Jnana Sangama, Belagavi-590018, Karnataka



# A PROJECT REPORT ON "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER"

Submitted in partial fulfilment of the requirements for the seventh semester project work Phase-1 (18CVP78)

# BACHELOR OF ENGINEERING IN **CIVIL ENGINEERING**

Submitted by:

MAHADEV PRASAD N M 1VK18CV008

**NANDISH U** 1VK19CV403

**NITHIN M** 1VK19CV404

VINAY M SAWANT 1VK19CV407

*Under the guidance of* 

Mrs. PRATHEJA M

Asst. Professor,

**Dept. of Civil Engineering** 



Janatha Education Society (R)

DEPARTMENT OF CIVIL ENGINEERING VIVEKANANDA INSTITUTE OF TECHNOLOGY

Gudimavu, Kumbalagodu Post, Kengeri Hobli, Bengaluru-560074

2021-22

#### VIVEKANANDA INSTITUTE OF TECHNOLOGY

Gudimavu, Kumbalagodu Post, Kengeri Hobli, Bengaluru – 560 074



# DEPARTMENT OF CIVIL ENGINEERING

### **CERTIFICATE**

This is to certify that Project phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" carried out by MAHADEV PRASAD N M (1VK18CV008), NANDISH U (1VK19CV403), NITHIN M (1VK19CV404) and VINAY M SAWANT (1VK19CV407), 7<sup>th</sup> semester students of Vivekananda Institute of Technology, Bengaluru in partial fulfilment for the academic year 2021-22. It is certified that all corrections/suggestions indicated have been incorporated in the report deposited in the department library. The Project Phase-1 has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

Signature of the Guide

Mrs. Pratheja M
Assistant Professor
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of HOD

Dr. Shashikumar C S
Associate Professor & Head
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of the Principal

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Signature of the Guide

Mrs. Pratheja M
Assistant Professor
Dept. of Civil Engineering
VKIT, Bengaluru

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Dr. Shashikumar C S
Associate Professor & Head
Dept. of Civil Engineering
VKIT, Bengaluru

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# DEPARTMENT OF CIVIL ENGINEERING

# **CERTIFICATE**

This is to certify that Project phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" carried out by NITHIN M bearing USN-1VK19CV404 a confide student of Vivekananda Institute of Technology, Bengaluru in partial fulfilment for the academic year 2021-22. It is certified that all corrections/suggestions indicated have been incorporated in the report deposited in the department library. The Project Phase-I has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

Signature of the Guide

Mrs. Pratheja M
Assistant Professor
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of HOD

Dr. Shashikumar C S
Associate Professor & Head
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of the Principal

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# DEPARTMENT OF CIVIL ENGINEERING

### **CERTIFICATE**

This is to certify that Project phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" carried out by VINAY M SAWANT bearing USN-1VK19CV407 a confide student of Vivekananda Institute of Technology, Bengaluru in partial fulfilment for the academic year 2021-22. It is certified that all corrections/suggestions indicated have been incorporated in the report deposited in the department library. The Project Phase-1 has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

Signature of the Guide

Mrs. Pratheja M
Assistant Professor
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of HOD

Dr. Shashikumar C S
Associate Professor & Head
Dept. of Civil Engineering
VKIT, Bengaluru

Signature of the Principal

# **ACKNOWLEDGEMENT**

It is time for expressing our sincere gratitude towards all who are responsible for the successful completion of Project Phase-1 work. Firstly, we would like to express our sincere regards and heart full thanks to our guide **Mrs. Pratheja M** Assistant Professor, Department of civil Engineering, VKIT, Bengaluru, whose constant encouragement, guidance and support throughout the Project Phase -1 work made us complete the work successfully on time. Also, we would like to thank our project coordinator **Mr. Siddaraju N** Assistant Professor, Dept. of Civil Engineering, VKIT, Bengaluru for his support.

We take this opportunity to express our sincere words of gratitude to HOD **Dr. Shashikumar C S**, Associate Professor and Head, Dept. of Civil Engineering, VKIT, Bengaluru for his support.

We take this opportunity to express our sincere words of gratitude to our beloved principal **Dr. Padmanabha S** for being kind enough to provide us an opportunity to work on a project in this institution.

We would like to convey our heartfelt gratitude to our beloved Vice Principle, **Dr. D V Chandrashekar**, VKIT, Bengaluru for his support and encouragement during our studies.

Our sincere gratitude is due towards Management of the institution **Vivekananda Institute of Technology**, Bengaluru.

We are grateful for all the teaching and non-teaching staff of **Department of Civil Engineering** VKIT, Bengaluru, for providing us support and required facilities for successful completion of this Project Phase-1.

Last but not the least, we would like to thank our Parents and Friends who have helped us directly and indirectly in all possible ways for the success of this Project Phase-1.

We, MAHADEV PRASAD N M (1VK18CV008), NANDISH U (1VK19CV403), NITHIN M (1VK19CV404) and VINAY M SAWANT (1VK19CV407) 7<sup>th</sup> semester students of Vivekananda Institute of Technology, Bengaluru. Hereby declare that the work being presented on the Project Phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" which is being submitted as partial fulfilment for 7<sup>th</sup> semester B.E. in Civil Engineering from Visvesvaraya Technological University, Belagavi, is an authentic record of our own Project Phase-I work that has been carried out by us during academic year 2021-22 at Vivekananda Institute of Technology, Bengaluru under the guidance of Mrs. Pratheja M Assistant Professor, Dept. of Civil Engineering, Vivekananda Institute of Technology, Bengaluru.

Name of the students

Signature

- 1. MAHADEV PRASAD N M
- 2. NANDISH U
- 3. NITHIN M
- 4. VINAY M SAWANT

#### **ACKNOWLEDGEMENT**

It is my time for expressing my sincere gratitude towards all who are responsible for the successful completion of Project Phase-I work. Firstly, I would like to express my sincere regards and heart full thanks to our guide Mrs. Pratheja M Assistant Professor, Dept. of civil engineering, VKIT, Bengaluru, whose constant encouragement, guidance and support throughout the Project Phase -I work made me to complete the work successfully on time. Also, I would like to thank our project coordinator Mr. Siddaraju N Assistant Professor, Dept. of Civil Engineering, VKIT, Bengaluru, for his support.

I, take this opportunity to express my sincere words of gratitude to our HOD **Dr. Shashikumar C S**, Associate Professor and Head of Civil Engineering Department, VKIT, Bengaluru, for his support.

I, take this opportunity to express my sincere words of gratitude to our beloved principal **Dr. Padmanabha S** for being kind enough to provide me an opportunity to work on a project in this institution.

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My sincere gratitude is due towards Management of my institution Vivekananda Institute of Technology, Bengaluru.

I am, grateful for all the teaching and non-teaching staff of **Department of Civil Engineering**, VKIT, Bengaluru, for providing me support and required facilities for successful completion of this Project Phase-I.

Last but not the least, I would like to thank my Parents and Friends who have helped me directly and indirectly in all possible ways for the success of this Project Phase-I.

I, MAHADEV PRASAD N M 7<sup>th</sup> semester B.E, bearing USN (1VK18CV008), Vivekananda Institute of Technology, Bengaluru. Hereby declare that the work being presented on the Project Phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" which is being submitted as partial fulfilment for 7<sup>th</sup> semester B.E. in Civil Engineering from Visvesvaraya Technological University, Belagavi, is an authentic record of my own project phase-1 work that has been carried out by me, during academic year 2021-22 at Vivekananda Institute of Technology, Bengaluru under the guidance of Mrs. Pratheja M, Assistant Professor, Dept. of Civil Engineering, Vivekananda Institute of Technology, Bengaluru.

(MAHADEV PRASAD N M)

I, NANDISH U 7th semester B.E, bearing USN (1VK19CV403), Vivekananda Institute of Technology, Bengaluru. Hereby declare that the work being presented on the Project Phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" which is being submitted as partial fulfilment for 7th semester B.E. in Civil Engineering from Visvesvaraya Technological University, Belagavi, is an authentic record of my own project phase-1 work that has been carried out by me, during academic year 2021-22 at Vivekananda Institute of Technology, Bengaluru under the guidance of Mrs. Pratheja M, Assistant Professor, Dept. of Civil Engineering, Vivekananda Institute of Technology, Bengaluru.

(NANDISH U)

I, NITHIN M 7<sup>th</sup> semester B.E, bearing USN (1VK19CV404), Vivekananda Institute of Technology, Bengaluru. Hereby declare that the work being presented on the Project Phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" which is being submitted as partial fulfilment for 7th semester B.E. in Civil Engineering from Visvesvaraya Technological University, Belagavi, is an authentic record of my own project phase-1 work that has been carried out by me, during academic year 2021-22 at Vivekananda Institute of Technology, Bengaluru under the guidance of Mrs. Pratheja M, Assistant Professor, Dept. of Civil Engineering, Vivekananda Institute of Technology, Bengaluru.

(NITHIN M)

I, VINAY M SAWANT 7<sup>th</sup> semester B.E, bearing USN (1VK19CV407), Vivekananda Institute of Technology, Bengaluru. Hereby declare that the work being presented on the Project Phase-1 report entitled "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER" which is being submitted as partial fulfilment for 7<sup>th</sup> semester B.E. in Civil Engineering from Visvesvaraya Technological University, Belagavi, is an authentic record of my own project phase-1 work that has been carried out by me, during academic year 2021-22 at Vivekananda Institute of Technology, Bengaluru under the guidance of Mrs. Pratheja M, Assistant Professor, Dept. of Civil Engineering, Vivekananda Institute of Technology, Bengaluru.

(VINAY M SAWANT)

Jnana Sangama, Belagavi-590018, Karnataka



# A PROJECT REPORT ON "EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE USING WASTE BRICK POWDER"

Submitted in partial fulfilment of the requirements for the seventh semester project work Phase-1 (18CVP78)

**BACHELOR OF ENGINEERING** 

ΙN

CIVIL ENGINEERING

Submitted by:

MAHADEV PRASAD N M

(1VK18CV008)

*Under the guidance of* 

Mrs. PRATHEJA M

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IN

CIVIL ENGINEERING

Submitted by:

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Submitted by:

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