

BONAFIDE CERTIFICATE

This is to certify that the project report titled, “AN INVESTIGATION ON MECHANICAL CHARACTERISTICS OF Al7075/Si3N4/BN HYBRID METAL MATRIX COMPOSITE”, is

being submitted by

DODDA NITEESH REDDY	(Reg. No.U19MT009)
GODWIN ALEXANDER	(Reg. No.U19MT011)
IMMANUEL	(Reg. No.U19MT014)

To the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

P. J. Me.
10/05/2023



M. Sundararaj
10/05/23

PROJECT GUIDE

Mr. P. JAIRAJESH ME., (Ph.D.,)

Assistant Professor,

Department of Mechatronics Engineering
Bharath Institute of Science &
Technology, Bharath Institute of Higher
Education & Research, Chennai – 600073.

HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ M.E., Ph.D

Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai-600073.

BIHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BIHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENT OF MECHATRONICS ENGINEERING CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Destination
1.	DODDA NITEESH REDDY	U19MT009	AN INVESTIGATION ON MECHANICAL CHARACTERISTICS OF Al7075/Si3N4/BN HYBRID METAL MATRIX COMPOSITE	Mr. P. Jairajesh M.E., (Ph.D.) Assistant Professor Department Of Mechatronics Engineering
2.	GODWIN ALEXANDER	U19MT011		
3.	IMMANUEL	U19MT014		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023

J. Dhanasekar 11/5/23
INTERNAL EXAMINER

Mr. J. Dhanasekar,
Assistant Professor,
Department of Mechatronics Engineering,
BIHER, Chennai-600073



[Signature]
INTERNAL EXAMINER

Dr. S. Santhana Krishnan,
Associate Professor,
Department of Mechanical Engineering,
Meenakshi Sundarajan Engineering College,
Chennai-600024

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN AND ANALYSIS OF RESERVED ENERGY FOR ELECTRIC VEHICLES", is being submitted by

VISHNUS (Reg. No. U19MT042)

JAYA PRAKASHU J (Reg. No. U19MT704)

JOSHUA EDMUND S (Reg. No. U19MT019) ✓

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

20/6/23
ATTENDANCE


6/5/23

PROJECT GUIDE



16/6/23
HEAD OF THE DEPARTMENT

Dr. N.S. Senthur, M.E., Ph.D.,

Associate Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

Dr. M. SUNDARARAJ, M.E., Ph.D.,

Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENT OF MECHATRONICS ENGINEERING CERTIFICATE OF EVALUATION

S.I No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	VISHNU S	U19MT042	DESIGN AND ANALYSIS OF RESERVED ENERGY FOR ELECTRIC VEHICLES	Dr. N.S.Senthur, M.E., Ph.D., Associate Professor.
2	JAYA PRAKASH J	U19MT704		
3	JOSHUA EDMUND S	U19MT019		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023.

J. Dhanasekar, 11/5/23
INTERNAL EXAMINER

Mr. J. DHANASEKAR,
ASSISTANT PROFESSOR,
DEPARTMENT OF MECHATRONICS,
BHARATH INSTITUTE OF HIGHER
EDUCATION AND RESEARCH
(BIHER), CHENNAI-60007



[Signature]
EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, “**DESIGN AND ANALYSIS OF SOLAR ELECTRIC ROVER**” , is being submitted by

JAGADESHWAR S (Reg. No. U19MT016) ✓
GOKUL T (Reg. No. U19MT012)
GOKULKRISHNAN A (Reg. No. U19MT013)

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

100%


PROJECT GUIDE



Dr. N.S. Senthur, M.E., Ph.D.,
Associate Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073


HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D.,
Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

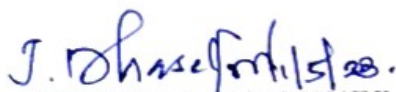
(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENT OF MECHATRONICS ENGINEERING CERTIFICATE OF EVALUATION

S.I No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	S JAGADESHWAR	U19MT016	DESIGN AND ANALYSIS OF SOLAR ELECTRIC ROVER	Dr. N.S.Senthur, M.E., Ph.D., Associate Professor.
2	T GOKUL	U19MT012		
3	GOKULKRISHNAN A	U19MT013		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023.


INTERNAL EXAMINER

Mr. J. DHANASEKAR,
ASSISTANT PROFESSOR,
DEPARTMENT OF MECHATRONICS,
BHARATH INSTITUTE OF HIGHER
EDUCATION AND RESEARCH
(BIHER), CHENNAI-60




EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN AND DEVELOPMENT OF FIRE FIGHTING MOBILE ROBOT", is being submitted by

SAIPRASATH A S

U19MT702

RAGHUL B

U19MT708 ✓

SATHISH C

U19MT703

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

50%

J. Dhasefory
PROJECT GUIDE 10/5/23



M. Sundararaj
HEAD OF THE DEPARTMENT

Mr. J. DHANASEKAR,

Assistant Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

Dr. M. SUNDARARAJ,

Professor,

Department of Mechatronics Engineering, (I/C)
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	Saiprasath A S	U19MT702	DESIGN AND DEVELOPMENT OF FIRE FIGHTING MOBILE ROBOT	Mr. J. Dhanasekar M.E., M.B.A., (Ph.D) Assistant Professor
2	Raghul B	U19MT708		
3	Sathish C	U19MT703		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023

INTERNAL EXAMINER

J. Dhanasekar 11/5/23
Mr. J. DHANASEKAR,

Assistant Professor,

Dept. of Mechatronics Engineering,

Bharath Institute of Higher

Education & Research,

Chennai – 600073.



EXTERNAL EXAMINER

[Signature]
Dr. S. SANTHANAKRISHNAN,

Associate Professor,

Dept. of Mechanical Engineering,

Meenakshi Sundararajan

Engineering College,

Chennai - 600024.

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "**DESIGN AND FABRICATION OF AUTOMATIC CRADLE ROCKING SYSTEM**", is being submitted by

MOHAMED JUMAIL, K	(Reg. No. U19MT024)
KEVINRAJ, B	(Reg. No. U19MT021)
KADHAR MOHIDEEN, M	(Reg. No. U19MT020)

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



PROJECT GUIDE

Dr. N.S. Senthur, M.E., Ph.D.,
Associate Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D.,
Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S.I No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	MOHAMED JUMAIL.K	U19MT024	DESIGN AND FABRICATION OF AUTOMATIC CRADLE ROCKING SYSTEM	Dr. N.S.Senthur, M.E., Ph.D., Associate Professor.
2	KEVINRAJ. B	U19MT021		
3	KADHAR MOHIDEEN. M	U19MT020		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023.



J. Dhanasekar, 11/5/23
INTERNAL EXAMINER

Mr. J. DHANASEKAR,
ASSISTANT PROFESSOR,
DEPARTMENT OF MECHATRONICS,
BHARATH INSTITUTE OF HIGHER
EDUCATION AND RESEARCH
(BIHER), CHENNAI-600073

[Signature]
EXTERNAL EXAMINER
Dr. S. SANTHANA KRISHNAN,
ASSOCIATE PROFESSOR,
Dept of. MECHANICAL ENGINEERING
MEENAKSHI SUNDARARAJAN
ENGINEERING COLLEGE,
CHENNAI- 600024

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "**DESIGN AND FABRICATION OF AUTOMATIC CRADLE ROCKING SYSTEM**", is being submitted by

ROHAN SANJAY

(Reg.No. U19MT035)

SABITH RAJA SEKAR

(Reg.No. U19MT036)

SHALOM MORRIS

(Reg.No. U19MT037)

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



PROJECT GUIDE

Dr. N.S. Senthur, M.E., Ph.D.,

Associate Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D.,

Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S.I No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	ROHAN SANJAY	U19MT035	DESIGN AND FABRICATION OF AUTONOMOUS SWITCH CONTROL SYSTEM WITHOUT CONNECTIVITY	Dr. N.S.Senthur, M.E., Ph.D., Associate Professor.
2	SABITH RAJA SEKAR	U19MT036		
3	SHALOM MORRIS	U19MT037		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023.

J. Dhanasekar 11/5/23
INTERNAL EXAMINER

Mr. J. DHANASEKAR,
ASSISTANT PROFESSOR,
DEPARTMENT OF MECHATRONICS,
BHARATH INSTITUTE OF HIGHER
EDUCATION AND RESEARCH
(BIHER), CHENNAI-600073



[Signature]
EXTERNAL EXAMINER
Dr. S. Sathanakrishnan

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN AND FABRICATION OF IOT BASED HEALTH MONITORING SYSTEM WITH HEART RATE AND BODY TEMPERATURE", is being submitted by

ABDUL RAHMAN. R

U19MT001

AFROZ FAREED. S. D

U19MT002

AMEEN. F

U19MT003

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



PROJECT GUIDE

Dr. N.S. SENTHUR, ME., Ph. D

Associate Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, ME., Ph.D.

Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed - to - be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	ABDUL RAHMAN. R	U19MT001	DESIGN AND FABRICATION OF IOT BASED HEALTH MONITORING SYSTEM WITH HEART RATE AND BODY TEMPERATURE	Dr. N.S.SENTHUR Associate Professor
2	AFROZ FAREED. S. D	U19MT002		
3	AMEEN. F	U19MT003		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023



J. Shaxfin 11/5/23
INTERNAL EXAMINER


EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN AND FABRICATION OF TRANSRADIAL HUMAN HAND USING FOUR BAR LINKAGE MECHANISM", is being submitted by

R. MURALI NARAYANAN U19MT027

M. PRAVEEN RAJ U19MT030

S. RAGHUL U19MT031 ✓

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

581 ✓

PROJECT GUIDE

Mr. M. CHANDRA MOHAN M.T.
(Ph.D)

Assistant Professor,

Department of Mechatronics Engineering,

Bharath Institute of Science &
Technology, Bharath Institute of Higher
Education & Research, Chennai – 600073



HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ M.E., Ph.D

Professor,

Department of Mechatronics Engineering,

Bharath Institute of Science &
Technology, Bharath Institute of Higher
Education & Research, Chennai – 600073

BIHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BIHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	R. MURALI NARAYANAN	U19MT027	DESIGN AND FABRICATION OF TRANSRADIAL HUMAN HAND USING FOUR BAR LINKAGE MECHANISM	Mr. M. CHANDRA MOHAN , M.E., (Ph.D), ASSISTANT PROFESSOR
2	M. PRAVEEN RAJ	U19MT030		
3	S. RAGHUL	U19MT031		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023

J. Dhaseef 11/5/23
INTERNAL EXAMINER



[Signature]
EXTERNAL EXAMINER
11/5/23

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN, FABRICATION AND OPTIMIZATION OF FLOOR CLEANING ROBOT", is being submitted by

MOHUDOOM NAINA	U19MT025
MUMMADI SAI DHEERAJ	U19MT026
JAGADESWARAN	U19MT017

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.


10/5/2023

PROJECT GUIDE

Mr. P. Jairajesh, M.E., (Ph.D.)

Associate Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073





HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D

Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	MOHUDOOM NAINA	U19MT025	DESIGN, FABRICATION AND OPTIMIZATION OF FLOOR CLEANING ROBOT	Mr. P. Jairajesh, M.E., (Ph.D.)
2	MUMMADI SAI DHEERAJ	U19MT026		
3	JAGADESWARAN	U19MT017		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023
J. Dhanasekhar 11/5/23.

INTERNAL EXAMINER

Mr. J. Dhanasekhar
Associate Professor
Department of Mechatronic Engineering.

BIHER - Chennai - 600073.



EXTERNAL EXAMINER

Dr. S. Santhana Krishnan
Associate Professor
Department of Mechanical Engineering
Meenakshi Sundarajan engineering college - Chennai - 600024.

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DESIGN AND FABRICATION OF BIONIC HUMAN HAND", is being submitted by

A. GOKUL KRISHNAN	U19MT013
M. PRAVEEN RAJ	U19MT030
A.FAIZAL AHAMATH	U19MT044
C. SATHISH	U19MT703

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

PROJECT GUIDE

Mr. M. CHANDRA MOHAN M.E,
(Ph.D)

Assistant Professor,

Department of Mechatronics
Engineering,

Bharath Institute of Science &
Technology, Bharath Institute of
Higher Education & Research, Chennai
– 600073

HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ M.E., Ph.D

Professor,

Department of Mechatronics
Engineering,

Bharath Institute of Science &
Technology, Bharath Institute of Higher
Education & Research, Chennai –
600073

BIHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BIHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

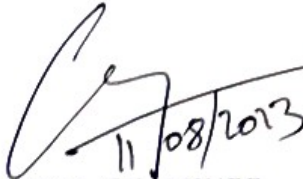
DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	A. GOKUL KRISHNAN	U19MT013	DEVELOPING A SMART HAND WITH PATTERN RECOGNITATION SYSTEM USING K-NN ALGORITHM	Mr. M. CHANDRA MOHAN , M.E., (Ph.D), ASSISTANT PROFESSOR
2	M. PRAVEEN RAJ	U19MT030		
3	A. FAIZAL AHAMATH	U19MT044		
4	C.SATHISH	U19MT703		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/08/2023


INTERNAL EXAMINER


EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "DEVELOPMENT OF AUTONOMOUS MOBILE ROVER USING OPTIMIZED PATH PLANNING TECHNIQUE", is being submitted by

DEEPAK RAJ.S

(Reg. No. U19MT007)

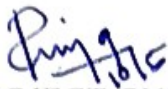
DICKSON.C

(Reg. No. U19MT008)

ARUN KUMAR.P

(Reg. No. U19MT709)

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



PROJECT GUIDE



HEAD OF THE DEPARTMENT

Mrs Priya V

Supervisor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

Dr. M. SUNDARARAJ,

Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 60007

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	DEEPAK RAJ.S	U19MT007	DEVELOPMENT OF MOBILE ROVER USING OPTIMIZED PATH PLANNINGTECHNIQUE	Mrs.V.PRIYA, Assistant Professor
2	DICKSON.C	U19MT008		
3	ARUN KUMAR.P	U19MT709		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023

J. Dhaseefan 11/5/23
INTERNAL EXAMINER

Mr. J. DHANASEKAR,

Assistant Professor,

Dept. of Mechatronics Engineering,

Bharath Institute of Higher

Education & Research,

Chennai – 600073.



[Signature]
EXTERNAL EXAMINER

Dr. S. SANTHANAKRISHNAN,

Associate Professor,

Dept. of Mechanical Engineering,

Meenakshi Sundararajan

Engineering College,

Chennai - 600024

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "FULL DUPLEX COMMUNICATION AND FILE TRANSFER BETWEEN TWO PCs BY USING Li-Fi TECHNOLOGY ", is being submitted by

DRISHNA MYTHREYAN.C.S

U19MT010 ✓

THARUN KUMAR.K

U19MT039

YUKESH.K

U19MT043

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

73%

PROJECT GUIDE



HEAD OF THE DEPARTMENT(I/C)

Mr.M. CHANDRA MOHAN M.E.,(Ph.D)
Assistant Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

Dr. M. SUNDARARA.J M.E.,Ph.D.
Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	DRISHNA MYTHREYAN.CS	U19MT010	FULL DUPLEX COMMUNICATION	M.M.CHANDRAMOHAN,M.E.,(P.H.D). Associate Professor.
2	THARUN KUMARK	U19MT039	AND FILE TRANSFER BETWEEN TWO PCs	
3	YUKESILK	U19MT043	BY USING L2-FI TECHNOLOGY	

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023

J. Dhaseyord 11/5/23.
INTERNAL EXAMINER




EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that this project "LiDAR-Based Floor Measurement with ROS for Efficient Building Construction" is being submitted by

ASHRAF ALI A (Reg.NO. U19MT004)

BADRINATHAN B (Reg.NO. U19MT005)

BALAMURUGAN A (Reg.NO. U19MT006)

to the Department of Mechatronics, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

58/

703 PROJECT GUIDE

Mrs. PRIYA V. M.E., (Ph.D)

Assistant Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D.,

Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

**BHARATH INSTITUTE OF HIGHER EDUCATION AND
RESEARCH**

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

**BHARATH INSTITUTE OF SCIENCE AND
TECHNOLOGY DEPARTMENT OF
MECHATRONICS ENGINEERING
CERTIFICATE OF EVALUATION**

S.I No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	ASHRAF ALI A	U19MT004	LiDAR-Based Floor Measurement with ROS for Efficient Building Construction	Mrs. PRIYA V. M.E., (Ph.D) Assistant Professor.
2	BADRINATHAN B	U19MT005		
3	BALAMURUGAN A	U19MT006		


The report of the project work submitted by the above students in partial fulfillment of therequirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/05/2023.

J. Dhasefool, 11/5/23.
INTERNAL EXAMINER



Mr. J. Dhanasekar
Assistant professor,
Department of mechatronics,
BIHER, Chennai - 600073


11/5/23
EXTERNAL EXAMINER

Dr. S. Santhana krishnan

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "PROSTHETIC HAND USING EMG SENSOR", is being submitted by

MADHAN KUMAR.S

U19MT022

MARUTHALS

U19MT023

NANDHA KUMAR.K

U19MT028

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

PROJECT GUIDE



Mr.M.Chandra Mohan.,M.E., (Ph.D)
Assistant Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

HEAD OF THE DEPARTMENT(I/C)

Dr. M. SUNDARARAJ,
Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	S. MADHAN KUMAR	U19MT022	PROSTHETIC HAND USING EMG SENSOR	Mr. M.Chandra Mohan. M.E., (Ph.D) ASSISTANT PROFESSOR
2	S. MARUTHAI	U19MT023		
3	K. NANDHA KUMAR	U19MT028		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/08/2023

J. Dhaseford. 11/5/23
INTERNAL EXAMINER



[Signature]
EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "RFID BASED WIRELESS POWER TRANSFER SYSTEM FOR ELECTRIC VEHICLE APPLICATIONS", is being submitted by

JISHA REXLINE (U19MT018) ✓
PRARTHANA (U19MT029)
SINGUPURAM SHANMUKHA SAI (U19MT038)

To the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

701.

P. J. Me.
10/5/2023



PROJECT GUIDE

Mr. P. JAIRAJESH ME., (Ph.D.,)

Assistant Professor,

Department of Mechatronics Engineering
Bharath Institute of Science &
Technology, Bharath Institute of Higher
Education & Research, Chennai – 600073.

M. Sundararaj
10/5/2023

HEAD OF THE DEPARTMENT (I/C)

Dr. M. SUNDARARAJ M.E., Ph.D

Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai-600073.

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING CERTIFICATE OF
EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Destination
1.	JISHA REXLINE	U19MT018	RFID BASED WIRELESS POWER TRANSFER SYSTEM FOR ELECTRIC VEHICLE APPLICATIONS	Mr.P.Jairajesh M.E., (Ph.D.,)
2.	PRARTHANA	U19MT029		Assistant Professor
3.	SINGUPURAM SHANMUKHA SAI	U19MT038		Department Of Mechatronics Engineering

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.2023

J. Shesford 11/5/23
INTERNAL EXAMINER



EXTERNAL EXAMINER

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "STRUCTURE DESIGN OF A NOVEL SELF-ADAPTIVE MECHANISM FOR THE AMPHIBIOUS ROBOT", is being submitted by

RANJITH KUMAR ML

(Reg. No. U19MT032) ✓

RETHICK B

(Reg. No. U19MT033)

RETISH M

(Reg. No. U19MT034)

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

80/1
Priya

PROJECT GUIDE

Mrs. PRIYA. V M.E., (Ph.D)

Assistant Professor,

Department of Mechatronics

Engineering, Bharath Institute of Science

& Technology, Bharath Institute of

Higher Education &

Research, Chennai – 600073



M. Sundararaj
HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ, M.E., Ph.D

Professor,

Department of Mechatronics

Engineering, Bharath Institute of Science

& Technology, Bharath Institute of

Higher Education &

Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF MECHATRONICS ENGINEERING
CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	RANJITH KUMAR M L	U19MT032	STRUCTURE DESIGN OF A NOVEL SELF-ADAPTIVE MECHANISM FOR THE AMPHIBIOUS ROBOT	Mrs. PRIYA. V M.E., (Ph.D) ASSISTANT PROFESSOR
2	RETHICK B	U19MT033		
3	RETISH M	U19MT034		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.06.2023

INTERNAL EXAMINER

J. Dhanasekar
Mr. J Dhanasekar

Assistant Professor,
Department of Mechatronics Engineering,
BIHER, Chennai – 600073



EXTERNAL EXAMINER

Dr. S Santhakrishnan
Dr. S Santhakrishnan

Associate Professor,
Department of Mechanical Engineering,
Meenakshi Sundararajan Engineering College,
Chennai - 600024

BONAFIDE CERTIFICATE

This is to certify that the project report titled, "SYSTEM CURSOR CONTROL USING EYEBALL MOVEMENT AND VOICE COMMANDS", is being submitted by

GURU ARAVINDH K B	U19MT701
KIREN A S	U19MT710
FAIZAL AHAMATH A	U19MT044

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

58%

J. Dhaseelford 10/5/23
PROJECT GUIDE



M. Sundararaj
10/05/23

HEAD OF THE DEPARTMENT

Mr. J. DHANASEKAR,

Assistant Professor,

Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

Dr. M. SUNDARARAJ,

Professor,

Department of Mechatronics Engineering, (I/C)
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073.

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	Guru Aravindh K B	U19MT701	SYSTEM CURSOR CONTROL USING EYEBALL MOVEMENT AND VOICE COMMANDS	Mr. J. Dhanasekar M.E., M.B.A., (Ph.D) Assistant Professor
2	Kiren A S	U19MT710		
3	Faizal Ahamath A	U19MT044		

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11/5/2023

INTERNAL EXAMINER

J. Dhanasekar 11/5/23
MR. J. DHANASEKAR,

Assistant Professor,
Dept. of Mechatronics Engineering,
Bharath Institute of Higher
Education & Research,
Chennai – 600073.



EXTERNAL EXAMINER

[Signature]
DR. S. SANTHANAKRISHNAN,
Associate Professor,
Dept. of Mechanical Engineering,
Meenakshi Sundararajan
Engineering College,
Chennai- 600024.

<codebind/>
{Technologies}

Solution Without Compromise!



CERTIFICATE OF INTERNSHIP

CERTIFICATE NUMBER CBTINE172005220502

This certificate is awarded to Mr/Ms. KEVIN RAJ B, for the successful completion of **Internship in Embedded Systems at CodeBind Technologies, Chennai** from 18th May 2022 to 8th June 2022.

During the course of the internship Mr/Ms. KEVIN RAJ B, exhibited an enthusiastic attitude for learning in addition to being quite industrious and dependable.

We are extremely satisfied with the candidate's performance and would like to wish them very success in their future endeavors.

Training Co-Ordinator

Issuing Authority

Date: 30.04.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. S. MADHAN KUMAR** is Pursuing **B. Tech (Mechatronics Engineering)** in **BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH** has completed his Internship Training from **11.04.2022 to 30.04.2022** his conduct has been good.

Wishing you good luck in future endeavors.

For Wonjin Auto parts India Pvt. Ltd.



B. RAJASEKARAN

HR- Manager.



Date: 12-05-2022

INTERNSHIP CERTIFICATE

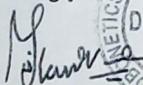
TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.K.MOHAMED JUMAIL** pursuing third year B.tech mechatronics Engineering in **BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY** has undergone a **Project Internship** in our concern between the period **12-04-2021 to 12-05-2022**.

During this period of internship, he has been assigned various task which would definitely provide him lot of industrial exposure, experience and access to leading edge facilities to develop his technical capabilities.

We are sure that he will perform creditably well in all tasks assigned to him.

Thanking you



For **ROBONETICS AUTOMATION SOLUTIONS LLP**



MK Autocomponents India Limited

AN ISO 9001 : 2015 / IATF 16949 : 2016 CERTIFIED COMPANY

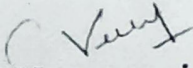


14.06.2022

TO WHOM IT MAY CONCERN

This is to certify that **Mr.R.MURALI NARAYANAN** B.Tech (Mechatronics) in **BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH** has successfully completed his Internship Training from **25.05.2022** to **14.06.2022** his conduct has been good.

Wishing you good luck in future endeavors.


C.Veeramani
Quality Head
Management Representative
MK Auto Components India Ltd





MK Autocomponents India Limited

AN ISO 9001 : 2015 / IATF 16949 : 2016 CERTIFIED COMPANY

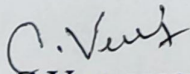



14.06.2022

TO WHOM IT MAY CONCERN

This is to certify that **Mr.K.NADHAKUMAR B.Tech** (Mechatronics) in **BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH** has successfully completed his Internship Training from **25.05.2022** to **14.06.2022** his conduct has been good.

Wishing you good luck in future endeavors.


C.Veeramani
Quality Head
Management Representative
MK Auto Components India Ltd





YUKTA AUTOMATION

No.1, Reddy Street, Athipattu, Chennai - 600 058

Mobile : +91 87607 57338 | Email : yuktaautomation@gmail.com | Web : www.yuktaautomation.com

GSTIN:33AACFY1957A1ZH | HSN:98010011

11-05-2022

SUB:INTERNSHIP COMPLETION LETTER

We are glade to inform you that **Miss.R.Prarthana** from **Bharath Institute of Higher Education and Research**, has successfully completed her internship at Yukta Automation from **26th April,2022-10th May,2022**.

During her internship, she was exposed to the various activities in **Automation Machines & PLC Based Services Department**.

We found her extremely inquisitive and hard working. She was very much interested to learn the function of our core division and also willing to put her best efforts and get in to the depth of the subject to understand it better.

Her association with us very fruitful and we wish her all the best in her future endeavours.

For YUKTA AUTOMATION



Authorized Signatory

Managing Partner



WONJIN AUTOPARTS INDIA PVT. LTD.,

Plot No. A1 K
CMDA Industrial Complex,
Maraimalai Nagar - 603 209,
Tel : 91 - 44 - 4740 4400
Fax : 044 - 4740 0142
e-mail : hr@onogensindia.in

Date: 30.04.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. M.PRAVEEN RAJ is Pursuing B. Tech (Mechatronics Engineering) in BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH has completed his Internship Training from 11.04.2022 to 30.04.2022 his conduct has been good.

Wishing you good luck in future endeavors.

For Wonjin Auto parts India Pvt. Ltd.




B. RAJASEKARAN

HR- Manager.



KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr Raghul S**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

He has worked on a project titled **Design of an economical SCARA robot for industrial applications** and **Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS





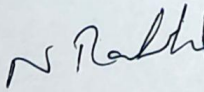

ASHOK LEYLAND

Date : 11.04.2022

TRAINING CERTIFICATE

Name of the Trainee : Mr. S RAGHUL
Reg Number : U19MT031
Designation : Internship Trainee
Department : Product Development
Date of Joining : 10.03.2022
Date of Leaving : 11.04.2022
Reason for leaving : Internship completed

We wish him all the Best in all his future endeavours.

N RADHAKRISHNAN

Divisional Manager
Product Development
Defence Vehicles

ASHOK LEYLAND LIMITED

DEFENCE GROUP

Ennore, Chennai - 600 057, India.

t : +91. 44.2575 9995 / 2575 8050 / 2575 9988

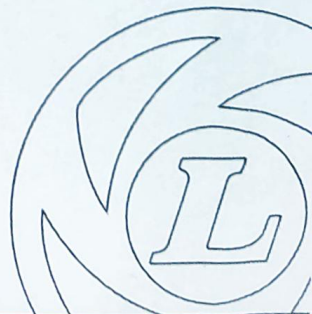
f : +91. 44.2575 9995

e : reachus@ashokleyland.com

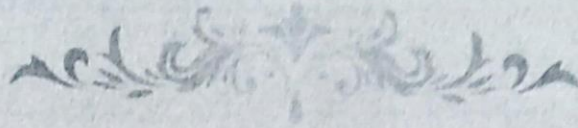
Registered Office : No: 1, Sardar Patel Road, Guindy, Chennai - 600 032, India

t : +91.44.2220 6000 f +91. 44.2220 6001

CIN : L34101TN1948PLC000105, www.ashokleyland.com



HINDUJA GROUP



KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN.

This is to certify that **Mr Ranjith Kumar M L**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

He has worked on a project titled **Design of an economical SCARA robot for industrial applications** and **Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS





KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

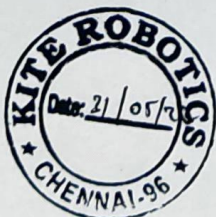
TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr Retish M**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

He has worked on a project titled **Design of Autonomous Logistics Transportation Robot System and Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS



<codeb!nd/>
{Technologies}

Solution Without Compromise!



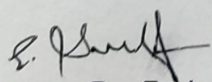
CERTIFICATE OF INTERNSHIP

CERTIFICATE NUMBER CBTINC172005220507

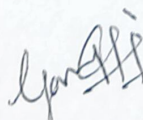
This certificate is awarded to **Mr/Ms. SABITH RAJA SEKAR R**, for the successful completion of **Internship in Web Development at CodeBind Technologies, Chennai** from **18th May 2022 to 8th June 2022**.

During the course of the internship **Mr/Ms. SABITH RAJA SEKAR R**, exhibited an enthusiastic attitude for learning in addition to being quite industrious and dependable.

We are extremely satisfied with the candidate's performance and would like to wish them very success in their future endeavors.


Training Co-Ordinator

CODEBIND TECHNOLOGIES
107, USMAN ROAD, T. NAGAR,
CHENNAI - 600 017
CALL: 9789 617 617


Issuing Authority



Date: 12-05-2022

INTERNSHIP CERTIFICATE

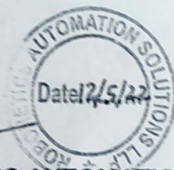
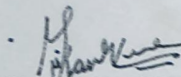
TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.N.SHALOM MORRIS** pursuing third year B.tech mechatronics Engineering in **BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY** has undergone a **Project Internship** in our concern between the period **12-04-2021 to 12-05-2022**.

During this period of internship, he has been assigned various task which would definitely provide him lot of industrial exposure, experience and access to leading edge facilities to develop his technical capabilities.

We are sure that he will perform creditably well in all tasks assigned to him.

Thanking you



For **ROBONETIC AUTOMATION SOLUTIONS LLP**



KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr Vishnu S**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

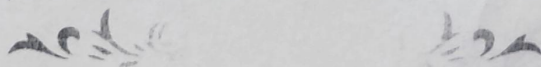
He has worked on a project titled **Design of Autonomous Logistics Transportation Robot System** and **Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS





WONJIN AUTOPARTS INDIA PVT. LTD..

Plot No. A1 K
CMDA Industrial Complex,
Maraimalai Nagar - 603 209.
Tel : 91 - 44 - 4740 4400
Fax : 044 - 4740 0142
e-mail : hr@onegeneindia.in

Date: 30.04.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. K.YUKESH is Pursuing B. Tech (Mechatronics Engineering) in BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH has completed his Internship Training from 11.04.2022 to 30.04.2022 his conduct has been good.

Wishing you good luck in future endeavors.

For Wonjin Auto parts India Pvt. Ltd.


B. RAJASEKARAN

HR- Manager.



Date: 30.04.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.J. JAYA PRAKASH** is Pursuing **B. Tech (Mechatronics Engineering)** in **BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH** has completed his Internship Training from **16.04.2022 to 30.04.2022** his conduct has been good.

Wishing you good luck in future endeavors.

For Wonjin Auto parts India Pvt. Ltd.



B. RAJASEKARAN

HR- Manager.





सवारी डिब्बा कारखाना, चेन्नै - 600 038
रेल मंत्रालय की एक उत्पादन इकाई

INTEGRAL COACH FACTORY, CHENNAI - 600 038

A Production Unit Under Ministry of Railways

(AN ISO: 9001, ISO:14001 AND BS : 18001 CERTIFIED PRODUCTION UNIT)



Sl.No. : M / 003 /2022

Date : 21.02.2022



This is to certify that Mr./Ms. **K.KAMALESH**

Regn.No **U19MT705** Course **B.TECH**

Branch **MECHATRONICS** , **THIRD** Year, Student of

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY, CHENNAI - 600 073

has undergone Internship Training from **07.02.2022** to **21.02.2022**

at Integral Coach Factory.



[Signature]
Principal

Technical Training Centre
ICF, Chennai-38



सवारी डिब्बा कारखाना, चेन्नै - 600 038

रेल मंत्रालय की एक उत्पादन इकाई

INTEGRAL COACH FACTORY, CHENNAI - 600 038

A Production Unit Under Ministry of Railways

(AN ISO: 9001, ISO:14001 AND BS : 18001 CERTIFIED PRODUCTION UNIT)



Sl.No. : M / 004 / 2022

Date : 24.02.2022



This is to certify that Mr./Ms. **RAGHUL B**

Regn.No. **U19MT708** Course **B.TECH**

Branch **MECHATRONICS** **THIRD** Year, Student of

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY, CHENNAI - 600 073

has undergone Internship Training from **10.02.2022** to **24.02.2022**

at Integral Coach Factory.



[Signature]
Principal

Technical Training Centre

Chennai-38

PRINCIPAL
तकनीकी प्रशिक्षण केंद्र
Technical Training Centre



KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr Kiren A S**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

He has worked on a project titled **Design of Autonomous Logistics Transportation Robot System and Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS





ASHOK LEYLAND


Date : 11.04.2022

TRAINING CERTIFICATE

Name of the Trainee : Mr. A S KIREN
Reg Number : U19MT710
Designation : Internship Trainee
Department : Product Development
Date of Joining : 10.03.2022
Date of Leaving : 11.04.2022
Reason for leaving : Internship completed

We wish him all the Best in all his future endeavours.

For Ashok Leyland Limited

N Radhakrishnan


N RADHAKRISHNAN

Divisional Manager
Product Development
Defence Vehicles

ASHOK LEYLAND LIMITED
DEFENCE GROUP

Ennore, Chennai - 600 057, India.

t : +91. 44.2575 9995 / 2575 8050 / 2575 9988

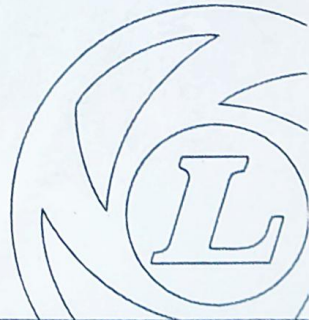
f : +91. 44.2575 9995

e : reachus@ashokleyland.com

Registered Office : No: 1, Sardar Patel Road, Guindy, Chennai - 600 032, India

t : +91.44.2220 6000 f +91. 44.2220 6001

CIN : L34101TN1948PLC000105, www.ashokleyland.com



HINDUJA GROUP



KALAM INSTITUTE FOR TECHNICAL EDUCATION

INTERNSHIP CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr Jagadeshwar S**, a student of **Bharath Institute of Higher Education And Research-Chennai** has successfully completed an Industrial internship in the field of Robotics in the Month of May 2020 under the guidance of **Mr Raj Kishore Rajagopal**.

He has worked on a project titled **Design of an economical SCARA robot for industrial applications** and **Faces Recognition using OpenCV**. This project is designed for an industrial-based purpose which includes simulation and hands-on operations.

During the period of her/ his internship program with us, she/ he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.



MR. GUNASEELAN RAVINDHIRAN
CO-FOUNDER/CEO
KITE ROBOTICS



BONAFIDE CERTIFICATE

This is to certify that the project report titled, "VOICE ASSISTANT ROBOT WITH VISION SYSTEM USING MACHINE LEARNING", is being submitted by

KAMALESH K	U19MT705
MOHAMED ABBASS A	U19MT706
AKASH T	U19MT707

to the Department of Mechatronics Engineering, Bharath Institute of Science and Technology, Bharath Institute of Higher Education and Research in the partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY (MECHATRONICS ENGINEERING)**. This is a bonafide record of the work carried out by him under my guidance and supervision in the academic year 2022 – 2023. Further certified that, to the best of my knowledge, the work reported herein does not form part of any other degree or diploma, on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

68%

J. Dhaseefool 10/5/23
PROJECT GUIDE

Mr. J. DHANASEKAR,
Assistant Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



M. Sundararaj 10/5/23

HEAD OF THE DEPARTMENT

Dr. M. SUNDARARAJ,
Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed – to – be University under section 3 of UGC Act, 1956)

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHATRONICS ENGINEERING

CERTIFICATE OF EVALUATION

S. No.	Student Name	Register No.	Title of the Project	Name of the Project Guide with Designation
1	Kamalesh K	U19MT705	VOICE ASSISTANT ROBOT WITH	Mr.J. Dhanasekar, M.E.,M.B.A.,(Ph.D) Assistant Professor
2	Mohamed Abbass A	U19MT706	VISION SYSTEM USING MACHINE	
3	Akash T	U19MT707	LEARNING	

The report of the project work submitted by the above students in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechatronics Engineering of Bharath Institute of Higher Education and Research has been evaluated and confirmed to be their genuine work.

Submitted for Viva Voce held on 11.05.23

J. Dhanasekar 11/5/23
INTERNAL EXAMINER

Mr. J Dhanasekar
Assistant Professor,
Department of Mechatronics Engineering,
Bharath Institute of Science & Technology,
Bharath Institute of Higher Education &
Research, Chennai – 600073



[Signature]
EXTERNAL EXAMINER

Dr. S Santhanakrishnan
Associate Professor,
Department of Mechanical Engineering,
Meenakshi Sundararajan Engineering
College, Chennai – 600024