Assessment of Water Pollution in Local Rivers

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Supriyo Kumar De

University Roll-1122121

No.-210200

Regn. No.-VU211017265

Of 2021-2022

Under The Supervision

Of

Dr. Samir Kumar Giri

Assistant Professor

Department of Physics

This is to certify that investigation reported in this project work entitled "Assessment of Water Pollution in Local Rivers" is a record of bona fide work. The work is carried by Supriyo Kumar De, under my supervision. Supriyo Kumar De is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21.09.23

Dr. Samir Kumar Giri

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Samir Kumar Giri**, Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I_Aalso very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

suprigo Kumar Le

Signature of Candidate

Place: KHARAGPUR COLLEGE

Date: 21.09.23

Study of Urban Air Quality

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Anindya Sundar Patra

University Roll-1122121

No.-220172

Regn. No.-VU221210935

Of 2022-2023

Under The Supervision

Of

Dr. Samir Kumar Giri

Assistant Professor

Department of Physics

Kharagpur College

This is to certify that investigation reported in this project work entitled "Study of Urban Air Quality" is a record of bona fide work. The work is carried by Anindya Sundar Patra, under my supervision. Anindya Sundar Patra is submitting this work for partial fulfilment of the degree of Bachelor of Science (Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22-09-23

Dr. Samir Kumar Giri

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Samir Kumar Giri,** Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

 I_{α} also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22.09-23

Anindya Sundar Patra.

Signature of Candidate

Study of Pollution Control Measures in Industrial Areas

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Sk Safiul Islam

University Roll-1122121

No.-220183

Regn. No.-VU221211079

Of 2022-2023

Under The Supervision

Of

Dr. Parbati Basu

SACT

Department of Physics

This is to certify that investigation reported in this project work entitled "\$tudy of Pollution Control Measures in Industrial Areas" is a record of bona fide work. The work is carried by Sk Safiul Islam, under my supervision. Sk Safiul Islam is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22/07/23

Parbati Basu

Dr. Parbati Basu

SACT

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Parbati Basu**, SACT, Department of Physics, Kharagpur college, for him constant encouragement, guidance and instructions.

In also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Collage.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22/09/23

SK Sofiul Islom.
Signature of Candidate

Study of Sustainable Energy Consumption Patterns

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Souvik Acharya

University Roll-1122121

No.-220188

Regn. No.-VU221211098

Of 2022-2023

Under The Supervision

Of

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SACT

Department of Physics

This is to certify that investigation reported in this project work entitled "\$tudy of \$ustainable Energy Consumption Patterns" is a record of bona fide work. The work is carried by Souvik Acharya, under my supervision Souvik Acharya is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Parbati Base.

Dr. Parbati Basu SACT

Department of Physics Kharagpur College

I would like to express my deep sense of gratitude to **Dr. Parbati Basu**, SACT, Department of Physics, Kharagpur college, for her constant encouragement, guidance and instructions.

 I_{κ} also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Examination of Urban Waste Management Strategies

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Sayan Dey

University Roll-1122121 Regn. No.-VU221211065 No.-220181

Of 2022-2023

Under The Supervision

Of

Prof. Pankaj Patra

SACT

Department of Physics

This is to certify that investigation reported in this project work entitled
"Examination of Urban Waste Management Strategies" is a record of bona fide work. The work is carried by Sayan Dey, under my supervision.
Sayan Dey is submitting this work for partial fulfilment of the degree of
Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment
Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22/09/23

Prof. Pankaj Patra

SACT

Pourkay Patro

Department of Physics

I would like to express my deep sense of gratitude to **Prof. Pankaj Patra**, SACT, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I am also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur College.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22/09/23

Sayan Dey Signature of Candidate

Inspection of renewable Energy Technologies

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Sintu Gayen

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No.-220182

Regn. No.-VU221211400

Of 2022-2023

Under The Supervision

Of

Prof. Pankaj Patra

SACT

Department of Physics

This is to certify that investigation reported in this project work entitled "Inspection of renewable Energy Technologies" is a record of bona fide work. The work is carried by Sintu Gayen, under my supervision. Sintu Gayen is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Prof. Pankaj Patra

SACT

Department of Physics

I would like to express my deep sense of gratitude to **Prof. Pankaj Patra**, SACT, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

 I_{Λ} also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Sintu Geayen Signature of Candidate

Study of Climate Change and its Effects on Natural Resources

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Somnath Gayen

University Roll-1122121

No.-220185

Regn. No.-VU221211087

Of 2022-2023

Under The Supervision

Of

Prof. Pankaj Patra

SACT

Department of Physics

This is to certify that investigation reported in this project work entitled "\$tudy of Climate Change and its Effects on Natural Resources" is a record of bona fide work. The work is carried by Somnath Gayen, under my supervision. Somnath Gayen is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22/09/23

Prof. Pankaj Patra

Parkaj Patros

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Department of Physics

I would like to express my deep sense of gratitude to **Prof. Pankaj Patra**, SACT, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

 I_{Λ} also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 2409/23

Sommath Greyen, Signature of Candidate

Study of Marine Pollution and its Impact on Ecosystems

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Kalyan Khatua

University Roll- 1122121

No.-220176

Regn. No.-VU221210982

Of 2022-2023

Under The Supervision

Of

Prof. Pankaj Patra

SACT

Department of Physics

of Marine Pollution and its Impact on Ecosystems" is a record of bona fide work. The work is carried by Kalyan Khatua, under my supervision. Kalyan Khatua is submitting this work for partial fulfilment of the degree of Bachelor of Science under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Prof. Pankaj Patra

Paukaj Palos

SACT

Department of Physics

I would like to express my deep sense of gratitude to **Prof. Pankaj Patra**, SACT, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

αm I_Λalso very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**e**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Kalyan Whata. Signature of Candidate

Study of Renewable Energy Energy Initiatives in Kharagpur College

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Mrinmoy Chowdhury

University Roll-1122121

No.-210172

Regn. No.-VU211017133

Of 2021-2022

Under The Supervision

Of

Prof. Mihir Das

Assistant Professor

Department of Physics

<u>CERTIFICATE</u>

of Renewable Energy Energy Initiatives in Kharagpur College" is a record of bona fide work. The work is carried by Mrinmoy Chowdhury, under my supervision Mrinmoy Chowdhury is submitting this work for partial fulfilment of the degree of Bachelor of Science, under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Prof. Mihir Das

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to Prof. Mihir Das, Assistant Professor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I also very thankful to Dr. Bidyut Samanta, respected Principal of Kharagpur Collage.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Mrinmoy Chowdhury Signature of Candidate

Investigation on Renewable Energy Sources and their potential in addressing Climate Change

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Souradip Ghosh

University Roll-1122121

No.-220187

Regn. No.-VU221211096

Of 2022-2023

Under The Supervision

Of

Prof. Mihir Das

Assistant Professor

Department of Physics

This is to certify that investigation reported in this project work entitled "Investigation on Renewable Energy Sources and their potential in addressing Climate Change" is a record of bona fide work. The work is carried by Souradip Ghosh, under my supervision Souradip Ghosh is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Prof. Mihir Das

Assistant Professor Department of Physics

I would like to express my deep sense of gratitude to **Prof. Mihir Das**, Assistant Professor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

am

I also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Collage.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Souradip Ghosh Signature of Candidate

Land Degradation due to Mining Activities

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Saptarshi Pahari

University Roll-1122121

No.-220180

Regn. No.-VU221211061

Of 2022-2023

Under The Supervision

Of

Prof. Rudra Narayan Mondal

Assistant Professor

Department of Physics

This is to certify that investigation reported in this project work entitled "Land Degradation due to Mining Activities" is a record of bona fide work. The work is carried by Saptarshi Pahari, under my supervision. Saptarshi Pahari is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (ENVS)(Course Code: ENVSAE)of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22/09/23

Prof. Rudra Narayan Mondal

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Prof. Rudra Narayan Mondal**, Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

am

I_Aalso very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22/09/23

Soplareli Paheri Signature of Candidate

Survey of Renewable Energy Sources

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Ramrenu Mandal

University Roll- 1122121

No.-220177

Regn. No.-VU221211033

Of 2022-2023

Under The Supervision

Of

Prof. Rudra Narayan Mondal

Assistant Professor Department of Physics

This is to certify that investigation reported in this project work entitled "Survey of Renewable Energy Sources" is a record of bona fide work. The work is carried by Ramrenu Mandal, under my supervision. Ramrenu Mandal is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 22/09/23

Prof. Rudra Narayan Mondal

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to Prof. Rudra Narayan Mondal, Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I also very thankful to Dr. Bidyut Samanta, respected Principal of Kharagpur Collage.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22/69/23

Rampenu Mandal Signature of Candidate

Observation of Wildlife Conservation Efforts

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Dipankar Dutta

University Roll- 1122121

No.-220175

Regn. No.-VU221210967

Of 2022-2023

Under The Supervision

Of

Prof. Rudra Narayan Mondal

Assistant Professor

Department of Physics

CERTIFICATE

This is to certify that investigation reported in this project work entitled "Observation of Wildlife Conservation Efforts" is a record of bona fide work. The work is carried by Dipankar Dutta, under my supervision. Dipankar Dutta is submitting this work for partial fulfilment of the degree of Bachelor of Science (Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/23

Prof. Rudra Narayan Mondal

Assistant Professor

Department of Physics

Kharagpur College

I would like to express my deep sense of gratitude to **Prof. Rudra Narayan Mondal**, Assistant Professor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

am

I_Aalso very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Dipankan Dukk.

Signature of Candidate

Painful Impact of Deforestation on Biodiversity

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Arijit Santra

University Roll- 11221 21

No.-220174

Regn. No.-VU221210942

Of 2022-2023

Under The Supervision

Of

Dr. Ritwik Saha

Assistant Professor

Department of Physics

CERTIFICATE

This is to certify that investigation reported in this project work entitled "Painful Impact of Deforestation on Biodiversity" is a record of bona fide work. The work is carried by Arijit Santra, under my supervision Arijit Santra is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance. I wish him success in his life.

Date: 22/09/23

Dr. Ritwik Saha

Phala

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Ritwik Saha**, Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 22/09/23

Avoisit Santra_ Signature of Candidate

Study Of Soil Erosion in Agricultural Land

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

By

Anirban Jana

University Roll-1122121

No.-220173

Regn. No.-VU221210937

Of 2022-2023

Under The Supervision

Of

Dr. Ritwik Saha

Assistant Professor

Department of Physics

<u>CERTIFICATE</u>

Of Soil Erosion in Agricultural Land" is a record of bona fide work. The work is carried by Anirban Jana, under my supervision. Anirban Jana is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (Course Code: ENVSAE) of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/2023

Phale

Dr. Ritwik Saha

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Ritwik Saha**, Assistant Proffesor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur Coll**a**ge.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/2023

Signature of Candidate

Anir ban Jana

Inquiry of Land use Planning and Conservation

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

Ву

Tapas Maikap

University Roll-1122121

No.-220192

Regn. No.-VU221211140

Of 2022-2023

Under The Supervision

Of

Dr. Ritwik Saha

Assistant Professor

Department of Physics

<u>CERTIFICATE</u>

This is to certify that investigation reported in this project work entitled "Inquiry of Land use Planning and Conservation" is a record of bona fide work. The work is carried by Tapas Maikap, under my supervision. Tapas Maikap is submitting this work for partial fulfilment of the degree of Bachelor of Science(Hons.) under CBCS 2023 for Semester-II in Environment Studies (ENVS)(Course Code: ENVSAE)of Vidyasagar University. The work of this project has not been submitted for the award of any other degree under my supervision and guidance.

I wish him success in his life.

Date: 21/09/2023

ff ala

Dr. Ritwik Saha

Assistant Professor

Department of Physics

I would like to express my deep sense of gratitude to **Dr. Ritwik Saha**, Assistant Professor, Department of Physics, Kharagpur college, for his constant encouragement, guidance and instructions.

I am also very thankful to **Dr. Bidyut Samanta**, respected Principal of Kharagpur College.

I would like to express my thanks to my parents and friends for their encouragements and support during this project work.

Place: KHARAGPUR COLLEGE

Date: 21/09/23

Taken Menkap Signature of Candidate