A

PROJECT REPORT

ON

"GREEN SYNTHESIS OF CARBAN DOTS COPPER ALGINATE (CDs/ Cu/Alg) COMPOSITE BY USING COW DUNG "

Submitted ForThe Degree Of

MASTER OF SCIENCE IN CHEMESTRY

SESSION: 2022 – 2023

SUPERVISIOR

Dr. A.K. Singh

Professor

Dept.Of Chemistry

Govt. V.Y.T PG Autonomous

Collage, Durg (C.G.)

SUBMITTED BY

Nikita Kashyap

M. Sc Chemistry

4th Semester

SUBMITTED AT

Dept.Of Chemisrty , Govt. V.Y.T PG Autonomous College, Durg ,Chhattisgarh

(Erstwhile: Govt. Arts & Science College , Durg), CPE Phase -3rd By UGC, Awarded Star College by DBT, New Delhi

CERTIFICATE

This is to certify that the project entitled "**GREEN SYNTHESIS OF CARBON DOTS COPPER ALGINATE (CDs/ Cu/Alg) COMPOSITE** BY USING COW DUNG" submitted for the award of the degree of **Master of Science in chemisrty** at the Govt. V.Y.T. PG. Aotonomous College, Durg (C.G.) is a record of original work carried out by **Nikita kashyap** during the period of february2023-April 2023 in the Department of chemistry under the supervision of **Dr. A.K.Singh.**

Date: 29-05-2023

Durg, Chhattisgarh

NAME

Nikita Kashyap

M.Sc. Chemistry

4th Semester

SUPERVISOR

Dr. A.K. Singh

Professor

Govt .V.Y.T PG

Autonomous College

Durg (C.G.)

Head of Department

Dr. Anupama Asthana

Professor

Govt.V.Y.T.PG.

Autonomus College, Durg (C.G.)

Principal

DECLARATION

I here by declare that the experiment and Interpretation of the project report entitle **"GREEN SYNTHESIS OF CARBON DOTS COPPER/ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING COW DUNG"** has been submitted for the award of **Master of Sciencein Chemistry** as apart of syllabus. The project was carried out under the guidance of Prof. **Dr. A.K.Singh** and has not been submitted for another degree or neither diploma of university nor the data have been derived from any thesis/publication of university of scientific Organization.The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any from whate ever whitout the prior approval of my guide and the original organization where the project work has been under taken.

Date: 29-05-2023

Place: Durg, Chhattisgarh

Nikita Kashyap

M.Sc.Chemistry

ACKONWLEDGEMENT

- I am thankful to **Dr.R.N.Singh (Principal Govt. V.Y.T. PG. Autonomus College, Durg)** for facilities provided in the department.
- I am also thankful to the **Dr.Anupama Asthana (Head of the Dept. of Chemistry)** for facilities provided in the Dept. of Chemistry.
- I express my sincere thankful to my supervior **Dr.A.K.Singh (Prof.of Chemistry, Govt.V.Y.T.PG.Auto. College Durg)** foe this proper guidance and encouragement for this project work.
- I am extremely thankful to **Miss.Yogita Sahu,(A research scholar of our department)** to help me in completion of my lab work successfully and also in my written work.
- I am also thankful to **my lab staff, parent and classmates** for their suggestion, support and unconditional help.
- I extend my sincere thanks to all those preson who helped me for this work directly or indirectly.

Nikita Kashyap
M.Sc 4thSem (Chemistry)

A PROJECT REPORT ON

GREEN SYNTHESIS OF CARBON DOTS COPPER ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM LEAVES

SUBMITTED TO THE AWARD OF DEGREE
OF
MASTER OF SCIENCE
IN
CHEMISTRY

SESSION – 2022-2023

SUPERVISORS

Dr. A. K. Singh / Dr. Sunitha B Mathew

Department of chemistry

Govt. V. Y. T. PG Autonomous

College Durg (C.G.)

SUBMITTED BY

Damin

MSc.- 4 semester

(Chemistry)

SUBMITTED AT

Department of chemistry

Govt. V. Y. T. PG Autonomous College Durg (C.G.)

CERTIFICATE

*This is to certify that the project entitled "***GREEN SYNTHESIS OF CARBON DOTS COPPER ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM LEAVES"** *submitted for the award of the degree of master of science in chemistry at Govt. V. Y. T. PG Autonomous College Durg (C.G.) is record of original work carried out by* **DAMIN** *during the period of February 2023- May 2023 in the Department of Chemistry under the supervision of Dr. A. K. Singh.*

Date:-26-05-23

Durg Chhattisgarh

SUBMITTED BY

Damin

MSc.-4 Semester

(Chemistry)

SUPERVISORS

Dr. A. K. Singh / Dr. Sunitha B Mathew

Deptt. Of Chemistry

Govt. V. Y. T. PG Autonomous

College Durg (C.G.)

HEAD OF DEPARTMENT

Dr. Anupama Asthana

Govt. V. Y. T. PG Autonomous

College Durg (C.G.)

PRINCIPAL

Dr. R. N.S ingh

Govt. V. Y. T. PG Autonomous

College Durg (C.G.)

ACKNOWLEDGEMENT

I express thanks to my supervisors Dr. A. K. SINGH/ Dr. Sunitha B Mathew Professors Department of Chemistry , Govt. V.Y.T. PG Autonomous College Durg ,(C.G.) for him proper guidance and encouragement for this project work.

I am also thankful to the Dr. ANUPAMA ASTHANA (Professor & Head, Department of Chemistry) for facilities provided in the department of Chemistry.

I convey my thanks to Miss YOGiTA (PhD Scholar), for their valuable suggestion and help.

I am grateful to all my professors of the Department for their continuous help and encouragement and blessing to complete this work.

I am also thankful to my lab staffs and classmates for their suggestion , support and unconditional help.

I am also thankful to Dr. R. N. SINGH (Principal), Govt. V.Y.T. PG Autonomous College Durg (C.G.) for facilities provided in the Department.

I extend my sincere thanks to those entire people who helped me for this work directly or indirectly.

DAMIN

MSc.- 4 Semester (Chemistry)

DECLARATION

I hereby declare that the experiment and interpretation of the project report "GREEN SYNTHESIS OF CARBON DOTS COPPER ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM LEAVES has been submitted for the award of Master of Science in Chemistry as a part of syllabus. The project was carried out under the guidance of Professors Dr. A. K. SINGH/ Dr. Sunitha B Mathew has not been submitted for any other degree or neither diploma of any University of Scientific Organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and original Organization where the project work been undertaken.

Date:- 26-05-23
Place:- Durg, Chhattisgarh

DAMIN
MSc.- 4 Semester
(Chemistry)

PROJECT REPORT

ON

" WATER ANALYSIS"

Submitted for the degree

MASTER OF SCIENCE IN CHEMISTRY

SUBMITTED BY -

OMIN SAHU
M.Sc. IV SEM. CHEMISTRY

SUPERVISOR

Dr. NUTAN RATHOD
(PROFESSOR)

Govt. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

SUBMITTED AT

Department of Chemistry

Govt.V.Y.T. PG. Autonomous College Durg (C.G.)

Awarded with the status of college with potential for excellence phase I, II, III

By UGC New Delhi Reaccredited by NAAC Bangalore with "A+" Grade

Session 2022-2023

CERTIFICATE

This is to certify that the project entitled "WATER ANALYSIS" submitted for the award of the degree of Master of Science in Chemistry at GOVT V Y T PG AUTONOMOUS COLLEGE DURG (C.G.) is a record of original work carried out by OMIN SAHU during the period of February 2023 – April 2023 In the department of chemistry under the supervision of Dr NUTAN RATHOD MAM.

Date- 26-05-23

Place:- Durg Chhattisgarh

CANDIDATE

Omin Sahu

HEAD OF DEPARTMENT

Dr.Anupama Asthana

(Professor)

Govt V Y T.PG. Autonomous

College Durg (C.G.)

SUPERVISOR

Dr Nutan Rathod

PRINCIPAL

Dr R N Singh

Govt.V.Y T PG Autonomous

College Durg (C G)

29.5.2023

DECLARATION

We, hereby declare that this project "WATER ANALYSIS " neither as a whole nor as a part there of has been copied out from any source.It is further declared that we have developed this project and the accompanied report entirely on the basis of our personal efforts made under the sincere guidance of our supervisor Dr.NUTAN RATHOD MAM. No portion of the work presented in this report has been submitted in the support of any other degree or qualification of this or any other university or institute of learning. If found we shall stand responsible

Date 26-05-23

Signature:-

Place:- Durg,Chhattisgarh

Name:- OMIN SAHU

From:- M.Sc. Chemistry IV th

Semester

ACKNOWLEDGEMENT

In the accomplishment of this project successfully,we have taken efforts in this project.However, it would not have been possible without the kindly support and help of many individuals and organizations.We would like to extend our sincere thanks to all of them.

Primarily, we would thank God for being able to complete this project with success.

We are highly indebted to the Teacher in charge Dr. NUTAN RATHOD for her guidance and constant supervision as well as for providing necessary information regarding the project also for her support in completing the project.

We are also thankful to the Dr. ANUPMA ASTHANA MAM (Head of department of Chemistry) for facilities provided in the department of chemistry.

We are grateful to all our professors to the Department for their continuous help and encouragement and blessing to complete this work.

We also thankful to our lab staff, our parents and classmates for their suggestions, support and unconditional help.

We are also thankful to Dr R.N SINGH SIR (principal,Govt.V.Y.T PG.Autonomous College Durg) for facilities provided in the Department. We extended our sincere thanks to all persons who helped us for this work directly or indirectly.

Signature:- _____

Name:- OMIN SAHU

From:- M.Sc. Chemistry IVth Semester

ABSTRACT

The purpose of this Water Analysis project is to find out, how the water sample can test.The report starts with introduction and ends with conclusion with experiment report. The report defines the detailed information about water testing with various examples. The report also explains about the quantity of the samples and types of the samples.The sampling methods consists of a monal sampling.Automatic sampling, and serbent sampling, which explain the details of water analysis (Testing).

The physical and chemical properties of drinking water very from top to bottom of the depth of the earth and the time from morning to night.It is therefore difficult to obtain a truly representative sample. We need water from different purposes,we need water for drinking, industry, irrigation, swimming, fishing etc.Water for various purposes requirements for the composition and purity, and each body of water must be tested regularly to confirm the suitability.

The types of analysis could change from simple field testing for a single analytic to laboratory based multi component instrumental analysis . The analytical process demands sampling and sample storage since changes in composition of water do not stop once the sampling has been taken.Screening is done to ensure that water reaches the laboratory, the same composition as it has occurred during sampling.

PROJEC REPORT

ON

''ANALYSIS OF OIL''

SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

SUPERVISED BY:-

Dr. NUTAN RATHOD

DEPT. OF CHEMISTRY

GOVT V.Y.T.PG.AUTONOMOUS

COLLEGE,DURG(C.G.)

SUBMITTED BY:-

DEVIKA

M.Sc. IV SEM CHEMISTRY

SUBMITTED AT

Dept. of Chemistry, Govt. V.Y.T. PG. Autonomous college Durg (C.G.) Awarded with the status of college with potential for excellence phase: I,II,III By UGC New Delhi, Reacredited by NAAC Bengaluru with "A" Grade.

Session 2022-23

CERTIFICATE

This is to certify that the project entitled "Analysis of oil" submitted for the award of the degree of master of science of in chemistry at Govt. V.Y.T. PG. Autonomous college Durg is a record of original work carried out by DEVIKA during the period of April 2023-May 2023 in the Department of chemistry under the supervision of Dr. NUTAN RATHOD.

Date : 26-05-23
Durg, Chattisgarh
Name
Devika
M.Sc. IV sem

Supervisor
Dr. Nutan Rathod
Asst. Professor
Dept. of chemistry Govt. V.Y.T. PG Autonomous college durg (C.G.)

Head of Department
Dr. Anupama Asthana
Professor
Govt. V.Y.T. PG.
Autonomous college
Durg (C.G.)

Principal
Govt.V.Y.T. PG.
Autonomous college
Durg (C.G.)

29.5.2023

DECLARATION

I hereby declare that the experiment and interpretation of the project entitled "Analysis of oil" has been submitted for the award of Master of science in chemistry as a part of syllabus. The project was carried out under the guidance of Dr. Nutan Rathod and has not been submitted for another degree or diploma of University, data have not been derived from any thesis/Publication of University of scientific organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the contents of this project shall not be released to any media not shall be published in any form whatever without the prior approval of my guid and the original organization where the project work has been undertaken.

Date :29-05-23

Durg chattisgarh

Devika

M.Sc.IV sem

ACKNOWLEMENT

I express my sincere thanks to my supervisor, Dr. Nutan Rathod (Asst. professor of chemistry, Govt. V.Y.T. PG. Autonomous college , Durg) for her proper guidance and encouragement for this project work.

I am also thankful to the Dr. Anupama Asthana (Head of department of chemistry) for facilities provided in the Department of chemistry.

I am grateful to all my professors in the department for their continuous help and encouragement and blessing to complete this work.

I am also thankful to my lab staff and classmates for their suggestions support and unconditional help.

I am also thankful to Dr. R.N.SINGH (principal, Govt. V.Y.T. PG. Autonomous college, durg) for facilities provided in the Department .

I extend my sincere thanks to all thos person who helped me for this work directly and indirectly.

Devika
M.Sc IV sem

A

PROJECT REPORT

ON

"GREEN SYNTHESIS OF CARBON DOTS/ COPPER / ALGINATE(CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS"

Submitted For The Degree Of

MASTER OF SCIENCE

Of

CHEMISTRY

SESSION : 2021-22

SUPERVISOR

Dr. A.K. Singh

Professor

Govt.V.Y.T.PG.Autonomous

College, Durg (C.G.)

SUMITTED BY

Sushama Singh

M.Sc. Chemistry

4th Semester

SUMITTED AT

Dept. Of Chemistry

Govt.V.Y.T.PG.Autonomous College, Durg(C.G.)

29.5.2022

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF CARBON DOTS/COPPER/ALGINATE (CDs/Cu/ALg) *COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS" submitted for the award of the degree of Master of Science in Chemistry at Govt. V.Y.T. PG Autonomous College, Durg (C.G.) is a record of original work carried out by Sushama Singh during the period of February 2023- April 2023 in the Department of Chemistry under the supervision of Dr. A. K. Singh.*

Date :- 26-05-2023

Durg, Chhattisgarh

NAME सुषमा सिंह

Sushama Singh

M.Sc. Chemistry

4TH Semester

SUPERVISOR

Dr. A.K. Singh

Professor

Govt.V.Y.T.PG.

Autonomous college

Durg (CG.)

Head Of Department

Dr. Anupama Asthana

Professor

Govt.V.Y.T.PG.Autonomous

College, Durg (C.G.)

Principal

Govt.V.Y.T.PG.

Autonomous college

Durg (C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled "GREEN SYNTHESIS OF CARBON DOTS/COPPER/ALGINATE(CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS has been submitted for the award of Master of Science in Chemistry as apart of syllabus. The project was carried out under the guidance of Prof. Dr. A. K. Singh and has not been submitted for another degree or diploma of university, the data have been derived from any thesis/publication of university of scientific Organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

DATE: 26/05/2023

Place: Durg, Chhattisgarh

सुषमा सिंह

Sushama Singh

M.Sc. Chemistry

ACKNOWLEDGEMENT

- I am thankful to Dr. R. N. Singh (Principal, Govt. V.Y.T.PG Auto. College, Durg) for facilities provided in the department.
- I am also thankful to the Dr. Anupama Asthana (Head of the Dept. Of Chemistry) for facilities provided in the Dept. of Chemistry.
- I express my sincere thanks to my supervisor Dr. A. K. Singh (Prof. of Chemistry, Govt. V.Y.T.PG. Auto. College Durg) for his proper guidance and encouragement for this project work.
- I am extremely thankful to Miss Yogita Sahu, (A research scholar of our department) to help me in completion of my lab work successfully and also in my written work.
- I am grateful to all my professors in the department for their continuous help and encouragement and blessing to complete this work.
- I am also thankful to my lab staff and classmates for their suggestion, support and unconditional help.
- I extend my sincere thanks to all those persons who helped me for this work directly or indirectly.

Sushama Singh

M.Sc. 4th Sem. (Chemistry)

A

PROJECT REPORT

ON

"GREEN SYNTHESIS OF CARBON DOTS/COPPER / ALGINATE(CDs/Cu/Alg) COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS"

Submitted For The Degree Of

MASTER OF SCIENCE

OF

CHEMISTRY

SESSION : 2021-22

SUPERVISOR

Dr. A.K. Singh

Professor

Govt.V.Y.T.PG.Autonomous

College, Durg (C.G.)

SUMITTED BY

Jamini Yadav

M.Sc. Chemistry

4th Semester

29.5.2023

SUMITTED AT

Dept. Of Chemistry

Govt.V.Y.T.PG.Autonomous College, Durg (C.G.)

ACKNOWLEDGEMENT

- I am thankful to Dr. R. N. Singh (Principal, Govt. V.Y.T.PG Auto. College, Durg) for facilities provided in the department.
- I am also thankful to the Dr. Anupama Asthana (Head of the Dept. Of Chemistry) for facilities provided in the Dept. of Chemistry.
- I express my sincere thanks to my supervisor Dr. A. K. Singh (Prof. of Chemistry, Govt. V.Y.T.PG. Auto. College Durg) for his proper guidance and encouragement for this project work.
- I am extremely thankful to Miss Yogita Sahu, (A research scholar of our department) to help me in completion of my lab work successfully and also in my written work.
- I am grateful to all my professors in the department for their continuous help and encouragement and blessing to complete this work.
- I am also thankful to my lab staff and classmates for their suggestion, support and unconditional help.
- I extend my sincere thanks to all those persons who helped me for this work directly or indirectly.

Jamini Yadav

M.Sc. 4th Sem. (Chemistry)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled "GREENSYNTHESIS OFCARBON DOTS/ COPPER/ALGINATE(CDs/Cu/ALg) *COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS*" has been submitted for the award of Master of Science in Chemistry as apart of syllabus. The project was carried out under the guidance of Prof. Dr. A. K. Singh and has not been submitted for another degree or diploma of university, the data have been derived from any thesis/publication of university of scientific Organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Date: 26/5/2023

Place: Durg, Chhattisgarh

Jamini Yadav

M.Sc. Chemistry

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF COPPER CDs ALGINATE(CDs/Cu/Alg) *COMPOSITE BY USING CULLEN CORYLIFOLIUM FRUITS"submitted for the award of the degree of Master of Science in Chemistry at Govt. V.Y.T. PG. Autonomous College, Durg (C.G.) is a record of original work carried out by Jamini Yadav during the period of February 2023-April 2023 in the Department of Chemistry under the supervision of Dr. A. K. SINGH.*

Date: - 01-06-2022

Durg, Chhattisgarh

NAME

Jamini Yadav

M.Sc. Chemistry

4TH Semester

SUPERVISOR

Dr. A.K. Singh

Professor

Govt.V.Y.T.PG.

Autonomous college

Durg (C.G.)

Head Of Department

Dr. Anupama Asthana

Professor

Govt.V.Y.T.PG.Autonomous

College, Durg (C.G.)

Principal

Govt.V.Y.T.PG.

Autonomous college

Durg (C.G.)

A

PROJECT REPORT

ON

"GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING PLANT LEAF EXTRACT OF CARISSA CARANDAS"

SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

SUPERVISOR

Dr.Anil kumar kashyap
Professor
Dept. Of Chemistry
Govt.V.Y.T.PG Autonomous
College Durg(C.G.)

SUBMITTED BY

Akanksha Dhruw
M.Sc. Chemistry
IVth Semester

SUBMITTED AT

Dept. Of Chemistry

Govt.V.Y.T.PG Autonomous College Durg (C.G.)

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF ZINC OXIDE NANOPARTCLES USING PLANT LEAF EXTRACT OF CARISSA CARANDAS" submitted for the award of the degree of MASTER OF SCIENCE IN CHEMISTRY at Govt. V.Y.T.PG Autonomous College, Durg (C.G.) is a record of original work carried out by Akanksha Dhruw during the period of February 2023-May 2023 in the Department Of Chemistry under the supervision of Dr. ANIL KUMAR KASHYAP.

Date:-29-05-2023

Durg , Chhattisgarh

NAME

Akanksha Dhruw
M.Sc . Chemistry
IVth Semester

SUPERVISOR

Dr.Anil Kumar Kashyap
Professor
Govt.V.Y.T.PG Autonomous College
Durg.(C.G.)

HEAD OF DEPARTMENT

Dr. Anupama Asthana
Professor
Govt. V.Y.T.PG Autonomous College
Durg(C.G.)

PRINCIPAL

Govt.V.Y.T.PG Autonomous
College Durg.(C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled "GREEN SYNTHESIS OF ZINC OXIDE NANOPARTCLES USING PLANT LEAF EXTRACT OF CARISSA CARANDAS" submitted for the award of the degree of MASTER OF SCIENCE IN CHEMISTRY as a part of syllabus. The Project was carried out under the guidance of Prof. Dr. Anil kumar Kashyap and has not been submitted for another degree or neither diploma of university nor the data have been derived from any thesis/publication of university of scientific Organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Akanksha Dhruw

M.Sc. Chemistry

Date-29-05-2023

Place- Durg, Chhattisgarh

ACKNOWLEDGEMENT

- I am thankful to Dr. R. N. Singh (Principal, Govt .V. Y. T. PG Autonomous College , Durg) for facilities provided in the department.
- I am also thankful to the Dr.Anupama Asthana (Head of the Dept. of Chemistry) for facilities provided in the Dept.of Chemistry.
- I express my sincere thanks to my supervisor Dr. Anil Kumar Kashyap (Prof. of Chemistry, Govt . V. Y. T. PG Autonomous College Durg) for his proper guidance and encouragement for this project work..
- I am grateful to all my professors in the department for Their continuous help and encouragement and blessing to complete this work..
- I am also thankful to my lab staff and classmates for their suggestion, support and unconditional help..
- I extend my sincere thanks to all those person who helped me for this work directly or indirectly

Akanksha Dhruw

M.Sc. IVth Sem. (Chemistry)

A

PROJECT REPORT

ON

"GREE SYNTHESIS OF MAGNETITE NANO PARTICLES USING PISUM SATIVUM (PEA) PEEL AND IT'S APPLICATION FOR REMOVAL OF DYES BY FENTON'S REAGENT "

Submitted for the Degree of

MASTER of SCIENCE

IN

CHEMESTRY.

SESSION – 2022 -23

SUPERVISOR.

Dr. A.K. Singh.

Professor.

Dept. Of Chemistry

Govt . V.Y.T.PG. Autonomous

College, Durg (C.G.)

SUBMITTED BY

Laxmi Dewangan

M.Sc. Chemistry

IV semester

SUBMITTED AT

Department of Chemistry

Govt. V.Y.T.PG. Autonomous College Durg (C.G.

29.5.2023

CERTIFICATE

This is to certify that the project entitled" GREEN SYNTHESIS OF MAGNETITE(Fe_3O_4) NANO PARTICLES USING PISUM SATIVUM (PEA) PEEL DYES BY FENTON'S AND IT'S APPLICATION FOR REMOVAL OF REAGENT " submitted for the award of the degree of **Master of Science in Chemistry** at Govt. V.Y.T. PG Autonomous College, Durg (C.G.) is a Record of original work carried out by Laxmi Dewangan during the period of March 2023 – April 2023 in the Department of Chemistry under the supervision of **Dr. A.K Singh.**

Date - 26/05/23

Durg Chhattisgarh

SUPERVISOR.

Dr. A.K. Singh/Dr. Anupama Asthana

Professor.

Dept. Of Chemistry.

Govt . V.Y.T.PG. Autonomous

College, Durg (C.G.)

NAME Laxmi

Laxmi Dewangan

M.Sc. Chemistry

IV semester

Head of Department.

Dr. Anupama Asthana.

Professor.

Department of chemistry.

Govt.V.Y.T. PG. Autonomous

College, Durg(C.G.)

Principal

Govt. V.Y.T. P.G. Autonomous

College Durg (CG)

DECLARATION

I hereby declare that the experiment and interpretation of the project report Entitled "GREEN SYNTHESIS OF MAGNETITE NANO PARTICLES USING PISUM SATIVUM (PEA) PEEL AND IT'S APPLICATION FOR REMOVAL OF DYES BY FENTON'S REAGENT" has been Submitted for the award of **Master of Science in Chemistry** as a part of syllabus. The project was carried out under the guidance of Prof. Dr. A. K. Singh/Dr. Anupama Asthana and has Not been submitted for another degree or diploma of university, the data Have been derived from any thesis/publication of university of scientific Organization. The present work is completely original to the best of my knowledge and belief. I further affirm that the conclusion of this project shall not be released to any Media nor shall be published in any form whatever without the prior approval of My guide and the original organization where the project work has been Undertaken.

Date: 26 -05-23.

Place: Durg, Chhattisgarh

Laxmi Dewangan

M.Sc. Chemistry

ACKNOWLEDGEMENT

- I am thankful to **Dr. R. N. Singh (Principal, Govt. V.Y.T.PG Auto. College, Durg)** for facilities provided in the department.
- I am also thankful to the **Dr. Anupama Asthana (Head of the Dept. Of Chemistry)** for facilities provided in the Dept. of Chemistry.
- I express my sincere thanks to my supervisor **Dr. A. K. Singh (Prof. of Chemistry, Govt. V.Y.T.PG. Auto. College Durg)** for his proper guidance and encouragement for this project work.
- I am extremely thankful to **Miss Prachi Verma (A research scholar of our department)** to help me in completion of my lab work successfully and also in my written work.
- I am grateful to all **my professors in the department** for their continuous Help and encouragement and blessing to complete this work.
- I am also thankful to **my lab staff and classmates** for their suggestion, Support and unconditional help.
- I extend my sincere thanks to all those persons who helped me for this work Directly or indirectly.

Laxmi Dewangan

M.Sc. IV Sem. (Chemistry).

A

PROJECT REPORT

ON

SYNTHESIS OF Fe_3O_4 (MAGNETITE) NPs AND ITS APPLICATION FOR THE REMOVAL OF DYE

SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

SESSION 2022-23

SUPERVISOR

Dr. A.K. Singh & Dr. Anupama Asthana

Professor

Dept. Of Chemistry

Govt. V.Y.T. PG Autonoumous

SUBMITTED BY

Yamini sahu

M.Sc Chemistry IVth SEM.

SUBMITTED AT

Dept. of Chemistry

Govt.V.Y.T. PG Autonoumous college,Durg(C.G)

29.5.2023

CERTIFICATE

This is to certify that the project entitled "Synthesis of Fe_3O_4(Magnetite) NPs and its application for removal of dye" submitted for the award of degree of Master of Science in chemistry at Govt. V.Y.T PG Autonomous college, Durg (C.G) is a record of original work carried out by Yamini Sahu during the period of February 2023-May 2023 in the Department of chemistry under the supervision of Dr. A.K Singh.

Date-26-05-2023

Durg, Chhattisgarh

NAME Yamini Sahu

Yamini Sahu

M.Sc Chemistry IV[th] SEM.

SUPERVISOR

Dr. A.K. Singh & Dr. Anupama Asthana

Professor

Dept. Of Chemistry

Govt. V.Y.T. PG Autonomous College, Durg (C.G)

Head of Department

Dr. Anupama Asthana

Professor

Govt. V.Y.T. PG Autonomous College, Durg(C.G)

Principal

Govt. V.Y.T. PG Autonomous College, Durg(C.G)

DECLARATION

I hereby declare that the experiment and interpretation of the project report "Synthesis of Fe_3O_4 (Magnetite) NPs and its application for removal of dye" has been submitted for the award of Masters of Science in chemistry as a part of syllabus. The project was carried out under the guidance of **Prof. Dr. A.K. Singh** and has not been submitted for another degree or neither diploma of university nor the data have been derived from any thesis/ publication of university of scientific organization. The present work is completely original to the best of my knowledge abelief.

I further affirm that the conclusion of this project shall not be released to any media nor the shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Yamini Sahu -

Date-26-05-2023

Yamini Sahu

Place – Durg, Chhattisgarh

M.Sc Chemistry IVth SEM.

A

PROJECT REPORT

ON

"STUDY OF AMOUNT OF CASEIN PRESENT IN DIFFERENT Milk SAMPLES"

Submitted to

Department of Chemistry

For

The Award of degree

Of

MASTER OF SCIENCE

IN CHEMISTRY

SUPERVISOR

Dr. Anupama Kashyap

(Assistant Professor)

Chemistry

Department of Chemistry

Govt. V.Y.T.PG Autonomous

College Durg(C.G.)

SUBMITTED BY

Ms. Anju Bala Thakur

M.Sc. 4th Sem.

29.5.2023

SUBMITTED TO

Department of Chemistry

Govt.V.Y.T.PG Autonomous College Durg (Chhattisgarh)

Awarded with the status of college with potential for excellence phase 1st,2nd and 3rd by UGC New Delhi Reaccredited by NAAC Bengaluru with A++ Grade.

CERTIFICATE

This is certify that the project entitled **"STUDY OF AMOUNT OF CASEIN PRESENT IN DIFFERENT MILK SAMPLES"**, submitted for the award of the degree of Master Of Science in chemistry at **Govt.V.Y.T.PG Autonomous College, Durg (Chhattisgarh)** is a record of original work carried out by **Ms. Anju Bala Thakur** during the period of

in the Department Of Chemistry under the supervision of **Dr. Anupama Kashyap.**

Date:

Durg, Chhattisgarh

SUBMITTED BY

Anju Bala Thakur

M.Sc . Chemistry

IVth Semester

SUPERVISOR

Dr.Anupama Kashyap

Asst. Professor

Govt.V.Y.T.PG Autonomous College

Durg.(C.G.)

HEAD OF DEPARTMENT

Dr. Anupama Asthana

(Professor)

Govt. V.Y.T.PG. Auto. College

Durg (C.G.)

PRINCIPAL

Govt. V.Y.T.PG. Auto. College

Durg (C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report "STUDY OF AMOUNT OF CASEIN PRESENT IN DIFFERENT MILK SAMPLES" has been submitted for the award of **MASTER OF SCIENCE** in chemistry as a part of syllabus. The project was carried out under the guidance of Assistant Professor **Dr. Anupama Kashyap** has not been submitted for any other degree or neither diploma of university nor the data have been derived from any thesis /publication of any University of scientific organization.

The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and original organization where the project work been under taken,

Date : 27/05/2023

Place : Durg, Chhattisgarh.

Ms. Anju Bala Thakur

M.Sc.Chemistry

4th Semester

ACKNOWLEDGEMENT

- I am thankful to **Dr. R. N. Singh** (Principal Govt.V.Y.T.PG Autonomous college Durg) facilities provided in the department.

- I am also thankful to the **Dr. (Mrs)Anupama Asthana** (Head of the department of chemistry) for facilities provided in the Department of chemistry.
- I express my sincere thanks to my supervisor **Dr. (Mrs) Anupama Kashyap (professor of chemistry Govt.V.Y.T.PG Autonomous college Durg)** for her proper guidance and encouragement for this project work.

- I am grateful to **all my professors in the department** for their continuous help and encouragement and blessings to complete this work.

- I am also thankful to my Lab **staff and classmates** for their suggestions, support and unconstitutional help.

- I extend my sincere thanks to all those persons who helped me for this work directly and indirectly.

Anju Bala Thakur

MSc IV semester (Chemistry)

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, CHHATTISGARH
(Erstwhile: Govt. Arts & Science College, Durg)
CPE Phase- III By UGC
Awarded Star College by DBT, New Delhi

Project report on

" ANALYSIS OF MILK ADULTERATION"

Submitted for the degree,

Master of Science in Chemistry

Submitted by

Ekta Sonkar

M.Sc. 4 th sem .Chemistry.
Autonomous college durg.

Supervisor

Dr. Nutan Rathod

Professor of Govt. V.Y. T. PG.
Autonomous college durg (C.g.)

Submitted At

Department of Chemistry

Govt. V.Y.T. PG. Autonomous college durg Chhattisgarh

Awarded with the stat us of college with potential for excellence phase 1, 2,& 3 By UGC

New Delhi Reaccredited by **NAAC** Banglore with **A+** Grade .

Roll number → 210207

Session → 2022-23

CERTIFICATE

This is to certify that the project in title " Analysis of Milk Adulteration " submitted for the award if the degree of Master of science in Chemistry at Govt. V.Y.T.PG. autonomous college durg Chhattisgarh. Is a record of original work carried out by Ekta Sonkar During the period of 2023-May 2023 in the department of Chemistry under the Dr. Nutan Rathod Ma'am .

Date : 29/5/23

Name एकता सोनकर

Ekta Sonkar.
M.Sc. 4th sem. Chemistry.
Autonomous college durg Chhattisgarh.

Supervisor

Dr. Nutan Rathod
Assistant professor , Govt.V.Y.T. PG.
Autonomous college durg Chhattisgarh.

Head of department

Dr. Anupama Asthana
Professor.
Govt. V .Y T. PG. Autonomous college durg Chhattisgarh.

principal

Dr. R.N. Singh
Govt. V.Y.T. PG. Autonomous college
Durg Chhattisgarh

Declaration

We , hereby declare that this project "Analysis of Milk Adulteration" neither as a whole nor as a part there of has been copied out from any source , in is further declared that We have developed this project and the welcome accompanied report entirely on the basis of our personal efforts made under the since guidance of our supervisor "Dr.Nutan Rathod Ma'am"

no portion of the work presented in this report has been submitted in the support of any other degree or qualification of this or any other university or institute of learning if found we shall stand responsible.

एक्ता सोनकर

Date 29/5/23

Signature

Ekta Sonkar

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, CHHATTISGARH

(Erstwhile: Govt. Arts & Science College, Durg)

CPE Phase- III By UGC

Awarded Star College by DBT, New Delhi

A PROJECT REPORT ON

"GREEN SYNTHESIS OF CARBON DOTS /COPPER / ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYE"

MASTER OF SCIENCE IN CHEMISTRY

SESSION: 2022-2023

SUPERVISORS

Dr. A.K.Singh/Dr.Sunita Sanwariya

Professor

Dept. of chemistry

Govt. V. Y. T. PG autonomous

College, Durg, (C.G.)

SUBMITTED BY

Nitya Verma

Student of

M.Sc. chemistry

IV semester

SUBMITTED AT

Dept. of chemistry

Govt. V.Y.T. PG Autonomous college,Durg (C.G.)

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF CARBONDOTS /COPPER / ALGINATE (CDs/ Cu/ Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYES" submitted for the award of the degree of **Master of science in chemistry** at Govt. V. Y.T.PG Autonomous College Durg (C.G.) is a record of original work carried out by **Nitya Verma** during the period of February 2022 -May 2023 in the Department of Chemistry under the supervision of **Dr.A.K.Singh / Dr. Sunita Sanwariya .**

Date: 26/05/2023

Place: Durg , Chhattisgarh

Name

Nitya Verma
M.Sc. Chemistry
IV semester
physical chemistry

Supervisors

Dr.A.K.Singh/Dr.Sunita Sanwariya
professor
Govt.V.Y.T.PG autonomous
college Durg, (C.G.)

27.5.2023

Head of Department

Dr. Anupama Asthana
Professor
Govt. V.Y.T.PG
Autonomous college Durg

Principal

Govt.V.Y.T.PG Autonomous
College Durg (C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled "**GREEN SYNTHESIS OF COPPER CARBONDOTS ALGINATE (CDs/ Cu/ Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYES**" has been submitted for the award of Master of Science in Chemistry as a part of syllabus. The project was carried out under the guidance of Prof. Dr. A. K. Singh and has not been submitted for another degree or diploma of university.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Date: 26/05/2023

Place: Durg, Chhattisgarh

Nitya Verma

M.Sc. Chemistry

ACKNOWLEDGEMENT

- I am thankful to Dr. R. N. Singh (Principal, Govt. V.Y.T.PG Autonomous College, Durg)for facilities provided in the department.

- I am also thankful to the Dr. Anupama Asthana (Head of the Dept. Of Chemistry) for facilities provided in the Dept. of Chemistry.

- I express my sincere thanks to my supervisors Dr. A.K.Singh / Dr. Sunita Sanwariya (Prof. of Chemistry, Govt. V.Y.T.PG. Auto. College Durg) for his proper guidance and encouragement for this project work.

- I am extremely thankful to Miss.Yogita Sahu (A research scholar of our department) to help me in completion of my lab work successfully and also in my written work.

- I am grateful to all my professors in the department for their continuous help & encouragement & blessing to complete this work.

- I am also thankful to my lab staff and classmates for their suggestion, support and unconditional help.

- I extend my sincere thanks to all those persons who helped me for this work directly or indirectly.

Nitya Verma (MSc. IV semester chemistry)

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, CHHATTISGARH
(Erstwhile: Govt. Arts & Science College, Durg)
CPE Phase- III By UGC
Awarded Star College by DBT, New Delhi

A PROJECT REPORT ON

"GREEN SYNTHESIS OF CARBON DOTS/COPPER/ ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING COW DUNG AND ITS APPLICATION FOR THE REMOVAL OF DYE"

MASTER'S OF SCIENCE IN CHEMISTRY

SESSION: 2022-2023

SUPERVISOR

Dr. A.K.Singh

Professor

Dept. of chemistry

Govt. V. Y. T. PG autonomous

College , Durg , (C.G.)

SUBMITTED BY

Yanjana Sunhale

Student of

M.Sc. chemistry

IV semester

29.5.2023

SUBMITTED AT

Dept. of chemistry

Govt. V.Y.T. PG Autonomous College, Durg (C.G.)

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF CARBON DOTS/COPPER/ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING COW DUNG AND ITS APPLICATION FOR THE REMOVAL OF DYES" submitted for the award of the degree of **Master of science in chemistry** at Govt. V. Y.T.PG Autonomous College Durg (C.G.) is a record of original work carried out by **Yanjana Sunhale** during the period of February 2022 - May 2023 in the Department of Chemistry under the supervision of **Dr. A.K Singh**.

Date: - 26/05/2023

Place: - Durg, Chhattisgarh

Name

Yanjana Sunhale
M.Sc. Chemistry
IV semester
physical chemistry

Supervisor

Dr.A.K.Singh
Professor
Govt.V.Y.T.PG Autonomous
college Durg (C.G.)

Head of Department

Dr. Anupama Asthana

Professor

Govt.V.Y.T.PG Autonomous

College Durg (C.G.)

Principal

Govt.V.T.PG Autonomous

College Durg (C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled **"GREEN SYNTHESIS OF CARBON DOTS/COPPER/ ALGINATE (CDs/ Cu/ Alg) COMPOSITE BY USING COW DUNG AND ITS APPLICATION FOR THE REMOVAL OF DYES"** has been submitted for the award of Master of Science in Chemistry as a part of syllabus. The project was carried out under the guidance of **Prof. Dr. A. k. Singh** and has not been submitted for another degree or neither diploma of university nor the data have been derived from any thesis/publication of university of Scientific Organization. The present work is completely original to the best of my knowledge and belief.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Date: 26/05/2023

Place: Durg, Chhattisgarh

Yanjana Sunhale

M.Sc. Chemistry

ACKNOWLEDGEMENT

- I am thankful to **Dr. R. N. Singh (Principal, Govt. V.Y.T.PG Autonomous College Durg, Chhattisgarh)** for facilities provided in the department.

- I am also thankful to the **Dr. Anupama Asthana (Head of the Dept. Of Chemistry)** for facilities provided in the Dept. of Chemistry.

- I express my sincere thanks to my supervisor **Dr. A.K.Singh (Prof. of Chemistry, Govt. V.Y.T.PG. Auto. College Durg)** for his proper guidance and encouragement for this project work.

- I am extremely thankful to **Mrs. Yogita Sahu (A research scholar of our department)** to help me in completion of my lab work successfully and also in my written work.

- I am grateful to all my professors in the department for their continuous help and encouragement and blessing to complete this work.

- I am also thankful to my lab staff and classmates for their suggestion, support and unconditional help.

- I extend my sincere thanks to that entire person who helped me for this work directly or indirectly.

Yanjana Sunhale

M.Sc. IV Sem. (Chemistry)

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, CHHATTISGARH
(Erstwhile: Govt. Arts & Science College, Durg)
CPE Phase- III By UGC
Awarded Star College by DBT, New Delhi

A PROJECT REPORT ON

"GREEN SYNTHESIS OF CARBON DOTS /COPPER / ALGINATE (CDs/Cu/Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYE"

MASTER OF SCIENCE IN CHEMISTRY

SESSION: 2022-2023

SUPERVISOR

Dr. A.K.Singh/Dr.Sunita Sanwariya
Professor
Dept. of chemistry
Govt. V. Y. T. PG autonomous
College, Durg, (C.G.)

SUBMITTED BY

Kajal Dewangan
Student of
M.Sc. chemistry
IV semester

SUBMITTED AT

Dept. of chemistry

Govt. V.Y.T. PG Autonomous college,Durg (C.G.)

DECLARATION

I hereby declare that the experiment and interpretation of the project report entitled **"GREEN SYNTHESIS OF COPPER CARBONDOTS ALGINATE (CDs/ Cu/ Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYES"** has been submitted for the award of Master of Science in Chemistry as a part of syllabus. The project was carried out under the guidance of Prof. Dr. A.K.Singh/ Dr. Sunita Sanwariya and has not been submitted for another degree or diploma of university.

I further affirm that the conclusion of this project shall not be released to any media nor shall be published in any form whatever without the prior approval of my guide and the original organization where the project work has been undertaken.

Date: 26/05/2023

Place: Durg, Chhattisgarh

Kajal Dewangan

M.Sc. Chemistry

CERTIFICATE

This is to certify that the project entitled "GREEN SYNTHESIS OF CARBONDOTS /COPPER / ALGINATE (CDs/ Cu/ Alg) COMPOSITE BY USING COW URINE AND ITS APPLICATION FOR THE REMOVAL OF DYES" submitted for the award of the degree of **Master of science in chemistry** at Govt. V. Y.T.PG Autonomous College Durg (C.G.) is a record of original work carried out by **Kajal Dewangan** during the period of February 2022 -May 2023 in the Department of Chemistry under the supervision of **Dr.A.K.Singh / Dr. Sunita Sanwariya .**

Date: 26/05/2023

Place: Durg , Chhattisgarh

Kajal

Name

Kajal Dewangan
M.Sc. Chemistry
IV semester
physical chemistry

Supervisors

Dr.A.K.Singh/Dr.Sunita Sanwariya
professor
Govt.V.Y.T.PG autonomous
college Durg, (C.G.)

Head of Department

Dr. Anupama Asthana
Professor
Govt. V.Y.T.PG
Autonomous college Durg

Principal

27.5.2023

Govt.V.Y.T.PG Autonomous
College Durg (C.G.)