In  
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**By  
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**Under the guidance of**

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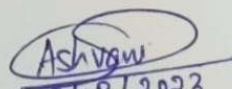
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This is to certify that the dissertation entitled "Detection of organophosphorus (chlorpyrifos) pesticide residue in vegetables by using thin layer Chromatography" submitted by GYANENDRA KUMAR PRAJAPATI to Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) for the award of M.Sc. degree in forensic science is the research work carried out by him. I wish him all the success.

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CONTENTS		
S.N.	CHAPTER	Page no.
1.	INTRODUCTION	1 - 2
2.	LITERATURE RIVIEW	3 - 6
3.	MATERIAL AND METHODOLOGY	7 - 9
4.	RESULT AND DISCUSSION	10 - 12
5.	FORENSIC SIGNIFICANCE	13
	REFERENCES	14 - 15

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**A RESEARCH ON**


**"Study of Genetic Polymorphism (GSTT1) associated with Arsenic metal toxicity in affected population of Rajnandgaon district, Chhattisgarh"**

SUBMITTED FOR  
PARTIAL FULFILMENT OF THE DEGREE OF  
M.Sc. IN FORENSIC SCIENCE

**BY**  
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### CONTENTS

<u>SERIAL NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
1.	Abstract	1
2.	Introduction	1-5
3.	Review of Literature	5-6
4.	Materials and Methods	6-7
5.	Results	8-10
6.	Discussion	10-12
7.	Conclusion	12
8.	References	13-17

  
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**"ANALYSIS OF LIP PRINT PATTERN IN DIFFERENT AGES AND ETHNIC  
GROUP OF INDIVIDUAL OF BHILAI AND BILASPUR REGION OF  
CHHATTISGARH AND EVALUATION OF THEIR FORENSIC SIGNIFICANCE"**

**A**

**M.Sc. Dissertation**

Submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur

in partial fulfillment of the requirement for the

Degree of

**Master of Science**

**In**

**Forensic Science**

**By**

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This is to certify that the thesis entitled, "Analysis Of Lip Print Pattern In Different Ages And Ethnic Group Of Individual Of Bhilai And Bilaspur Region Of Chhattisgarh And Evaluation Of Their Forensic Significance" has been submitted by Miss Aanchal Verma (MSc IV Semester) Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) under the Supervision of Dr. Ajay Amit towards partial fulfilment of requirements for the award of Master's degree in Forensic Science.

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### **ABSTRACT**

Cheiloscopy is a forensic investigation technique that deals with identification of human based lip traces. The current study was carried out on 180 individuals of both males and females. The aim is to compare the lip print patterns on the basis of categories (ST, SC, OBC, GENERAL), in population of Bhilai and Bilaspur region of Chhattisgarh. It is found that from the category Schedule Tribe the most frequent lip print found are Type I, and in categories Schedule Caste, Other Backward Class, and General, the most frequent type of lip print pattern found are Type II. This study concludes that, the cheiloscopy is useful for the human personal identification according to ethnicity of an individual.

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-\*\*

# **Maternal Factors and Their Association with APGAR Scores: A Comprehensive Analysis**

A

Project Dissertation in Partial Fulfillment for Degree of  
Master of Science

In

**Forensic Science**

Submitted

By

**Reetika Shukla**

(Enrollment no: GGV/21/10423)

Under the Supervision of

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This is to certify that the project report entitled “**Maternal Factors and Their Association with APGAR Scores: A Comprehensive Analysis**” submitted by **Miss. Reetika Shukla**, is her individual work and has been done in joint collaboration with the Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh and Department of Obstetrics and Gynaecology, Chhattisgarh Institute of Medical Sciences & Hospital, Bilaspur, Chhattisgarh. It is recommended that this project be pleased before the examiner for evaluation in the partial fulfillment of the Master’s degree in Forensic Science.

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(Dr. Sudhir Yadav)

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### TABLE OF CONTENT

CHAPTER	PAGE NUMBER
1. INTRODUCTION	1-9
2. REVIEW OF LITERATURE	10-16
3. METHODOLOGY	17-18
4. DISCUSSION	19-32
5. CONCLUSION	33-35
REFERENCE	36-40

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"ANALYSIS OF URINE CREATININE OF DIABETIC PATIENTS UNDER  
DIFFERENT AGE GROUPS"

A

M.Sc. Dissertation

submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur

in partial fulfillment of the requirement for the

degree of

Master of Science

In

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This is to certify that the thesis entitled, "Analysis Of Urine Creatinine Of Diabetic Patients Under Different Age Groups" has been submitted by Ms. Ramsiya P S (MSc IV Semester) Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) under the guidance of Dr. Ajay Amit towards partial fulfilment of requirements for the award of Master's degree in Forensic Science.

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## ABSTRACT

This project entitled to "Comparative study of urine creatinine level of different age groups of diabetic patients". The main objective of the study is to collect list of diabetic patients and creatinine values from five different laboratories and to take survey of those patients having sugar level (above 200). It is the process of identifying the sugar levels, education, living background (Municipal, corporation, panchayat) food habits, any renal diseases etc. Collect the list of urine creatinine values and sugar level above 200 (after fasting). Categorise the list of patients according to different age groups. Prepare a consent form and have to take consent from each individual. The details regarding to analyse the creatinine levels of human urine under different age groups like three categories (30-40, 40-50, 50-60, above 60) and to check whether if they have same sugar levels and creatinine levels. Then, compare the assessed data with rate of creatinine levels of urine samples and to take statistical analysis of collected data.

Key words: Creatinine, Diabetic, Renal diseases

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**"USES OF HAIR DYE POWDER AS A NON-CONVENTIONAL ALTERNATIVE IN  
THE PLACE OF COMMERCIAL LATENT FINGERPRINT POWDER ON  
DIFFERENT SURFACE"**

A

**M.Sc. Dissertation**

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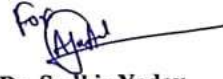
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This is to certify that the thesis entitled "Uses of Hair Dye Powder As A Non-Conventional Alternative In The Place Of Commercial Latent Fingerprint Powder On Different Surface" has been submitted by MISS LEESHA RANADE (MSc IV Semester) Department of Forensic Science, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G) under the Supervision of Dr. Ajay Amit towards partial fulfilment of requirements for the award of Master's degree in Forensic Science.



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## ABSTRACT

Fingerprints serve as an essential piece of evidence when it comes to identifying a person, and they are widely used in criminal investigations. In the current situation, fingerprints are quite significant. The majority will develop latent prints using the chemical and physical powder methods. We attempted to create the prints using unconventional herbal powders methods (Heena Natural dye) because conventional fingerprint black powder due to their hazardous nature, limited availability, and expensive cost. So it's simple to find these unconventional home substances. Natural dyes are extracted from natural sources like from plants, leaves, flower shoots seeds, invertebrates, or minerals etc. most common household natural dye is henna powder, its botanical name is *Lawsonia inermis*. It's a flowering and non-toxic plant. In this study a new easily available and less expensive powder for development of latent fingerprints that is hair dye powder. It is easily available in the market and is comparatively very cheap from latent fingerprint powders to develop latent fingerprints. The hair dye powder has an also similar Particle size to fingerprint powder. In the presented work a comparative study has been performed by using hair dyes powder which is compared with fingerprint powder on both porous and nonporous surfaces. This resulted better enhancement in nonporous surface by using natural brown hair dye powder.

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